Supporting Math Instruction Outside of the Classroom

Written by Carrie A. Chester and Rekha Desai with the Support of Chuck Hatt, Jr., Principal and Nathan Hatt, Teacher

A GUIDE FOR PARENTS, TUTORS, AND STUDENT TEACHERS, AND OTHERS

Thanks to sponsorship from the 2014-15 Burns Park School Improvement Team
Staff: Chuck Hatt, Mary Chatigny, Carrie Chester, Molly Crankshaw, Michelle Seals, and Antonia Watkins
Parents: Marie Morris, Ken Polcinelli, Jill Schloff, Rabindar Subbian, and Laura Whitridge

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Online Resources: Khan Academy Everyday Math Online
Introduction

by Chuck Hatt, Jr.
Principal
Burns Park Elementary
Ann Arbor, MI

Parents often share with me, as the principal of Burns Park Elementary in Ann Arbor, MI, “I understand how to support my child’s reading. I just... well, read to them. But how do I help my child in math?”

In truth, while students in our school and district demonstrate consistently high scores in reading, scores that maintain as students move to higher grade levels, we don’t see that same consistency in math. Struggles among parents, tutors and others with how to best support children in math is, likely, only one of many factors contributing to this discrepancy. In the classroom, teachers have struggled to differentiate learning in math with the same successes as reading.

As our School Improvement Team looked closely at student achievement results, and listened carefully to student, staff, and family input, we identified improvement in mathematics achievement for all students as an important goal in our School Improvement Plan.

A closer examination of student test scores and possible contributing factors, led to the identification of targeted grade-level goals, common formative assessments, and the production of this manual, which is intended to provide guidance for parents, tutors, student teachers, and others working with our children in math in support of classroom instruction.
We are pleased to offer this resource for collaboration in our mutual commitment to the highest possible academic and social achievement for all.

To best determine how to do this, first, our teachers identified student learning goals for each grade level that coincide with the **Core Content State Standards (CCSS)**.

Next, our teacher-parent team matched these goals to resources, including well-reputed online math websites Khan Academy and Everyday Mathematics Online, that parents and tutors could use when working with a child. The intent was to have a quick, easy and convenient resource for students to use while working with an adult that allows for “click, play and practice” through a friendly eBook format.

Finally, for use in the classroom, teachers created and will conduct formative assessments that tell them, and you, in what grade-level goals a child needs additional support. Each chapter of this manual covers a different grade level, and each section within that chapter covers one of the goals.

Our objective is to make working with our students to support math outside of the classroom as easy and seamless as possible. More generally, we strive to ensure that our students are working on content that is appropriate for their level and ability in every area of the curriculum.

- It is my hope that, working together, we can ensure that all of our students are challenged and are working to their fullest potential so that they can be educated, productive, successful members of our workforce and society.
Message to Parents

Help Your Child Develop a Love of Math

Each March our country celebrates Read Across America Day. Schools across America implement special programs to instill a love of reading in children and to encourage parents to read to their children. Celebrities, athletes, politicians, and other dignitaries come out in full force and exhort us all to read to our children. More than one President (and First Lady) has been photographed reading to children. Last year Burns Park, like many other schools in the district, participated wholeheartedly in Read Across America. The community participation was wonderful to witness. Each year, however, one cannot not help wondering why so little is said about the importance of instilling a love of math or, at the very least, getting rid of the phobias and negative bias attached to mathematics by encouraging a ‘no-fear’ attitude and an attitude of openness towards math in our children.

Why It Matters

Current research shows that the early development of mathematics skills is a better predictor than reading skills of later success in school. According to the October 2013 issue of The Progress of Education Reform, “Early knowledge of math not only predicts later success in math, but also predicts later reading achievement even better than early reading skills.” * The same article goes on to state, “In fact, research shows that doing more mathematics increases oral language abilities, even when measured during the following school year. These include vocabulary, inference, independence, and grammatical complexity.
Given the importance of mathematics to academic success in all subjects, all children need a robust knowledge of mathematics in their earliest years.”

Mathematics helps children make sense of their world. Mathematical understanding and skills is an important factor for success in many areas, including science, social studies, technology, music and art. Adults use mathematical understanding to make informed decisions everyday in their jobs, at the grocery store, when buying a house, and much more. In fact, Abraham Lincoln credited his success as an attorney to his in-depth study of geometry!

Burns Park Elementary educators and staff recognized that K-5 students would benefit from the augmentation of their classroom mathematics instruction by providing ways for parents and guardians to work with their children at home. The Math Improvement Project is one resource for achieving this goal.
Section 1

Math Improvement Project and Khan Academy

Why We Are Using Khan Academy

1. It is a free, easy to use online resource that offers math and science enrichment for students outside of the classroom.
2. It includes video tutorials, practice questions, and “how to” hints to learn and practice.
3. It differentiates instruction based on your child’s performance or your selections.
4. It is a dynamic system that provides direct feedback to students.
5. It allows a parent to track his or her child’s progress.

The Math Improvement Project grew out of the recognition that students would benefit from their parents and guardians having resources to help improve math skills in addition to in class instruction. Burns Park Elementary teachers, parent volunteers, donors and many others have worked on this project. The main project components include this manual, an after-school math lab, and carefully guided utilization of the videos and exercises available on Khan Academy’s* website. They have been carefully designed to help you help your child in improving math skills.

What Is Khan Academy?

Khan Academy (KA) is a non-profit educational organization centered around mathematics and science. It provides free custom self-paced learning tools that are easily accessible via the Internet at any time of the day or night. It’s dynamic system provides direct feedback to students, a personal profile which tracks a child’s points and badges to measure progress. Coaches, parents and teachers have equal and accessible information into what children are learning on the KA site. By combining adaptive technology and instant feedback, KA empowers learners to take ownership of their own progress. Every KA account is both a learner account and a “coach” account, so all the features available to learners are also available to you as a coach.

Google and the Bill & Melinda Gates Foundation are among the major funding organizations for KA.
Getting Started with Khan Academy

Setting Up Your Account(s)

If you do not have an account with Khan Academy (KA), you will need to create a parent account. Click on Create Your Parent Account and follow the instructions.

If you already have an account with KA and would like to create a Child Account linked to your existing parent account, click on Create a Child Account and follow the instructions.

If your child already has an account with KA and would like to add you as their coach*, click on Add a Coach and follow the instructions.

Read the terms and if you agree to the terms click on “I agree to terms,” then click on Start Learning. If you do not agree to the terms you will not be able to use Khan Academy resources or benefit from this project.

On the What Do You Want to Learn page make sure Math is selected on the left hand side, then in the center of the screen choose the appropriate grade level.

A Blended Approach to Building Math Skills

To ensure your child is exposed to foundational skills and is working to fill in knowledge gaps, we recommend a blended approach to building math skills. The approach immediately addresses any gaps in knowledge, while ensuring that child is not bored or disinterested by having to review concepts they already know as they are exposed to required foundational skills.

* A child can have more than one coach. Common coaches are the parent(s) and the class teacher.
Foundational Skills

To work on foundational skills, please refer to the table of contents and select the chapter/section for your child’s grade level. Our teachers have identified student learning goals for each grade level that coincide with the Core Content State Standards (CCSS) and our teacher-parent team matched these goals to resources, including well-reputed online mathematics websites such as Khan Academy and Everyday Mathematics that parents and tutors could use when working with a child. Each section within each grade level chapter focuses on learning and becoming proficient in one learning goal.

Gaps in Knowledge

To work on filling your child’s gaps in knowledge, your child will work independently while you oversee his or her progress. When a child joins KA, he/she will be given a personalized pretest. The KA system will automatically start recommending content to the student based on the pretest. Have them work through the Khan Academy recommendations. Here they will earn badges and points. They can track their progress. In the upper right hand corner, there is a link which they can click on to read about their grade’s CCSS standards in easy to understand language.

How to Get the Most from Your KA Experience:

If you want to help your child fill the gaps in his or her learning, allow him or her to sign in and work through KA’s guided practices. Log into your coach account and view your child’s progress. Talk to your child about his/her experience. Ask questions such as “What did you find difficult?” or “Could you explain this to me?” For more useful ideas on how to help your child learn via KA, check out their Ideas for Parents and Mentors page. Here you will find suggestions on encouraging your child, supporting your child even if you do not know the material, and, for those of you with more than one child, motivating different types of learners.

What Are the Requirements To Log into Khan Academy?

Khan Academy videos are freely accessible to anyone with an internet connection. Progress on Khan Academy is tracked through signing into the site. Supported browsers for logging into the website from home are: Safari 5+, Chrome, IE8+, Firefox and iPad.

Parents can use a Google, Facebook or personal email account to sign in and get started. To sign up your child, you have the option of using his or her personal email account or creating a sub-account from your email. For children Khan Academy uses these email services as an ID (your email will NOT be used for personal data, activity tracking or notifications unless you choose to share it).
Child accounts have several safety features:

- The parent who creates your child account becomes your child’s permanent coach.
- Your child cannot enter certain information (e.g., email, full name) in their profile, nor make their profile public.
- The parent has the option of disabling your child from adding other people as coaches.
- The parent manages your child’s password and can change it at any time for any reason.
- Your child cannot post public messages in discussion forums on the KA website.

FAQ articles and a discussion forum about child accounts at located at: [More About Khan Academy Child Accounts](#).

**Who do I contact at Burns Park Elementary for more information?**

Please send comments or questions to Chuck Hatt at hatt@aaps.k12.mi.us.

**Sources**

1. [Khan Academy](#)
There are many ways parents can help their children tap into their mathematical potential. First, let's talk about attitude.

Pay Attention to Attitude.

One of the most important, yet overlooked, ways you can help your child succeed in math is to check your own attitude. How do you feel about math? Your feelings will have a direct impact on how your child thinks about math and how he or she approaches the subject. If your child hears negative statements from you (“math is boring,” “I am not a math person,” “you’ll never use half the stuff you learn,” “math is for geeks/nerds,” “math is too hard,”) he or she will be unwilling to put the effort into learning math. You will be inadvertently setting your child up to dislike and fear the subject.

You are your child's first and most important role model. Thus your attitude, the way you approach a subject, will greatly affect your child’s capacity and willingness to learn.

No one can make anyone learn. There has to be a desire to learn. If your child is not willing to learn math, you as his or her coach, should figure out how to get him or her excited about learning math. Strive to put aside your own personal misgivings, if any, towards math and accept this challenge.

Encourage in your child, an attitude of curiosity towards the math he or she is learning in school. Implement some of the techniques you use to encourage a love of reading in your child. These techniques will also work for math. It is important to help children understand that:

- Everyone can learn mathematics.
- Math is used in everyday life.
- The technologies they love to use - phone, computers, etc. - would not be possible without mathematics.

Help Your Child Practice Math in “Real Life.”

A few examples are:

1. Have your child count down the time (weeks, days, and/or hours) to a special day or holiday.

2. Look for shapes and patterns in real life. Pattern recognition is an important mathematical skill.

3. Have your child measure ingredients for a recipe you are making. If you need to adjust how much you are cooking, help your child figure out how to adjust the individual recipe items.
4. Encourage your child to track or graph scores or stats for a favorite sports team. Explain what the percentages mean.

5. Ask for your child's help when using a ruler or scale.

6. Ask your child to tell you the time, several times a day, using both analog and digital clocks.

7. Ask your child to tell you if you should wear a sweater; they will need to read the thermometer to find out how cold it is.

8. When using cash, ask your child to count the change.

9. Ask your child to estimate the total cost of items while you are shopping.

10. For older kids, let them help track the family budget.

11. It is never too early to teach kids about money. Check out some of these sites for tips on how to get started.
   - Talk to Your Kids About Money
   - Financial Literacy for Girls
   - Secret Millionaires Club

12. Play games with your children (especially those that involve counting or pattern recognition). Set aside family game nights. There are games available for every age that will improve your child’s math skills while providing fun for everyone. Some examples are: almost any type of game that involves standard playing cards or dice, any game where you need to keep score (have your child keep score or help them to do it), checkers, chess, backgammon, scrabble (your child keeps score), Sudoku, Life, Monopoly, jigsaw puzzles, and the list goes on. Look online for other games. Keep introducing new ones. It's a great way to connect with your child, have lots of fun and help them to develop important skills all at the same time.

Remember a Few Important Tips

1. It’s OK to make mistakes, because mistakes are a very useful and a necessary step/tool in the learning process. Often problems in math have only one solution. However, there can be multiple ways to arrive at that solution. Learning math teaches more than finding the right answer. It also teaches a process of solving problems, a way of thinking and applying what you have learned to new problems. This is what makes mathematical thinking so important in other subjects as well.

2. A wrong answer can tell you a lot about what your child is thinking. Ask them to explain about they arrived at their answer.

3. Encourage your child to take a risk and try a “harder” problem. Let them know its okay if they can’t do it or even if they don’t fully understand it. When they do get it right, the excitement and confidence you see on their faces will be worth the effort.
4. Doing math in your head is important. Your child needs to develop the skill of determining whether an answer is reasonable.

5. Just as with any endeavor (sports, music, etc.), practice builds proficiency. So practice, and practice often.

6. Learning is fun! There are many ways to learn. Remember, what works for your daughter may be very different than what works for your son.
CHAPTER 2

Foundational Understanding

Even very young children can benefit from math instruction outside of the classroom. Children at this age are often friendly, talkative, and bubbly. They enjoy activities that use rhythm, repeating patterns, and other simple learning strategies. Because they are still awkward with writing and learn well from modeling, needing plenty of chances to practice new behaviors, technology-based activities provide good options for learning. In this chapter, you’ll find a few lessons designed to get your child ready for the Common Core State Standards that he or she will be expected to know in kindergarten.

1:1 Match with Objects to 10

In this lesson, your child will make a 1:1 match with objects to 10. By the end of the lesson, your child will be able to point to objects one at a time, up to 10, and count them.

Connect to Khan Academy Common Core Standards for Kindergarten Khan Academy Common Core Standards for Kindergarten: Counting and Cardinality.

Scroll down to K.CC.B.4a. The goal is for your child to “When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.”

Click on Counting Objects Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
SECTION 2

Recognizes Written Numerals 1-10

COUNTING AND CARDINALITY

1. 1:1 match with objects to 10. Can point to objects one at a time and count them.
2. Recognizes written numerals 1-10.
3. Identifies more and less with sets of objects. Does not quantify numerically.
4. Builds, recognizes, and extends 2- and 3-part patterns

In this lesson, your child will identify written numerals 1-10. By the end of this lesson, your child will be able to recognize written numerals 1-10.

Click on Counting objects and choose the video Creating a Number Grid at the top of the page. Watch the video with your child. Please note this video covers numbers 1 to 100, more material than is required for this standard. Please stop the video once it has been playing for 1 minute and 22 seconds (1:22) and then practice writing the numbers with your child.

Feel free to continue with the rest of the video if you think your child is ready. However, be careful not to discourage your child by asking them to do more than they are ready for.

Throughout the session, encourage your child. Remind them mistakes are ok, everybody makes them. Mistakes are opportunities for learning. At the end of the session, congratulate your child on a job well done.

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

NOTE: Common Core K.CC.A.3 is a standard on Khan Academy related to this goal. The goal is for your child to “Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.

For more tips on encouraging your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will identify more or less with sets of objects. By the end of this lesson, your child will be able to identify which is more and which is less in sets of object, but does not necessarily quantify the amount in each set numerically.

Click on Video: Comparing groups through 10. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Kindergarten Khan Academy Common Core Standards for Kindergarten: Counting and Cardinality.

Scroll down to K.CC.C.6. The goal is for your child to “Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.”

Click on Compare groups through 10. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Congratulate your child on a job well done. Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Builds, Recognizes, and Extends 2- and 3-Part Patterns

1. 1:1 match with objects to 10. Can point to objects one at a time and count them.
2. Recognizes written numerals 1-10.
3. Identifies more and less with sets of objects. Does not quantify numerically.
4. Builds, recognizes, and extends 2- and 3-part patterns.

In this lesson, your child will build and recognize patterns. By the end of this lesson, your child will be able to build, recognize, and extend 2- and 3-part patterns.

Connect to Khan Academy Common Core Standards for Kindergarten Khan Academy Common Core Standards for Kindergarten: Counting and Cardinality.

Scroll down to K.CC.C.6. The goal is for your child to “Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.”

Click on Compare groups through 10. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Recognizes Simple 2-D Shapes

1. Recognizes simple 2-D shapes (circle, square, rectangle, triangle).

In this lesson, your child will recognize simple 2-D shapes. By the end of this lesson, your child will be able to identify simple 2-D shapes such as a circle, square, rectangle, and triangle.

Connect to Khan Academy Common Core Standards for Kindergarten Khan Academy Common Core Standards for Kindergarten: Geometry.

Scroll down to K.G.A.2. The goal is for your child to “Correctly name shapes regardless of their orientations or overall size.”

Click on Naming shapes 2. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Kindergarten provides the foundation for elementary school learning. Children at this age are often very literal, like to express themselves in few words, and will frequently think out loud. They enjoy copying and repeating activities and, in fact, often learn best through repetition. They are still developing their fine motor skills, so they may prefer these technology based lessons over paper-pencil tasks. In this chapter, you’ll find lessons designed to support your child’s mastery of the Common Core State Standards that he or she is expected to learn in kindergarten.

In this lesson, your child will count in different sequences. By the end of the lesson, your child will be able to count, skip count, count forward, and write numbers 0-20.


Scroll down to [K.CC.A.1](https://www.khanacademy.org/math/cc-kindergarten-counting-and-cardinality). The goal is for your child to “Count to 100 by ones and by tens.”

Click on [Count to 100](https://www.khanacademy.org/math/cc-kindergarten-counting-and-cardinality/count-to-100). Have your child answer the questions, clicking on [I’d like a hint](https://www.khanacademy.org/math/cc-kindergarten-counting-and-cardinality/count-to-100) when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue down to [K.CC.A.2](https://www.khanacademy.org/math/cc-kindergarten-counting-and-cardinality/count-from-any-number) on the same page. The goal is for your child to “Count forward beginning from a given number within the known sequence (instead of having to begin at 1).”

Click on [Count from any number](https://www.khanacademy.org/math/cc-kindergarten-counting-and-cardinality/count-from-any-number). Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/education/a/khan-academy-ideas-for-parents-and-mentors) page.
In this lesson, your child will write numbers to 50. By the end of the lesson, your child will be able to write numerals to 50.

Click on **Counting objects** and choose the video **Creating a Number Grid** at the top of the page. Watch the video with your child. Please note this video covers numbers 1 to 100, more material than is required for this standard. Please pause the video if your child needs help, answer his/her questions, and continue the video. Also, pause if you feel your child needs practice in the middle of the video, and then continue the video to the end.

Feel free to discontinue the video if you feel it is not helpful to your child. Ask your child’s teacher for guidance on fulfilling this standard. Be careful not to discourage your child by asking them to do more than they are ready for.

Throughout the session, encourage your child. Remind them mistakes are ok, everybody makes them. Mistakes are opportunities for learning. At the end of the session, congratulate your child on a job well done.

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

**NOTE:** Common Core **K.CC.A.3** is a standard on Khan Academy related to this goal. The goal is for your child to “Write numbers from 0-20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects).”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.

For more tips on encouraging your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
Counts to Tell the Number of Objects

**Counting and Cardinality**

1. Knows number names and the count sequence, including counting, skip-counting, counting forward, and writing numerals 0-20.

2. Writes numerals 0-50.

3. **Counts to tell the number of objects.**

4. Compare numbers and sets of objects: more, same, and less.

In this lesson, your child will count to tell the number of objects in response to the question, “How many?” By the end of the lesson, your child will be able to count objects in a line, array, circle or scattered configuration up to 20.

Connect to Khan Academy Common Core Standards for Kindergarten: Khan Academy Common Core Standards for Kindergarten: [Counting and Cardinality](https://www.khanacademy.org/). Scroll down to **K.CC.B.4**. The goal is for your child to “Understand the relationship between numbers and quantities; connect counting to cardinality.”

Click on **Counting in scenes**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue down to **K.CC.B.4a** on the same page. The goal is for your child to “When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object.”

Click on **Counting objects**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Finally, continue down to **K.CC.B.5** on the same page. The goal is for your child to “Count to answer ‘how many?’ questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; and, given a number from 1–20, count out that many objects.”
Click on **Counting out 1-20 objects**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **How many objects 1**.

When that section is complete, begin the final set of questions, **How many objects 2**.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.

**NOTE:** Common Core **K.CC.B.4b** is also a standard related to this goal. The goal is for your child to “Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will compare numbers and sets of objects. By the end of the lesson, your child will be able to tell if a number or set of objects is more, the same, or less than another number or set.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Comparing groups through 10**

**Video: Comparing numbers through 10**

Next, connect to Khan Academy Common Core Standards for Kindergarten [Khan Academy Common Core Standards for Kindergarten: Counting and Cardinality](#).

Scroll down to **K.CC.B.4c**. The goal is for your child to “Understand that each successive number name refers to a quantity that is one larger.”

Click on **One more, one less**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue down to **K.CC.C.6** on the same page. The goal is for your child to “Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies.”
Click on **Compare groups through 10**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Continue down to **K.CC.C.7** on the same page. The goal is for your child to “Compare two numbers between 1 and 10 presented as written numerals.”

Click on **Comparing numbers through 10**.” Once again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
SECTION 5

Understands Addition and Subtraction, Using Facts to 5

1. Understands addition and subtraction, using facts to 5 fluently and solving simple number equation problems up to 10.

**NOTE:** This lesson incorporates many Core Content Standards and may need to be split into multiple sessions.

In this lesson, your child will add and subtract. By the end of the lesson, your child will be able to do addition and subtraction, knowing facts to 5 fluently and solve number equation problems up to 10.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Introduction to addition
- Video: Adding to 10
- Video: Introduction to subtraction
- Video: Making five (different ways to make 5)

Next, connect to Khan Academy Common Core Standards for Kindergarten [Khan Academy Common Core Standards for Kindergarten: Operations and Algebraic Thinking](#).

Scroll down to **K.OA.A.1**. The goal is for your child to “Represent addition and subtraction with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations.”

Click on **Put together**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
Begin the next set of questions, **Take apart.**

When that section is complete, continue down to **K.OA.A.2.** The goal is for your child to “Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.”

Click on **Addition word problems within 10.** Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Subtraction problems within 10.**

When that section is complete, continue down to **K.OA.A.3.** The goal is for your child to “Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation.”

Click on **Making totals in different ways within 10.** Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Scroll down to **K.OA.A.4.** The goal is for your child to “For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.”

Click on **Making five.** Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Making ten.**

When that section is complete, begin the final set of questions, **Making ten 2.**

Finally, scroll down to **K.OA.A.5.** The goal is for your child to **Fluently add and subtract within 5.**

Click on **Addition within five.** Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Subtraction within five.**

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
Works with Numbers 11-19 to Gain Understanding about Place Value of Tens and Ones

In this lesson, your child will work with numbers 11-19 to understand place value of tens and ones. By the end of the lesson, your child will be able to recognize the place value of tens and ones.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Introduction to place value
- Video: Representing quantity using place value
- Video: Teens as sums with 10
- Video: Monkeys for a party

Next, connect to Khan Academy Common Core Standards for Kindergarten: Numbers and Operations in Base Ten.

Scroll down to K.NBT.A.1. The goal is for your child to “Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (such as 18 = 10 + 8); and to understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.”

Click on Teen numbers 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
In this lesson, your child will describe and compare measurable attributes, such as height or length. By the end of the lesson, your child will be able to describe and compare these attributes.

Connect to Khan Academy Common Core Standards for Kindergarten: Khan Academy Common Core Standards for Kindergarten: Measurement and Data.

Scroll down to K.MD.A.2. The goal is for your child to “Directly compare two objects with a measurable attribute in common, to see which object has more of / less of the attribute, and describe the difference.”

Click on Comparing size. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

NOTE: Common Core K.MD.A.1 is also a standard related to this goal. The goal is for your child to “Describe measurable attributes of objects, such as length or weight, and to describe several measurable attributes of a single object.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will create and compare 2- and 3-dimensional shapes. By the end of the lesson, your child will be able to describe, create, and compare 2- and 3-dimensional shapes.

Click on Video: Cousin Fal’s shape collection. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Kindergarten Khan Academy Common Core Standards for Kindergarten: Geometry.

Scroll down to K.G.A.1. The goal is for your child to “Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.”

Click on Naming shapes. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue down to K.G.A.2 on the same page. The goal is for your child to “Correctly name shapes regardless of their orientations or overall size.”

Click on Naming shapes 2. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Continue down to K.G.A.4 on the same page. The goal is for your child to “Analyze and compare two- and three-
dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts and other attributes.”

Click on **Comparing shapes**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.

**NOTE:** Common Core **K.G.A.3** is also a standard related to this goal. The goal is for your child to “Identify shapes as two-dimensional (lying in a plane, ‘flat’) or three-dimensional (‘solid’).”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
First Grade

Curious about the world around them, first graders are often very ambitious and motivated to learn. They thrive on encouragement. They often enjoy explaining things to others as they develop their language skills. First graders have a better understanding of spatial and functional relationships and learn best through discovery. They enjoy the process more than the product. And they are increasingly interested in computers! In this chapter, you’ll find lessons designed to support your child’s mastery of the Common Core State Standards that he or she is expected to learn in first grade.

SECTION 1

Represents and Solves Word Problems Involving Addition and Subtraction

Operations and Algebraic Thinking

1. Represents and solves word problems involving addition and subtraction.
2. Fluently adds and subtracts within 10.
3. Adds and subtracts within 20.
4. Explains relationship between addition and subtraction.

In this lesson, your child will solve addition and subtraction word problems. By the end of the lesson, your child will be able to represent and solve word problems involving addition and subtraction.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking.

Scroll down to 1.OA.A.1. The goal is for your child to “Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.”

Click on Addition and subtraction word problems within 20: Level 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue working until all four levels of the Addition and subtraction word problems within 20 are successfully completed.

When that section is complete, continue down to 1.OA.A.2 on the same page. The goal is for your child to “Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, draw-
ings, and equations with a symbol for the unknown number to represent the problem.”

Click on **Adding three numbers**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
In this lesson, your child will add and subtract within 20. By the end of the lesson, your child will be able to add and subtract within 20, fluently within 10.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- **Video: Introduction to addition**
- **Video: Adding to 10**
- **Video: Adding within 20**
- **Video: Example: Adding within 20**
- **Video: Introduction to subtraction**
- **Video: Subtracting within 20**
- **Video: Making five** (different ways to make 5)

Next, connect to Khan Academy Common Core Standards for First Grade: [Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/curriculum).

Scroll down to **1.OA.C.6**. The goal is for your child to “Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 by using strategies such as counting on; making ten (e.g., 8 + 6 = 8 + 2 + 4 = 10 + 4 = 14); decomposing a number leading to a ten (e.g., 13 – 4 = 13 – 3 – 1 = 10 – 1 = 9); using the relationship between addition and subtraction (e.g., knowing that 8 + 4 = 12, one knows 12 – 8 = 4); and...
creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$)."

Click on **Addition within 20**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue down to **1.OA.D.8** on the same page. The goal is for your child to “Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.”

Click on **Addition and subtraction within 10**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.

**NOTE:** Common Core **1.OA.B.3** is also a standard related to this goal. The goal is for your child to “Apply properties of operations as strategies to add and subtract.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will work on explaining the relationship between addition and subtraction. By the end of the lesson, your child will be able to explain the relationship between addition and subtraction.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking](#). Scroll down to **1.OA.B.4**. The goal is for your child to understand subtraction as an unknown-addend problem.”

Click on **Relate addition and subtraction**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
n this lesson, your child will work on counting to 120. By the end of the lesson, your child will be able to count to 120.

Click on Video: Creating a number grid. Watch the video with your child.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten.

Scroll down to 1.NBT.A.1. The goal is for your child to “Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.”

Click on Numbers to 120. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will work on identifying the value of a 3-digit number. By the end of the lesson, your child will be able to identify 3-digit numbers and explain their value.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- **Video: Introduction to place value**
- **Video: Representing quantity using place value**
- **Video: Teens as sums with 10**
- **Video: Monkeys for a party**
- **Video: Place value example with 25**

Next, connect to Khan Academy Common Core Standards for Second Grade, Khan Academy Common Core Standards for Second Grade: Numbers and Operations in Base Ten.

Scroll down to **2.NBT.A.1**. The goal is for your child to “Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.”

Click on **Hundreds, tens, and ones**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
**SECTION 6**

**Understands Place Value**

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<td>3. <strong>Understands place value.</strong></td>
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<td>4. Reads and writes numbers to 1000.</td>
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<td>5. Compares two-digit numbers using &lt;, &gt;, = symbol.</td>
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<tr>
<td>6. Uses place value understanding to add and subtract within 100.</td>
</tr>
<tr>
<td>7. Mentally adds and subtracts 10 to a given number.</td>
</tr>
</tbody>
</table>

In this lesson, your child will work on identifying place value. By the end of the lesson, your child will be able to identify the place value of numbers.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- **Video: Introduction to place value**
- **Video: Representing quantity using place value**
- **Video: Teens as sums with 10**
- **Video: Monkeys for a party**
- **Video: Place value example with 25**

Next, connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten](#).

Scroll down to **1.NBT.B.2**. The goal is for your child to “Understand that the two digits of a two-digit number represent amounts of tens and ones.”

Click on **Groups of tens**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Complete the next two sets of questions: **Teen numbers 2** and **Teen numbers 3**.
When that section is complete, begin the final set of questions, **Understanding 2-digit numbers**.

Continue down to **1.NBT.B.2a** on the same page. The goal is for your child to understand that “10 can be thought of as a bundle of ten ones — called a ‘ten.’”

Click on **Tens and ones**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.

**NOTE:** Common Core **1.NBT.B.2b** and **1.NBT.B.2c** are standards also included in this goal. The goal for **1.NBT.B.2b** is for your child to understand that “The numbers from 11 to 19 are composed of a ten and one, two, three, four, five, six, seven, eight, or nine ones.” The goal for **1.NBT.B.2c** is for your child to understand that “The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).” The practice questions under these standards are covered in **1.NBT.B.2**.
In this lesson, your child will work on reading and writing numbers. By the end of the lesson, your child will be able to read and write numbers to 1000.

Connect to Khan Academy Common Core Standards for Second Grade: Khan Academy Common Core Standards for Second Grade: Numbers and Operations in Base Ten.

Scroll down to 2.NBT.A.3. The goal is for your child to “Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.”

Click on Writing numbers to 1000. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will compare 2-digit numbers using symbols. By the end of the lesson, your child will be able to compare two-digit numbers using the $<$, $>$, $=$ symbols.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten](#).

Scroll down to 1.NBT.B.3. The goal is for your child to “Compare two two-digit numbers based on meanings of the tens and ones digits, recording the results of comparisons with the symbols $>$, $=$, and $<$.”

Click on Comparing two-digit numbers 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
In this lesson, your child will add and subtract within 100. By the end of the lesson, your child will be able to use place value understanding to add and subtract within 100.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten](#).

Scroll down to **1.NBT.C.4**. The goal is for your child to “Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and to relate the strategy to a written method and explain the reasoning used. Also, to understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.”

Click on **Add within 100: Level 1**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue with the next set of questions, **Add within 100: Level 2**. Once your child has completed five problems correctly, close this page.

Continue down to **1.NBT.C.6** on the same page. The goal is for your child to “Subtract multiples of 10 in the range 10-90.
from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and to relate the strategy to a written method and explain the reasoning used.”

Click on **Subtract tens**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
Section 10

Mentally Adds and Subtracts 10 to a Given Number

In this lesson, your child will add and subtract 10 to a given number. By the end of the lesson, your child will be able to mentally add and subtract 10 to a given number.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten.

Scroll down to 1.NBT.C.6. The goal is for your child to “Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and to relate the strategy to a written method and explain the reasoning used.”*

Click on Subtract tens. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

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**Numbers and Operations in Base Ten**

1. Extends counting sequence to 120.
2. Understands the value of a three-digit number (ones, tens, hundreds).
3. Understands place value.
4. Reads and writes numbers to 1000.
5. Compares two-digit numbers using <, >, = symbols.
6. Uses place value understanding to add and subtract within 100.
7. Mentally adds and subtracts 10 to a given number.
NOTE: Common Core 1.NBT.C.5 is also a standard related to this goal. The goal is for your child to “Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; and to explain the reasoning used.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will estimate lengths. By the end of the lesson, your child will be able to estimate lengths.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Measurement and Data](https://www.khanacademy.org/computer-programming). Scroll down to **1.MD.A.1**. The goal is for your child to “Order three objects by length; compare the lengths of two objects indirectly by using a third object.”

Click on [Order by length](https://www.khanacademy.org/computer-programming). Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Measurement and Data](https://www.khanacademy.org/computer-programming). Scroll down to **2.MD.A.3** The goal is for your child to “Estimate lengths using units of inches, feet, centimeters, and meters.”

Click on [Estimating lengths](https://www.khanacademy.org/computer-programming). Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/computer-programming) page.
Measures Lengths

1. Estimates lengths.
2. **Measures lengths.**
3. Tells and writes time to the nearest hour and half hour.
4. Represents and interprets data.
5. Draws a picture graph and bar graph to represent a data set.

In this lesson, your child will measure lengths. By the end of the lesson, your child will be able to measure lengths.

Click on [Video: Measuring a golden statue (basic measurement)](http://example.com/video). Watch the video with your child.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Measurement and Data](http://example.com/standards).

Scroll down to **1.MD.A.2**. The goal is for your child to “Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end; and to understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps. Limit to contexts where the object being measured is spanned by a whole number of length units with no gaps or overlaps.”

Click on [Measuring Lengths 1](http://example.com/practice). Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Measurement and Data](http://example.com/standards).

Scroll down to **2.MD.A.1**. The goal is for your child to “Measure the length of an object by selecting and using appropriate
tools such as rulers, yardsticks, meter sticks, and measuring tapes.”

Click on Measuring lengths 2. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Next, scroll down to 2.MD.A.2 on the same page. The goal is for your child to “Measure the length of an object twice, using length units of different lengths for the two measurements; and to describe how the two measurements relate to the size of the unit chosen.”

Click on Measuring lengths with different units. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Finally, when that section is complete, continue down to 2.MD.A.4 on the same page. The goal is for your child to “Measure to determine how much longer one object is than another, expressing the length difference in terms of a standard length unit.”

Click on Comparing lengths. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”
In this lesson, your child will tell and write time. By the end of the lesson, your child will be able to tell and write time to the nearest hour and half hour.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

Telling time exercise, example 1
Telling time exercise, example 2

Next, connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Measurement and Data](https://www.khanacademy.org/). Scroll down to 2.MD.C.7. The goal is for your child to “Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.” *

Click on Telling time with a labeled clock. Have your child answer the questions, clicking on “I’d like a hint” when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.
For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

*NOTE:* Common Core 1.MD.B.3 is the first grade standard related to this goal. The goal is for your child to “Tell and write time in hours and half-hours using analog and digital clocks.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will represent and interpret data. By the end of the lesson, your child will be able to represent and interpret data.

Connect to Khan Academy Common Core Standards for First Grade. Khan Academy Common Core Standards for First Grade: Measurement and Data.

Scroll down to 1.MD.C.4. The goal is for your child to “Organize, represent, and interpret data with up to three categories; and to ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.”

Click on Solving problems with bar graphs 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
**Draws Picture and Bar Graphs to Represent a Data Set**

1. Estimates lengths.
3. Tells and writes time to the nearest hour and half hour.
4. Represents and interprets data.
5. **Draws picture and bar graphs to represent a data set.**

In this lesson, your child will draw picture and bar graphs. By the end of the lesson, your child will be able to draw picture and bar graphs to represent a data set.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Measurement and Data](#).

Scroll down to **1.MD.C.4**. The goal is for your child to “Organize, represent, and interpret data with up to three categories; and to ask and answer questions about the total number of data points, how many in each category, and how many more or less are in one category than in another.”

Click on **Solving problems with bar graphs 1**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Measurement and Data](#).

Scroll down to **2.MD.D.9**. The goal is for your child to “Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Also, to show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.”
Click on **Making line plots, bar graphs, and picture graphs**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Next, scroll down to **2.MD.D.10** on the same page. The goal is for your child to “Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Also, to solve simple put-together, take-apart, and compare problems using information presented in a bar graph.”

Click on **Solving problems with bar graphs 2**. Have your child answer the questions until he or she completes five problems correctly, then close the page.

Finally, begin the next set of questions, **Solving problems with picture graphs 1**.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
In this lesson, your child will identify shapes and their specific attributes. By the end of the lesson, your child will be able to recognize shapes and their specific attributes.

Click on Video: Cousin Fal’s shape collection. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Geometry.

Scroll down to 1.G.A.1. The goal is for your child to “Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); and to build and draw shapes to possess defining attributes.”

Click on Attributes of shapes. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will draw shapes having specified attributes. By the end of the lesson, your child will be able to draw shapes having specified attributes.

Click on Video: Cousin Fal’s shape collection. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Geometry.

Scroll down to 1.G.A.1. The goal is for your child to “Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus non-defining attributes (e.g., color, orientation, overall size); and to build and draw shapes to possess defining attributes.”

Click on Attributes of shapes. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will partition circles and rectangles into two or four equal parts. By the end of the lesson, your child will be able to partition circles and rectangles into two or four equal parts.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Geometry](#).

Scroll down to 1.G.A.3. The goal is for your child to “Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Also, to describe the whole as two of, or four of the shares and to understand for these examples that decomposing into more equal shares creates smaller shares.”

Click on Halves and fourths. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?! ”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
Second graders can be conscientious and serious. They often don’t like taking risks or making mistakes. They enjoy repeating tasks and reviewing learning. Increasingly, second graders like to work by themselves. They also have a greater capacity to reflect on their learning than their younger counterparts. They are ready to do more complex mental mathematics and enjoy practicing mathematical skills by playing games, making these online lessons a great fit for them. In this chapter, you’ll find lessons designed to support your child’s mastery of the Common Core State Standards that he or she is expected to learn in second grade.

In this lesson, your child will represent and solve problems involving addition and subtraction. By the end of the lesson, your child will be able to represent and solve problems involving addition and subtraction.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/math/cc-2nd-grade-math/2nd-grade-math-content). Scroll down to 2.OA.A.1. The goal is for your child to “Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

Click on [Addition and subtraction word problems within 100: Level 1](https://www.khanacademy.org/math/cc-2nd-grade-math/2nd-grade-math-content/oa-a/oa-a1/v/addition-and-subtraction-word-problems-within-100). Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue working until all four levels of the [Addition and subtraction word problems within 100](https://www.khanacademy.org/math/cc-2nd-grade-math/2nd-grade-math-content/oa-a/oa-a1/v/addition-and-subtraction-word-problems-within-100) are successfully completed.

For additional practice, have your child complete the next set of questions, [Comparing lengths](https://www.khanacademy.org/math/cc-2nd-grade-math/2nd-grade-math-content/oa-a/oa-a1/v/comparing-lengths-with-drawn-units).
Continue to the next set of questions, **Length word problems**.

When that section is complete, have your child complete the last set of questions, **Solving problems with picture graphs 1**.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](/#) page.
**Fluently Adds within 20**

In this lesson, your child will add within 20. By the end of the lesson, your child will be able to fluently add within 20.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Adding within 20**

**Video: Example: Adding within 20**

Next, connect to Khan Academy Common Core Standards for First Grade: Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking.

Scroll down to 1.OA.C.6. The goal is for your child to “Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 by using strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 – 4 = 13 – 3 – 1 = 10 – 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 – 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).”

Click on **Addition within 20**. Have your child answer the question, clicking on **I’d like a hint** when he or she needs more help. Continue to click on the **Practice Again** button on the lower left hand side of the screen. Once your child has completed five problems correctly. Close this page.

For greater challenge, click on and complete the below exercise sets, remembering to click on **I’d like a hint** when your
child needs help. Be careful not to discourage your child by asking them to do more than they are ready for.

Throughout the session, encourage your child. Remind them mistakes are ok, everybody makes them. Mistakes are opportunities for learning. At the end of the session, congratulate your child on a job well done.

Addition and Subtraction Word Problems with 20: Level 1
Addition and Subtraction Word Problems with 20: Level 2
Addition and Subtraction Word Problems with 20: Level 3
Addition and Subtraction Word Problems with 20: Level 4

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

**NOTE:** Common Core 2.OA.B.2 is the second grade standard related to this goal. The goal is for your child to “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will subtract within 20. By the end of the lesson, your child will fluently subtract within 20.

Next, connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/math/cc-first-grade/math-first-grade/oa). Scroll down to **1.OA.D.8**. The goal is for your child to “Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.”

Click on **Addition and subtraction within 10**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Continue with the lesson by clicking on **Video: Subtracting within 20**. Watch the video with your child. Once you have watched the video, click on **Subtraction within 20**. Have your child answer the question, remembering to click on **I’d like a hint** if your child needs help. Continue to click on the **Practice Again** button on the lower left hand side of the screen. Once your child has completed five problems correctly. Close this page.

For greater challenge, click on and complete the below exercise sets, remembering to click on **I’d like a hint** when your child needs help. Be careful not to discourage your child by asking them to do more than they are ready for.

Throughout the session, encourage your child. Remind them mistakes are ok, everybody makes them. Mistakes are opportunities for learning. At the end of the session, congratulate your child on a job well done.
Addition and Subtraction Word Problems with 20: Level 1
Addition and Subtraction Word Problems with 20: Level 2
Addition and Subtraction Word Problems with 20: Level 3
Addition and Subtraction Word Problems with 20: Level 4

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

**NOTE:** Common Core 2.OA.B.2 is the second grade standard related to this goal. The goal is for your child to “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will work with equal groups of objects to learn multiplication. By the end of the lesson, your child will be able to create and identify equal groups of objects to gain foundations for multiplication.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Operations and Algebraic Thinking](#).

Scroll down to **2.OA.C.4**. The goal is for your child to “Use addition to find the total number of objects arranged in rectangular arrays with up to 5 rows and up to 5 columns; and to write an equation to express the total as a sum of equal addends.”

Click on **Repeated addition**. Have your child answer the questions, clicking on *I’d like a hint* when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
NOTE: Common Core 2.OA.C.3 is also a standard related to this goal. The goal is for your child to “Determine whether a group of objects (up to 20) has an odd or even number of members, e.g., by pairing objects or counting them by 2s; and to write an equation to express an even number as a sum of two equal addends.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will identify and explain the value of a 3-digit number. By the end of the lesson, your child will be able to explain the value of a 3-digit number using the ones, tens, and hundreds places.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: Teens as sums with 10
Video: Place value example with 25

Next, connect to Khan Academy Common Core Standards for Second Grade. Khan Academy Common Core Standards for Second Grade: Number and Operations in Base Ten.

Scroll down to 2.NBT.A.1. The goal is for your child to “Understand that the three digits of a three-digit number represent amounts of hundreds, tens, and ones; e.g., 706 equals 7 hundreds, 0 tens, and 6 ones.”

Click on Hundreds, tens, and ones. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
SECTION 6

Understands Place Value to the Hundreds Place

In this lesson, your child will identify and explain place value. By the end of the lesson, your child will be able to identify and explain place value to the hundreds place.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: Teens as sums with 10

Video: Place value example with 25

Next, connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Number and Operations in Base Ten.

Scroll down to 2.NBT.A.1a. The goal is for your child to understand that “100 can be thought of as a bundle of ten tens — called a ‘hundred.’”

Click on Hundreds, tens, and ones. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.
For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

**NOTE:** Common Core 2.NBT.A.1b is a standard also included in this goal. The goal is for your child to understand that “The numbers 100, 200, 300, 400, 500, 600, 700, 800, 900 refer to one, two, three, four, five, six, seven, eight, or nine hundreds (and 0 tens and 0 ones).” The practice questions under this standard are covered in 2.NBT.A.1a.
In this lesson, your child will read and write numbers. By the end of the lesson, your child will be able to read and write numbers to 1,000.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Number and Operations in Base Ten.

Scroll down to 2.NBT.A.3. The goal is for your child to “Read and write numbers to 1000 using base-ten numerals, number names, and expanded form.”

Click on Writing numbers to 1000. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will compare 3-digit numbers. By the end of the lesson, your child will be able to compare 3-digit numbers, telling which numbers are greater than, less than, or equal to one another.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Number and Operations in Base Ten](#).

Scroll down to 2.NBT.A.4. The goal is for your child to “Compare two three-digit numbers based on meanings of the hundreds, tens, and ones digits, using >, =, and < symbols to record the results of comparisons.”

Click on Comparing numbers within 1000. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Comparing whole numbers.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
Uses Place Value Understanding to Add and Subtract within 100

**Numbers and Operations in Base Ten**

1. Understands the value of a three-digit number (ones, tens, hundreds).
2. Understands place value to the hundreds place.
3. Reads and writes numbers to 1,000.
4. Compares three-digit numbers using <, >, = symbols.
5. Uses place value understanding to add and subtract within 100.
6. Mentally adds 10 or 100 to a given number.
7. Mentally subtracts 10 or 100 to a given number.
8. Adds up to 4 two-digit numbers using strategies based on place value.

In this lesson, your child will add and subtract within 100. By the end of the lesson, your child will be able to use place value understanding to add and subtract within 100.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Number and Operations in Base Ten.

Scroll down to 2.NBT.A.5. The goal is for your child to “Fluently add and subtract within 100 using strategies based on place value, properties of operations, and/or the relationship between addition and subtraction.”

Click on Addition using groups of 10: Level 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Addition using groups of 10: Level 2.

When that section is complete, begin the final set of questions, Subtraction within 20.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
**Section 10**

**Mentally Adds 10 or 100 to a Given Number**

Numbers and Operations in Base Ten

1. Understands the value of a three-digit number (ones, tens, hundreds).
2. Understands place value to the hundreds place.
3. Reads and writes numbers to 1,000.
4. Compares three-digit numbers using <, >, = symbols.
5. Uses place value understanding to add and subtract within 100.
6. Mentally adds 10 or 100 to a given number.
7. Mentally subtracts 10 or 100 to a given number.
8. Adds up to 4 two-digit numbers using strategies based on place value.

In this lesson, your child will add 10 or 100 to a given number. By the end of the lesson, your child will be able to mentally add 10 or 100 to a given number.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten.

Scroll down to 1.NBT.C.4. The goal is for your child to “Add within 100, including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and to relate the strategy to a written method and explain the reasoning used. Also, to understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.”

Click on Add within 100: Level 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Add within 100: Level 2. Once your child has completed five problems correctly. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

**NOTE:** Common Core 2.NBT.B.8 is the second grade standard related to this goal. The goal is for your child to “Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.

If you wish to practice skills related to the goal of this section, connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Operations and Algebraic Thinking.

Scroll down to 2.NBT.A.2. The goal is for your child to “Count within 1000; skip-count by 5s, 10s, and 100s.

Click on Skip Counting by 10s. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Skip Counting by 100s. Once your child has completed five problems correctly. Close this page.

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.
Section 11

Mentally Subtracts 10 or 100 to a Given Number

In this lesson, your child will subtract 10 or 100 to a given number. By the end of the lesson, your child will be able to mentally subtract 10 or 100 to a given number.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Numbers and Operations in Base Ten.

Scroll down to 1.NBT.C.6. The goal is for your child to “Subtract multiples of 10 in the range 10-90 from multiples of 10 in the range 10-90 (positive or zero differences), using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and to relate the strategy to a written method and explain the reasoning used.”

Click on Subtract tens. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
NOTE: Common Core 2.NBT.B.8 is the second grade standard related to this goal. The goal is for your child to “Mentally add 10 or 100 to a given number 100–900, and mentally subtract 10 or 100 from a given number 100–900.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will add up to four 2-digit numbers. By the end of the lesson, your child will be able to add up to four 2-digit numbers using strategies based on place value.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking.

Scroll down to 1.OA.A.2. The goal is for your child to “Solve word problems that call for addition of three whole numbers whose sum is less than or equal to 20, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem.”

Click on Adding three numbers. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
NOTE: Common Core 2.NBT.B.6 is the second grade standard related to this goal. The goal is for your child to “Add up to four two-digit numbers using strategies based on place value and properties of operations.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will estimate lengths. By the end of the lesson, your child will be able to estimate length using inches, feet, centimeters, and meters.

Connect to Khan Academy Common Core Standards for Second Grade: Khan Academy Common Core Standards for Second Grade: Measurement and Data.

Scroll down to 2.MD.A.3. The goal is for your child to “Estimate lengths using units of inches, feet, centimeters, and meters.”

Click on Estimating lengths. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will measure lengths. By the end of the lesson, your child will be able to measure length using inches, feet, centimeters, and meters.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Measurement and Data.

Scroll down to 2.MD.A.1. The goal is for your child to “Measure the length of an object by selecting and using appropriate tools such as rulers, yardsticks, meter sticks, and measuring tapes.”

Click on Measuring lengths 2. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to 2.MD.A.2 on the same page. The goal is for your child to “Measure the length of an object twice, using length units of different lengths for the two measurements; and to describe how the two measurements relate to the size of the unit chosen.”

Click on Measuring lengths with different units. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will use addition to solve word problems involving length. By the end of the lesson, your child will be able to use addition within 100 to solve word problems involving length.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Measurement and Data.

Scroll down to 2.MD.B.5. The goal is for your child to “Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.”

Click on Length word problems. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to 2.MD.B.6 on the same page. The goal is for your child to “Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.”

Click on Adding and subtracting on the number line word problems. Again, have your child answer the ques-
tions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
SECTION 16

Uses Subtraction within 100 to Solve Word Problems Involving Length

Measurement and Data

1. Estimates lengths using inches, feet, centimeters, and meters.
2. Measures lengths using inches, feet, centimeters, and meters.
3. Uses addition within 100 to solve word problems involving length.
4. **Uses subtraction within 100 to solve word problems involving length.**
5. Tells and writes time to the nearest 5 minutes using AM and PM.
6. Solves word problems involving money.
7. Represents and interprets data.
8. Draws a picture graph and bar graph to represent a data set.

In this lesson, your child will use subtraction to solve word problems involving length. By the end of the lesson, your child will be able to use subtraction within 100 to solve word problems involving length.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Measurement and Data.

Scroll down to 2.MD.B.5. The goal is for your child to “Use addition and subtraction within 100 to solve word problems involving lengths that are given in the same units, e.g., by using drawings (such as drawings of rulers) and equations with a symbol for the unknown number to represent the problem.”

Click on **Length word problems.** Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to 2.MD.B.6 on the same page. The goal is for your child to “Represent whole numbers as lengths from 0 on a number line diagram with equally spaced points corresponding to the numbers 0, 1, 2, ..., and represent whole-number sums and differences within 100 on a number line diagram.”

Click on **Adding and subtracting on the number line word problems.** Again, have your child answer the ques-
tions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Tells and Writes Time to the Nearest 5 Minutes Using AM and PM

In this lesson, your child will tell and write time. By the end of the lesson, your child will be able to tell and write time to the nearest 5 minutes using AM and PM.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Telling time exercise, example 1**

**Telling time exercise, example 2**

Next, connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Measurement and Data](https://example.com).

Scroll down to **2.MD.C.7**. The goal is for your child to “Tell and write time from analog and digital clocks to the nearest five minutes, using a.m. and p.m.”

Click on **Telling time with a labeled clock**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Telling time without labels**. Once your child has completed five problems correctly, close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”
Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Solves Word Problems Involving Money

In this lesson, your child will solve word problems about money. By the end of the lesson, your child will be able to solve word problems involving money.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Measurement and Data](#).

Scroll down to 2.MD.C.8. The goal is for your child to “Solve word problems involving dollar bills, quarters, dimes, nickels, and pennies, using $ and ¢ symbols appropriately.”

Click on Counting money (U.S.). Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Section 19

Represents and Interprets Data

Measurement and Data

1. Estimates lengths using inches, feet, centimeters, and meters.
2. Measures lengths using inches, feet, centimeters, and meters.
3. Uses addition within 100 to solve word problems involving length.
4. Uses subtraction within 100 to solve word problems involving length.
5. Tells and writes time to the nearest 5 minutes using AM and PM.
6. Solves word problems involving money.
7. Represents and interprets data.
8. Draws a picture graph and bar graph to represent a data set.

In this lesson, your child will represent and interpret data. By the end of the lesson, your child will be able to represent and interpret data.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Measurement and Data.

Scroll down to 2.MD.D.9. The goal is for your child to “Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Also, to show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.”

Click on Making line plots, bar graphs, and picture graphs. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Solving problems with line plots 1.” Once your child has completed five problems correctly, close the page.

Next, scroll down to 2.MD.D.10 on the same page. The goal is for your child to “Draw a picture graph and a bar graph (with single-unit scale) to represent a data set with up to four categories. Also, to solve simple put-together, take-apart, and compare problems using information presented in a bar graph.”
Click on **Solving problems with bar graphs 2**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Finally, have your child complete the next set of questions, **Solving problems with picture graphs 1**. Once your child has completed five problems correctly, close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
In this lesson, your child will draw picture and bar graphs. By the end of the lesson, your child will be able to draw picture and bar graphs to represent a data set.

Connect to Khan Academy Common Core Standards for Second Grade Khan Academy Common Core Standards for Second Grade: Measurement and Data.

Scroll down to 2.MD.D.9. The goal is for your child to “Generate measurement data by measuring lengths of several objects to the nearest whole unit, or by making repeated measurements of the same object. Also, to show the measurements by making a line plot, where the horizontal scale is marked off in whole-number units.”

Click on Making line plots, bar graphs, and picture graphs. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Recognizes and Draws Shapes Having Specified Attributes

1. **Recognizes and draws shapes having specified attributes.**
2. Partitions circles into two, three, or four equal parts.
3. Partitions rectangles into two, three, or four equal parts.
4. Recognizes that equal shares of identical wholes need not have the same shape.

In this lesson, your child will recognize and draw shapes having specified attributes. By the end of the lesson, your child will be able to recognize and draw shapes having specified attributes.

Click on [Video: Cousin Fal’s shape collection](#). Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Geometry](#).

Scroll down to **2.G.A.1**. The goal is for your child to “Recognize and draw shapes having specified attributes, such as a given number of angles or a given number of equal faces. Also, to identify triangles, quadrilaterals, pentagons, hexagons, and cubes.”

Click on [Recognizing shapes](#). Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
In this lesson, your child will partition circles into 2, 3, or 4 equal parts. By the end of the lesson, your child will be able to partition circles into 2, 3, or 4 equal parts.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Geometry](#).

Scroll down to 2.G.A.3. The goal is for your child to “Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Also, to recognize that equal shares of identical wholes need not have the same shape.”

Click on [Equal parts of circles and rectangles](#). Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!“

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
1. Recognizes and draws shapes having specified attributes.
2. Partitions circles into two, three, or four equal parts.
3. **Partitions rectangles into two, three, or four equal parts.**
4. Recognizes that equal shares of identical wholes need not have the same shape.

In this lesson, your child will partition rectangles into 2, 3, or 4 equal parts. By the end of the lesson, your child will be able to partition rectangles into 2, 3, or 4 equal parts.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Geometry](https://www.khanacademy.org/standards). Scroll down to **2.G.A.2**. The goal is for your child to “Partition a rectangle into rows and columns of same-size squares and count to find the total number of them.”

Click on **Filling rectangles with same-sized squares**. Have your child answer the questions, clicking on **I'd like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to **2.G.A.3** on the same page. The goal is for your child to “Partition circles and rectangles into two, three, or four equal shares, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Also, to recognize that equal shares of identical wholes need not have the same shape.”

Click on **Equal parts of circles and rectangles.**” Again, have your child answer the questions until he or she completes five problems correctly, then close the page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will recognize that equal shares of identical wholes need not have the same shape. By the end of the lesson, your child will be able to recognize that equal shares of identical wholes need not have the same shape.

Connect to Khan Academy Common Core Standards for Second Grade [Khan Academy Common Core Standards for Second Grade: Geometry](#).

Scroll down to **2.G.A.3.** The goal is for your child to “Partition circles and rectangles into two, three, or four equal parts, describe the shares using the words halves, thirds, half of, a third of, etc., and describe the whole as two halves, three thirds, four fourths. Also, to recognize that equal shares of identical wholes need not have the same shape.”

Click on **Equal parts of circles and rectangles.** Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
Third graders are usually full of energy, enjoy socializing, and like to share their humor. They are industrious, impatient, and full of ideas. They care about the process and the product. Third graders can use math manipulatives to explain their thinking and solve problems in concrete ways. And they are really beginning to master computers! In this chapter, you’ll find lessons designed to support your child’s mastery of the Common Core State Standards that he or she is expected to learn in third grade.

Has Quick Recall of Addition Facts

In this lesson, your child will quickly complete basic addition fact problems. By the end of the lesson, your child will be able to quickly recall basic addition facts.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/curriculum/first-grade-math).

Scroll down to 1.OA.C.6. The goal is for your child to “Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 by using strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 – 4 = 13 – 3 – 1 = 10 – 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 – 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$).”

Click on Addition within 20. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.
For more tips on encouraging and motivating your child, visit Khan Academy’s *Ideas for Parents and Mentors* page.

**NOTE:** Common Core *2.OA.B.2* is the second grade standard related to this goal. The goal is for your child to “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will quickly complete basic subtraction fact problems. By the end of the lesson, your child will be able to quickly recall basic subtraction facts.

Connect to Khan Academy Common Core Standards for First Grade [Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/math/cc-first-grade/math/first-grade-operations-algebraic-thinking).

Scroll down to **1.OA.D.8**. The goal is for your child to “Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.”

Click on **Addition and subtraction within 10**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, click on **Early Math: Subtraction within 20**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/teachers) page.
NOTE: Common Core 2.OA.B.2 is the second grade standard related to this goal. The goal is for your child to “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
Multiplies Whole Numbers 
Fluently within 100

Operations and Algebraic Thinking

1. Has quick recall of addition facts.
2. Has quick recall of subtraction facts.
3. **Multiplies whole numbers fluently within 100.**
4. Divides whole numbers fluently within 100.
5. Represents and solves problems involving multiplication and division.
6. Problem solving with the 4 operations, identifies and explains patterns.

In this lesson, your child will multiply whole numbers fluently within 100. By the end of the lesson, your child will be able to multiply whole numbers fluently within 100.

Connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Operations and Algebraic Thinking](#).

Scroll down to **3.OA.A.1**. The goal is for your child to “Interpret products of whole numbers, e.g., interpret \(5 \times 7\) as the total number of objects in 5 groups of 7 objects each.”

Click on **Meaning of multiplication**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to **3.OA.A.4** on the same page. The goal is for your child to “Determine the unknown whole number in a multiplication or division equation relating three whole numbers.”

Click on **Multiplying 1-digit numbers**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Solving basic multiplication and division equations**.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

FOR GREATER FLUENCY: To practice specific math facts, have your child work through the following links:

- Multiplying by 2
- Multiplying by 3
- Multiplying by 4
- Multiplying by 5
- Multiplying by 6
- Multiplying by 7
- Multiplying by 8
- Multiplying by 9

NOTE: Common Core 3.OA.A.3 and 3.OA.C.7 are also standards related to this goal.

The goal for your child in 3.OA.A.3 is to “Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

The goal for your child in 3.OA.C.7 is to “Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 \times 5 = 40, one knows 40 \div 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.”

At the time of this writing, skills for 3.OA.A.3 were not available in Khan Academy. Skills for 3.OA.C.7 did not appropriately coincide with the standard. We hope to include them in a future edition of this manual.
In this lesson, your child will divide whole numbers fluently within 100. By the end of the lesson, your child will be able to divide whole numbers fluently within 100.

Connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/). Scroll down to **3.OA.A.2**. The goal is for your child to “Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.”

Click on **Meaning of division**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to **3.OA.A.4** on the same page. The goal is for your child to “Determine the unknown whole number in a multiplication or division equation relating three whole numbers.”

Click on **1-digit division**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Basic division**.
When that section is complete, begin the next set of questions, \textbf{Solving basic multiplication and division equations.}

Next, scroll down to \textbf{3.OA.B.6} on the same page. The goal is for your child to “Understand division as an unknown-factor problem.”

Click on \textbf{Relate division to multiplication}. Have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s \textbf{Ideas for Parents and Mentors} page.

\textbf{FOR GREATER FLUENCY}: To practice specific math facts, have your child work through the following links:

\begin{itemize}
  \item \textbf{Dividing by 2}
  \item \textbf{Dividing by 3}
  \item \textbf{Dividing by 4}
  \item \textbf{Dividing by 5}
  \item \textbf{Dividing by 6}
  \item \textbf{Dividing by 7}
  \item \textbf{Dividing by 8}
  \item \textbf{Dividing by 9}
  \item \textbf{Dividing by 10}
\end{itemize}

\textbf{NOTE}: Common Core \textbf{3.OA.A.3} and \textbf{3.OA.C.7} are also standards related to this goal.

The goal for your child in \textbf{3.OA.A.3} is to “Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

The goal for your child in \textbf{3.OA.C.7} is to “Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that $8 \times 5 = 40$, one knows $40 \div 5 = 8$) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.”

At the time of this writing, skills for \textbf{3.OA.A.3} were not available in Khan Academy. Skills for \textbf{3.OA.C.7} did not appropriately coincide with the standard. We hope to include them in a future edition of this manual.
SECTION 5

Represents and Solves Problems Involving Multiplication and Division

OPERATIONS AND ALGEBRAIC THINKING

1. Has quick recall of addition facts.
2. Has quick recall of subtraction facts.
3. Multiplies whole numbers fluently within 100.
4. Divides whole numbers fluently within 100.
5. Represents and solves problems involving multiplication and division.
6. Problem solving with the 4 operations, identifies and explains patterns.

In this lesson, your child will solve problems using multiplication and division. By the end of the lesson, your child will be able to represent and solve problems involving multiplication and division.

Click on Video: Unknowns with multiplication and division. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Operations and Algebraic Thinking.

Scroll down to 3.OA.B.5. The goal is for your child to “Apply properties of operations as strategies to multiply and divide.”

Click on Properties of multiplication. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Properties of multiplication 2.

Next, scroll down to 3.OA.B.6 on the same page. The goal is for your child to “Understand division as an unknown-factor problem.”

Click on Relate division to multiplication word problems. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

**NOTE:** Common Core 3.OA.A.3 is also a standard related to this goal. The goal for your child in 3.OA.A.3 is to “Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
Section 6

Problem Solving with the Four Operations, Identifies and Explains Patterns

Operations and Algebraic Thinking

1. Has quick recall of addition facts.
2. Has quick recall of subtraction facts.
3. Multiplies whole numbers fluently within 100.
4. Divides whole numbers fluently within 100.
5. Represents and solves problems involving multiplication and division.
6. Problem solving with the four operations, identifies and explains patterns.

In this lesson, your child will solve problems using the four operations and identify and explain patterns. By the end of the lesson, your child will be able to solve problems using the four operations and identify and explain patterns.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: How many truffle eating guests attending a party
Video: Total seats in a theater
Video: Marbles for friends
Video: Running distance in a week

Next, connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Operations and Algebraic Thinking.

Scroll down to 3.OA.B.5. The goal is for your child to “Apply properties of operations as strategies to multiply and divide.”

Click on Properties of multiplication. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Properties of multiplication 2.
Next, scroll down to 3.OA.B.8 on the same page. The goal is for your child to “Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.”

Click on Two-step word problems with addition, subtraction, multiplication, and division. Have your child answer the questions until he or she completes five problems correctly, then close the page.

Finally, scroll down to 3.OA.B.9 on the same page. The goal is for your child to “Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.”

Click on Math patterns 1. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

NOTE: Common Core 3.OA.A.3 is also a standard related to this goal. The goal for your child in 3.OA.A.3 is to “Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

At the time of this writing, skills for this standard were not available in Khan Academy. We hope to include them in a future edition of this manual.
Fluently Adds and Subtracts within 1,000 using Strategies Algorithm

**Numbers and Operations in Base Ten**

1. Fluently adds and subtracts within 1,000 using strategies algorithm based on place value, properties of operations, and/or the relationship between addition and subtraction.

2. Uses place value understanding to round whole numbers to the nearest 10 or 100.

3. Multiplies one-digit whole numbers by multiples of 10 in the range of 10-90.

**NOTE:** This lesson incorporates many parts to the Core Content Standard 3.NBT.A.2 and may need to be split into multiple sessions.

In this lesson, your child will fluently add and subtract within 1,000. By the end of the lesson, your child will be able to fluently add and subtract within 1,000 using strategies algorithm based on place value, properties of operations, and/or the relationship between addition and subtraction.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Carrying when adding three-digit numbers
- Video: Why carrying works
- Video: Examples of regrouping when adding three-digit numbers
- Video: Basic regrouping when subtracting three-digit numbers
- Video: Regrouping when subtracting three-digit numbers
- Video: Regrouping twice when subtracting three-digit numbers
- Video: Regrouping from zero when subtracting three-digit numbers
- Video: Mental technique for subtraction without regrouping
Next, connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Numbers and Operations in Base Ten.

Scroll down to 3.NBT.A.2. The goal is for your child to “Fluently add and subtract within 1000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.”

Click on Addition using groups of 10 and 100. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Addition within 100.

When that section is complete, begin the next set of questions, Addition within 1000.

Next, have your child complete the set of questions, Subtraction within 100.

Finally, click on and complete the next set of questions, Subtraction within 1000.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Uses Place Value Understanding to Round Whole Numbers to the Nearest 10 or 100

In this lesson, your child will round whole numbers to the nearest 10 or 100. By the end of the lesson, your child will be able to use place value understanding to round whole numbers to the nearest 10 or 100.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: Rounding to the nearest 10

Video: Rounding to the nearest 100

Video: Examples of rounding to the nearest 10 or 100

Next, connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Numbers and Operations in Base Ten.

Scroll down to 3.NBT.A.1. The goal is for your child to “Use place value understanding to round whole numbers to the nearest 10 or 100.”

Click on Rounding to the nearest 10 or 100. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

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Numbers and Operations in Base Ten

1. Fluently adds and subtracts within 1,000 using strategies algorithm based on place value, properties of operations, and/or the relationship between addition and subtraction.

2. Uses place value understanding to round whole numbers to the nearest 10 or 100.

3. Multiplies one-digit whole numbers by multiples of 10 in the range of 10-90.
In this lesson, your child will multiply 1-digit whole numbers by multiples of 10. By the end of the lesson, your child will be able to multiply 1-digit whole numbers by multiples of 10 in the range of 10–90.

Click on Video: Multiplying by multiples of 10. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Numbers and Operations in Base Ten.

Scroll down to 3.NBT.A.3. The goal is for your child to “Multiply one-digit whole numbers by multiples of 10 in the range 10–90 (e.g., 9 × 80, 5 × 60) using strategies based on place value and properties of operations.”

Click on Multiply by 10s. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Multiply by tens word problems.”

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will divide fractions into equal parts. By the end of the lesson, your child will be able to divide fractions into equal parts with the denominators 2, 3, 4, 6, and 8.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Fraction basics**

**Video: More than one equal section**

Next, connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Numbers and Operations - Fractions](https://www.khanacademy.org/common-core/grade-3/fractions).

Scroll down to **3.NF.A.1**. The goal is for your child to “Understand a fraction 1/b as the quantity formed by 1 part when a whole is partitioned into b equal parts; understand a fraction a/b as the quantity formed by a parts of size 1/b.”

Click on [Building fractions from unit fractions](https://www.khanacademy.org/computer-programming/building-fractions-from-unit-fractions/). Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, [Identifying numerators and denominators](https://www.khanacademy.org/computer-programming/identifying-numerators-and-denominators). Have your child complete five problems correctly, then close this page.
When that section is complete, begin the final set of questions, **Recognizing fractions**. Have your child complete five problems correctly, then close this page.

Next, connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Geometry](#). Scroll down to **3.G.A.2**. The goal is for your child to “Partition shapes into parts with equal areas. Also, to express the area of each part as a unit fraction of the whole.”

Click on **Cutting shapes into equal parts**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
In this lesson, your child will represent a fraction on a number line. By the end of the lesson, your child will be able to represent a fraction on a number line diagram.

Click on Video: Fractions on a number line. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Numbers and Operations - Fractions.

Scroll down to 3.NF.A.2. The goal is for your child to “Understand a fraction as a number on the number line; represent fractions on a number line diagram.”

Click on Finding 1 on the number line. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Fractions on the number line 1. Have your child complete five problems correctly, then close this page.

When that section is complete, begin the set of questions, Fractions on the number line 2. Have your child complete five problems correctly, then close this page.

Next, scroll down to 3.NF.A.3 on the same page. The goal is for your child to “Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.”
Click on **Equivalent fractions on the number line**.
Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!&quot;

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/parentguide) page.
In this lesson, your child will tell and write time to the nearest minute. By the end of the lesson, your child will be able to tell and write time to the nearest minute using AM and PM.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

*Telling time exercise, example 1*
*Telling time exercise, example 2*

Next, connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Measurement and Data](#).

Scroll down to **3.MD.A.1**. The goal is for your child to “Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, e.g., by representing the problem on a number line diagram.”

Click on **Telling time word problems**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Telling time word problems with the number line**. Have your child complete five problems correctly, then close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Demonstrates an Understanding of Area and Relates to Addition and Multiplication

1. Tells and writes time to the nearest minute using AM and PM.

2. **Demonstrates an understanding of area and relates to addition and multiplication.**

3. Demonstrates an understanding of perimeter and relates to addition and multiplication.

4. Solves problems involving measurement, time, liquid volume, and mass.

In this lesson, your child will calculate the area of a given object. By the end of the lesson, your child will be able to demonstrate an understanding of area and relate to addition and multiplication.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- **Video: Introduction to area and unit squares**
- **Video: Measuring the same rectangle with different unit squares**
- **Video: Rectangle area as product of dimensions same as counting unit squares**

Next, connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Measurement and Data](https://www.khanacademy.org/math/cc-third-grade-math/cc-3rd-grade-measurement-and-data).

Scroll down to **3.MD.C.5.** The goal is for your child to “Recognize area as an attribute of plane figures and understand concepts of area measurement.”

Click on **Understanding area.** Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to **3.MD.C.6** on the same page. The goal is for your child to “Measure areas by counting unit squares (square cm, square m, square in, square ft, and improvised units).”

Click on **Measuring area with unit squares.** Have your child answer the questions until he or she completes five problems correctly, then close the page.
Finally, scroll down to 3.MD.C.7 on the same page. The goal is for your child to “Relate area to the operations of multiplication and addition.”

Click on Area and the distributive property. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, Comparing areas by multiplying. Have your child answer the questions until he or she completes five problems correctly, then close the page.

When that section is complete, begin the next set of questions, Decompose shapes to find area. Have your child complete five problems correctly, then close this page.

Finally, have your child complete the set of questions, Finding area by multiplying.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Demonstrates an Understanding of Perimeter and Relates to Addition and Multiplication

1. Tells and writes time to the nearest minute using AM and PM.
2. Demonstrates an understanding of area and relates to addition and multiplication.
3. **Demonstrates an understanding of perimeter and relates to addition and multiplication.**
4. Solves problems involving measurement, time, liquid volume, and mass.

In this lesson, your child will calculate the perimeter of a given object. By the end of the lesson, your child will be able to demonstrate an understanding of perimeter and relate to addition and multiplication.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Introduction to perimeter**

**Video: Perimeter of a shape**

Next, connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Measurement and Data](#). Scroll down to **3.MD.D.8**. The goal is for your child to “Solve real world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.”

Click on **Comparing area and perimeter**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Finding perimeter**. Have your child answer the questions until he or she completes five problems correctly, then close the page.
Continue with the next set of questions, “Perimeter 1.”

When that section is complete, begin the last set of questions, **Perimeter 2**. Have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Solves Problems Involving Measurement, Time, Liquid Volume, and Mass

Measurement and Data

1. Tells and writes time to the nearest minute using AM and PM.
2. Demonstrates an understanding of area and relates to addition and multiplication.
3. Demonstrates an understanding of perimeter and relates to addition and multiplication.
4. Solves problems involving measurement, time, liquid volume, and mass.

In this lesson, your child will solve problems involving measurement, time, liquid volume, and mass. By the end of the lesson, your child will be able to solve problems involving measurement, time, liquid volume, and mass.

Connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Measurement and Data.

Scroll down to 3.MD.A.2. The goal is for your child to “Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), and liters (l). Add, subtract, multiply, or divide to solve one-step word problems involving masses or volumes that are given in the same units, e.g., by using drawings (such as a beaker with a measurement scale) to represent the problem.”

Click on Arithmetic word problems with mass. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Arithmetic word problems with volume. Have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will identify the shared attributes of shapes. By the end of the lesson, your child will be able to explain that shapes in different categories may share attributes.

Connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Geometry](#). Scroll down to 3.G.A.1. The goal is for your child to “Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Also, to recognize rhombuses, rectangles, and squares as examples of quadrilaterals and to draw examples of quadrilaterals that do not belong to any of these subcategories.”

Click on Categorize quadrilaterals. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Recognizes Rhombuses, Rectangles, and Squares as Examples of Quadrilaterals

**GEOMETRY**

1. Understands that shapes in different categories may share attributes.

2. Recognizes rhombuses, rectangles, and squares as examples of quadrilaterals.

In this lesson, your child will recognize rhombuses, rectangles, and squares as examples of quadrilaterals. By the end of the lesson, your child will be able to recognize rhombuses, rectangles, and squares as examples of quadrilaterals.

Connect to Khan Academy Common Core Standards for Third Grade Khan Academy Common Core Standards for Third Grade: Geometry.

Scroll down to **3.G.A.1**. The goal is for your child to “Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Also, to recognize rhombuses, rectangles, and squares as examples of quadrilaterals and to draw examples of quadrilaterals that do not belong to any of these subcategories.”

Click on Categorize quadrilaterals. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Fourth Grade

More coordinated than their younger counterparts, fourth graders like to push their limits. They are more individualistic but can feel worried or anxious. They are industrious and intellectually curious, often wanting to know why things work the way they do, but can be less imaginative than in third grade. Fourth graders can have trouble understanding abstractions. They have better coordination and control, so they can be quite proficient on the computer. In this chapter, you’ll find lessons designed to support your child’s mastery of the Common Core State Standards that he or she is expected to learn in fourth grade.


Clipart Courtesy of: https://openclipart.org/detail/121459/euclids-pythagorean-theorem-proof-remix-2-by-merlin2525
In this lesson, your child will find factor pairs. By the end of the lesson, your child will be able to find all factor pairs of a whole number up to 50.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Finding factors of a number**

**Video: Factors and multiples**

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Operations and Algebraic Thinking.

Scroll down to 4.OA.B.4. The goal is for your child to “Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.”

Click on Composite numbers. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Divisibility intuition. Have your child answer the questions until he or she completes five problems correctly, then close the page.
When that section is complete, begin the next set of questions, **Factor pairs**. Have your child answer the questions until he or she completes five problems correctly, then close the page.

Continue to the next set of questions, **Identifying factors and multiples**. Have your child answer the questions until he or she completes five problems correctly, then close the page.

Finally, have your child answer the last set of questions until he or she completes five problems correctly, then close the page., **Prime numbers**.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
In this lesson, your child will find multiples of a whole number. By the end of the lesson, your child will be able to list the first ten multiples of a one-digit whole number.

Click on Video: Factors and multiples. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Operations and Algebraic Thinking.

Scroll down to 4.OA.B.4. The goal is for your child to “Find all factor pairs for a whole number in the range 1–100. Recognize that a whole number is a multiple of each of its factors. Determine whether a given whole number in the range 1–100 is a multiple of a given one-digit number. Determine whether a given whole number in the range 1–100 is prime or composite.”

Click on Identifying factors and multiples. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Has Quick Recall of Addition Facts

In this lesson, your child will practice addition facts. By the end of the lesson, your child will be able to quickly recall addition facts.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking.

Scroll down to 1.OA.C.6. The goal is for your child to “Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 by using strategies such as counting on; making ten (e.g., \(8 + 6 = 8 + 2 + 4 = 10 + 4 = 14\)); decomposing a number leading to a ten (e.g., \(13 – 4 = 13 – 3 – 1 = 10 – 1 = 9\)); using the relationship between addition and subtraction (e.g., knowing that \(8 + 4 = 12\), one knows \(12 – 8 = 4\)); and creating equivalent but easier or known sums (e.g., adding \(6 + 7\) by creating the known equivalent \(6 + 6 + 1 = 12 + 1 = 13\)).”

Click on Addition within 20. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.
For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

**NOTE:** Common Core 2.OA.B.2 is the second grade standard related to this goal. The goal is for your child to “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

At the time of this writing, skills for this goal were not available in Khan Academy. We hope to include them in a future edition of this manual.
Has Quick Recall of Subtraction Facts

**Operations and Algebraic Thinking**

1. Finds all factor pairs of a whole number up to 50.
2. Lists the first ten multiples of a one-digit whole number.
3. Has quick recall of addition facts.
4. **Has quick recall of subtraction facts.**
4. Has quick recall of multiplication facts.
5. Has quick recall of division facts.
6. Uses addition/subtraction of whole numbers to solve multi-step problems.
7. Uses multiplication/division of whole numbers to solve multi-step problems.

In this lesson, your child will practice subtraction facts. By the end of the lesson, your child will be able to quickly recall subtraction facts.

Connect to Khan Academy Common Core Standards for First Grade Khan Academy Common Core Standards for First Grade: Operations and Algebraic Thinking.

Scroll down to **1.OA.D.8.** The goal is for your child to “Determine the unknown whole number in an addition or subtraction equation relating three whole numbers.”

Click on **Addition and subtraction within 10.** Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, click on **Early Math: Subtraction within 20.** Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
NOTE: Common Core 2.OA.B.2 is the second grade standard related to this goal. The goal is for your child to “Fluently add and subtract within 20 using mental strategies. By end of Grade 2, know from memory all sums of two one-digit numbers.”

At the time of this writing, skills for this goal were not available in Khan Academy. We hope to include them in a future edition of this manual.
Has Quick Recall of Multiplication Facts

**Operations and Algebraic Thinking**

1. Finds all factor pairs of a whole number up to 50.
2. Lists the first ten multiples of a one-digit whole number.
3. Has quick recall of addition facts.
4. Has quick recall of subtraction facts.
5. **Has quick recall of multiplication facts.**
6. Has quick recall of division facts.
7. Uses addition/subtraction of whole numbers to solve multi-step problems.
8. Uses multiplication/division of whole numbers to solve multi-step problems.

In this lesson, your child will practice multiplication facts. By the end of the lesson, your child will be able to quickly recall multiplication facts.

Connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Operations and Algebraic Thinking](#).

Scroll down to **3.OA.A.1**. The goal is for your child to “Interpret products of whole numbers, e.g., interpret $5 \times 7$ as the total number of objects in 5 groups of 7 objects each.”

Click on **Meaning of multiplication**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Then scroll down to **3.OA.A.4** on the same page. The goal is for your child to “Determine the unknown whole number in a multiplication or division equation relating three whole numbers.”

Click on **Multiplying 1-digit numbers**. Have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the set of questions, **Solving basic multiplication and division equations**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.
Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Operations and Algebraic Thinking.

Scroll down to 4.OA.A.1. The goal is for your child to “Interpret a multiplication equation as a comparison, e.g., interpret 35 = 5 × 7 as a statement that 35 is 5 times as many as 7 and 7 times as many as 5. Represent verbal statements of multiplicative comparisons as multiplication equations.”

Click on Comparing with multiplication. Have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

FOR GREATER FLUENCY To practice specific math facts, have your child work through the following links:

Multiplying by 2
Multiplying by 3

NOTE: Common Core 3.OA.A.3 and 3.OA.C.7 are also standards related to this goal.

The goal for your child in 3.OA.A.3 is to Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

The goal for your child in 3.OA.C.7 is to “Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.”

At the time of this writing, skills for 3.OA.A.3 were not available in Khan Academy. Skills for 3.OA.C.7 did not appropriately coincide with the standard. We hope to include them in a future edition of this manual.
### Has Quick Recall of Division Facts

**Operations and Algebraic Thinking**

1. Finds all factor pairs of a whole number up to 50.
2. Lists the first ten multiples of a one-digit whole number.
3. Has quick recall of addition facts.
4. Has quick recall of subtraction facts.
5. Has quick recall of multiplication facts.
6. **Has quick recall of division facts.**
7. Uses addition/subtraction of whole numbers to solve multi-step problems.
8. Uses multiplication/division of whole numbers to solve multi-step problems.

In this lesson, your child will practice division facts. By the end of the lesson, your child will be able to quickly recall division facts. Connect to Khan Academy Common Core Standards for Third Grade [Khan Academy Common Core Standards for Third Grade: Operations and Algebraic Thinking](https://classroom.khanacademy.org/curr/3rd/3rd_g/3-gp-mp-mp6).

Scroll down to **3.OA.A.2**. The goal is for your child to “Interpret whole-number quotients of whole numbers, e.g., interpret 56 ÷ 8 as the number of objects in each share when 56 objects are partitioned equally into 8 shares, or as a number of shares when 56 objects are partitioned into equal shares of 8 objects each.”

Click on **Meaning of division**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to **3.OA.A.4** on the same page. The goal is for your child to “Determine the unknown whole number in a multiplication or division equation relating three whole numbers.”

Click on **1-digit division**. Have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Basic division**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

When that section is complete, begin the next set of questions, **Solving basic multiplication and division equations**. As before, have your child answer the questions until he or she completes five problems correctly, then close the page.
Again, scroll down to 3.OA.B.6 on the same page. The goal is for your child to “Understand division as an unknown-factor problem.”

Click on **Relate division to multiplication.** Have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.

**FOR GREATER FLUENCY** To practice specific math facts, have your child work through the following links:

- **Dividing by 2**
- **Dividing by 3**
- **Dividing by 4**
- **Dividing by 5**
- **Dividing by 6**
- **Dividing by 7**
- **Dividing by 8**
- **Dividing by 9**
- **Dividing by 10**

**NOTE:** Common Core 3.OA.A.3 and 3.OA.C.7 are also standards related to this goal.

The goal for your child in **3.OA.A.3** is to “Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.”

The goal for your child in **3.OA.C.7** is to “Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division (e.g., knowing that 8 × 5 = 40, one knows 40 ÷ 5 = 8) or properties of operations. By the end of Grade 3, know from memory all products of two one-digit numbers.”

At the time of this writing, skills for **3.OA.A.3** were not available in Khan Academy. Skills for **3.OA.C.7** did not appropriately coincide with the standard. We hope to include them in a future edition of this manual.
In this lesson, your child will solve multi-step problems using addition and subtraction. By the end of the lesson, your child will be able to use addition/subtraction of whole numbers to solve multi-step problems.

Connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/math/cc-fourth-grade-math)

Scroll down to 4.OA.A.3. The goal is for your child to “Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Also, to represent these problems using equations with a letter standing for the unknown quantity, and to assess the reasonableness of answers using mental computation and estimation strategies including rounding.”

Click on [Multi-step word problems with whole numbers](https://www.khanacademy.org/math/cc-fourth-grade-math/oa/oa-word-problems/a/multi-step-word-problems). Have your child answer the questions, clicking on I'd like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/parents) page.
Section 8

Uses Multiplication/Division of Whole Numbers to Solve Multi-Step Problems

1. Finds all factor pairs of a whole number up to 50.
2. Lists the first ten multiples of a one-digit whole number.
3. Has quick recall of addition facts.
4. Has quick recall of subtraction facts.
5. Has quick recall of multiplication facts.
6. Has quick recall of division facts.
7. Uses addition/subtraction of whole numbers to solve multi-step problems.
8. Uses multiplication/division of whole numbers to solve multi-step problems.

In this lesson, your child will solve multi-step problems using multiplication and division. By the end of the lesson, your child will be able to use multiplication/division of whole numbers to solve multi-step problems.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: Multi-step word problems with whole numbers, exercise 1
Video: Multi-step word problems with whole numbers exercise 2
Video: Multi-step word problems with whole numbers, exercise 3

Next, connect to Khan Academy Common Core Standards for Fourth Grade. Scroll down to 4.OA.A.2. The goal is for your child to multiply or divide to solve word problems involving multiplicative comparison, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem, distinguishing multiplicative comparison from additive comparison.”

Click on Multiplication and division word problems. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has
completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to 4.OA.A.3. The goal is for your child to “Solve multistep word problems posed with whole numbers and having whole-number answers using the four operations, including problems in which remainders must be interpreted. Also, to represent these problems using equations with a letter standing for the unknown quantity, and to assess the reasonableness of answers using mental computation and estimation strategies including rounding.”

Click on Multi-step word problems with whole numbers. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Section 9

Reads, Writes, and Gives the Value of Digits in Numbers up to Millions

**Number and Operations in Base Ten**

1. **Reads, writes, and gives the value of digits in numbers up to millions.**

2. Has a successful strategy for adding a multi-digit numbers.

3. Has a successful strategy for subtracting multi-digit numbers.

4. Has a successful strategy for multiplying multi-digit numbers.

5. Has a successful strategy for dividing multi-digit numbers.

6. Estimates the answers to calculations involving multi-digit numbers to check the reasonableness of answers.

In this lesson, your child will read, write, and give the value of digits in large numbers. By the end of the lesson, your child will be able to read, write, and give the value of digits in numbers up to millions.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Place value 1
- Video: Place value 2
- Video: Place value 3

Next, connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Number Sense and Operations in Base Ten](#).

Scroll down to 4.NBT.A.1. The goal is for your child to “Recognize that in a multi-digit whole number, a digit in one place represents ten times what it represents in the place to its right.”

Click on Understanding place value. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Next, scroll down to 4.NBT.A.2. The goal is for your child to “Read and write multi-digit whole numbers using base-ten numerals, number names, and expanded form. Also, to compare
two multi-digit numbers based on meanings of the digits in each place, using $>$, $=$, and $<$ symbols to record the results of comparisons.”

Click on **Place value**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Continue with the next set of questions, **Understanding whole number representations**. have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
In this lesson, your child will add multi-digit numbers. By the end of the lesson, your child will be able to add multi-digit numbers.

Click on Video: Carrying when adding three-digit numbers. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Number Sense and Operations in Base Ten.

Scroll down to 4.NBT.B.4. The goal is for your child to “Fluently add and subtract multi-digit whole numbers using the standard algorithm.”

Click on Addition within 1000. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Section 11

Has a Successful Strategy for Subtracting Multi-Digit Numbers

1. Reads, writes, and gives the value of digits in numbers up to millions.
2. Has a successful strategy for adding multi-digit numbers.
3. Has a successful strategy for subtracting multi-digit numbers.
4. Has a successful strategy for multiplying multi-digit numbers.
5. Has a successful strategy for dividing multi-digit numbers.
6. Estimates the answers to calculations involving multi-digit numbers to check the reasonableness of answers.

In this lesson, your child will subtract multi-digit numbers. By the end of the lesson, your child will be able to subtract multi-digit numbers.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Basic regrouping when subtracting 3-digit numbers
- Video: Regrouping when subtracting 3-digit numbers
- Video: Regrouping twice when subtracting 3-digit numbers
- Video: Regrouping from 0 when subtracting 3-digit numbers

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Number Sense and Operations in Base Ten.

Scroll down to 4.NBT.B.4. The goal is for your child to “Fluently add and subtract multi-digit whole numbers using the standard algorithm.”

Click on Subtraction within 1000. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”
Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
**Section 12**

**Has a Successful Strategy for Multiplying Multi-Digit Numbers**

**Number and Operations in Base Ten**

1. Reads, writes, and gives the value of digits in numbers up to millions.
2. Has a successful strategy for adding multi-digit numbers.
3. Has a successful strategy for subtracting multi-digit numbers.
4. **Has a successful strategy for multiplying multi-digit numbers.**
5. Has a successful strategy for dividing multi-digit numbers.
6. Estimates the answers to calculations involving multi-digit numbers to check the reasonableness of answers.

**NOTE:** This lesson incorporates many sets of practice questions and may need to be split into multiple sessions. In each set of practice questions, make sure your child has completed five problems correctly before moving onto the next set of practice questions.

In this lesson, your child will multiply multi-digit numbers. By the end of the lesson, your child will be able to multiply multi-digit numbers.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: 2-digit x 1-digit example, no carrying
- Video: 3-digit x 1-digit example, no carrying
- Video: 2-digit x 1-digit example
- Video: 3-digit x 1-digit example
- Video: 4-digit x 1-digit example
- Video: Multiplying 2-digit numbers
- Video: 2-digit multiplication with distribution or grid
- Video: Understanding multiplication through area models
- Video: Area model for multiplication

Next, connect to Khan Academy Common Core Standards for Fourth Grade:  
Khan Academy Common Core Standards for Fourth Grade: Number Sense and Operations in Base Ten.
Scroll down to 4.NBT.B.5. The goal is for your child to “Multiply a whole number of up to four digits by a one-digit whole number, and multiply two two-digit numbers, using strategies based on place value and the properties of operations. Also, to illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.”

Click on Multiplication with carrying. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, close this page.

Begin the next set of questions, Multiplication without carrying. Once your child has completed five problems correctly, close this page.

Next, have your child complete the set of questions, Multiplying 2 digits by 2 digits.” Once your child has completed five problems correctly, close this page.

Continue to Multiplying 2 digits by 2 digits with area models. Once your child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, Multiplying 4 digits by 1 digit with visual models. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will divide multi-digit numbers. By the end of the lesson, your child will be able to divide multi-digit numbers.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Intro to long division without remainders
- Video: Example of long division without remainders
- Video: Introduction to remainders
- Video: Long division with remainder example
- Video: More long division without and with remainders

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Number Sense and Operations in Base Ten. Scroll down to 4.NBT.B.6. The goal is for your child to “Find whole-number quotients and remainders with up to four-digit dividends and one-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Also, to illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.”

Click on Division with remainders. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five prob-
lems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Multi-digit division without remainders**. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
In this lesson, your child will estimate multi-digit numbers. By the end of the lesson, your child will be able to estimate multi-digit numbers as a foundation for estimating answers to calculations to check the reasonableness of answers.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

**Rounding Whole Numbers 1**

**Rounding Whole Numbers 2**

**Rounding Whole Numbers 3**

Next, connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Number Sense and Operations in Base Ten](#).

Scroll down to **4.NBT.A.3**. The goal is for your child to “Use place value understanding to round multi-digit whole numbers to any place.”

Click on **Rounding whole numbers**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.

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**Section 14**

**Estimates the Answers to Calculations Involving Multi-Digit Numbers**

**Number and Operations in Base Ten**

1. Reads, writes, and gives the value of digits in numbers up to millions.

2. Has a successful strategy for adding multi-digit numbers.

3. Has a successful strategy for subtracting multi-digit numbers.

4. Has a successful strategy for multiplying multi-digit numbers.

5. Has a successful strategy for dividing multi-digit numbers.

6. **Estimates the answers to calculations involving multi-digit numbers to check the reasonableness of answers.**
SECTION 15

Finds Fraction Equivalents

1. **Finds fraction equivalents.**
2. Decomposes fractions, whole numbers, and mixed numbers into a sum of fractions.
3. Compares and orders fractions.
4. Has a successful strategy for adding and subtracting fractions with like denominators.
5. Compares and writes tenths and hundredths in decimal and fraction forms.
6. Reads, writes, orders, and compares decimals to hundredths.

In this lesson, your child will find fraction equivalents. By the end of the lesson, your child will be able to estimate the answers to find fraction equivalents.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Introduction to equivalent fractions
- Video: Visualizing equivalent fractions
- Video: Equivalent fraction word problem example
- Video: Equivalent fraction word problem example 2
- Video: Equivalent fraction word problem example 3
- Video: More on equivalent fractions
- Video: Equivalent fractions example

Next, connect to Khan Academy Common Core Standards for Fourth Grade. Scroll down to 4.NF.A.1. The goal is for your child to “Explain why a fraction a/b is equivalent to a fraction (n × a)/(n × b) by using visual fraction models, with attention to how the number and size of the parts differ even though the two fractions themselves are the same size. Also, use this principle to recognize and generate equivalent fractions.”
Click on **Equivalent fractions**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Fractions cut and copy 1**. Once your child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, **Visualizing equivalent fractions**. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
Number and Operations - Fractions and Decimals

1. Finds fraction equivalents.

2. Decomposes fractions, whole numbers, and mixed numbers into a sum of fractions.

3. Compares and orders fractions.

4. Has a successful strategy for adding and subtracting fractions with like denominators.

5. Compares and writes tenths and hundredths in decimal and fraction forms.

6. Reads, writes, orders, and compares decimals to hundredths.

In this lesson, your child will break down a fraction, whole number, or mixed number into its fractional parts. By the end of the lesson, your child will be able to decompose fractions, whole numbers, and mixed numbers into a sum of fractions.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

**Video: Decomposing a fraction visually**

**Video: Decomposing a mixed number**

**Video: Adding up to a fraction drag and drop example**

Next, connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Number and Operations - Fractions](https://www.khanacademy.org/math/cc-fourth-grade-math/cc-fourth-grade-fractions).

Scroll down to **4.NF.B.3b**. The goal is for your child to “Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Also, to justify decompositions, e.g., by using a visual fraction model.”

Click on **Decomposing fractions**. Have your child answer the questions, clicking on **I'd like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Compares and Orders Fractions

1. Finds fraction equivalents.
2. Decomposes fractions, whole numbers, and mixed numbers into a sum of fractions.
3. **Compares and orders fractions.**
4. Has a successful strategy for adding and subtracting fractions with like denominators.
5. Compares and writes tenths and hundredths in decimal and fraction forms.
6. Reads, writes, orders, and compares decimals to hundredths.

In this lesson, your child will compare and order fractions. By the end of the lesson, your child will be able to compare and order fractions.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Comparing fractions 2**

**Video: Ordering fractions**

Next, connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Number and Operations - Fractions](https://www.khanacademy.org/). Scroll down to **4.NF.A.2**. The goal is for your child to “Compare two fractions with different numerators and different denominators, e.g., by creating common denominators or numerators, or by comparing to a benchmark fraction such as 1/2. Also, to recognize that comparisons are valid only when the two fractions refer to the same whole. In addition, to record the results of comparisons with symbols >, =, or <, and justify the conclusions, e.g., by using a visual fraction model.”

Click on **Comparing fractions 2**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
Begin the next set of questions, **Comparing fractions and mixed numbers**. Once your child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, **Ordering fractions**. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org) page.
SECTION 18

Has a Successful Strategy for Adding and Subtracting Fractions with Like Denominators

1. Finds fraction equivalents.
2. Decomposes fractions, whole numbers, and mixed numbers into a sum of fractions.
3. Compares and orders fractions.
4. **Has a successful strategy for adding and subtracting fractions with like denominators.**
5. Compares and writes tenths and hundredths in decimal and fraction forms.
6. Reads, writes, orders, and compares decimals to hundredths.

In this lesson, your child will add and subtract fractions. By the end of the lesson, your child will be able to add and subtract fractions with like denominators.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Adding fractions with like denominators**

**Video: Subtracting fractions with like denominators**

Next, connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Number and Operations - Fractions](https://www.khanacademy.org/math/cc-fourth-grade-math).

Scroll down to **4.NF.B.3**. The goal is for your child to “Understand a fraction a/b with a > 1 as a sum of fractions 1/b.”

Click on **Adding fractions with common denominators**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Subtracting fractions with common denominators**. Once your child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, **Converting mixed numbers and improper fractions**. Once your child has completed five problems correctly, close this page.

Next, scroll down to **4.NF.B.3c**. The goal is for your child to “Add and subtract mixed numbers with like denominators, e.g., by
replacing each mixed number with an equivalent fraction, and/or by using properties of operations and the relationship between addition and subtraction.”

Click on **Adding and subtracting fractions with like denominators**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.

**NOTE:** Common Core **4.NF.B.3a** and **3.NF.B.3b** are also standards related to this goal.

The goal for your child in **4.NF.B.3a** is to “Understand addition and subtraction of fractions as joining and separating parts referring to the same whole.” The practice problems for this standard are included under **3.NF.B.3**.

The goal for your child in **3.NF.B.3b** is to “Decompose a fraction into a sum of fractions with the same denominator in more than one way, recording each decomposition by an equation. Also, to justify decompositions, e.g., by using a visual fraction model.” However, this standard more closely correlates to the goal covered in section 16 of this chapter.
Section 19

Compares and Writes Tenths and Hundredths in Decimal and Fraction Forms

Number and Operations - Fractions and Decimals

1. Finds fraction equivalents.
2. Decomposes fractions, whole numbers, and mixed numbers into a sum of fractions.
3. Compares and orders fractions.
4. Has a successful strategy for adding and subtracting fractions with like denominators.
5. Compares and writes tenths and hundredths in decimal and fraction forms.
6. Reads, writes, orders, and compares decimals to hundredths.

In this lesson, your child will compare and write decimal and fraction forms. By the end of the lesson, your child will be able to compare and write tenths and hundredths in decimal and fraction forms.

If your child is working on comparing and ordering fractions, have him or her watch either or both of the following videos.

Video: Comparing fractions 2
Video: Ordering fractions

If your child is working on comparing decimals, have him or her watch any or all of the following videos:

Video: Using a number line to compare decimals
Video: Comparing decimals, example 1
Video: Comparing decimals, example 2

Next, connect to Khan Academy Common Core Standards for Fourth Grade. Scroll down to 4.NF.C.5. The goal is for your child to “Express a fraction with denominator 10 as an equivalent fraction with denominator 100 and use this technique to add two fractions with respective denominators 10 and 100.”

Click on Adding fractions with 10 and 100 as denominators. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
Next, scroll down to **4.NF.C.6**. The goal is for your child to “Use decimal notation for fractions with denominators 10 or 100.”

Click on **Converting fractions to decimals 1**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Decimals on the number line 1**. Once your child has completed five problems correctly, close this page.

When that section is complete, begin the set of questions, **Decimals on the number line 2**. Once your child has completed five problems correctly, close this page.

Next, click on **Fractions as division by 10 or 100**. Once your child has completed five problems correctly, close this page.

Finally, have your child complete the set of questions, **Fractions as division by a multiple of 10**.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
Reads, Writes, Orders, and Compares Decimals to Hundredths

In this lesson, your child will read, write, order, and compare decimals. By the end of the lesson, your child will be able to read, write, order, and compare decimals to hundredths.

If your child is working on comparing decimals, have him or her watch any or all of the following videos.

- Video: Using a number line to compare decimals
- Video: Comparing decimals, example 1
- Video: Comparing decimals, example 2

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Number and Operations - Fractions.

Scroll down to 4.NF.C.7. The goal is for your child to “Compare two decimals to hundredths by reasoning about their size. Also, to recognize that comparisons are valid only when the two decimals refer to the same whole. In addition, to record the results of comparisons with the symbols >, =, or <, and justify the conclusions, e.g., by using a visual model.”

Click on Comparing decimals 1. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Converts Units of Measure

1. Converts units of measure.
2. Solves word problems involving measurement.
3. Make a line plot to display a data set of measurements and solve problems by using information presented in the line plot.
5. Finds the perimeter and area of a rectangle.

In this lesson, your child will convert units of measure. By the end of the lesson, your child will be able to convert units of measure.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Converting between units of time
- Video: Converting feet to inches
- Video: Converting distances in the metric system
- Video: Converting fluid volume in U.S. customary units
- Video: Converting weight in metric and U.S. customary units

Next, connect to Khan Academy Common Core Standards for Fourth Grade: Measurement and Data.

Scroll down to 4.MD.A.1. The goal is for your child to “Know relative sizes of measurement units within one system of units including km, m, cm; kg, g; lb, oz.; l, ml; hr, min, sec. Also, within a single system of measurement, to express measurements in a larger unit in terms of a smaller unit. In addition, to record measurement equivalents in a two-column table.”

Click on Converting to smaller units. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five prob-
lems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Unit sense**. Once the child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
Solves Word Problems Involving Measurement

**MEASUREMENT AND DATA**

1. Converts units of measure.
2. **Solves word problems involving measurement.**
3. Make a line plot to display a data set of measurements and solve problems by using information presented in the line plot.
5. Finds the perimeter and area of a rectangle.

In this lesson, your child will solve word problems involving measurement. By the end of the lesson, your child will be able to solve word problems involving measurement.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

**VIDEOS INVOLVING TIME:**
- Video: Time to leave for home
- Video: Time before volleyball practice

**VIDEOS INVOLVING MONEY:**
- Video: Change from buying apples
- Video: Currency conversion

**VIDEOS INVOLVING METRIC:**
- Video: Leftover from tea party
- Video: Jogging and walking

**PROBLEMS INVOLVING U.S. Customary:**
- Video: Running laps
- Video: Safe elevator
- Video: Blood drive
Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Measurement and Data.

Scroll down to 4.MD.A.2. The goal is for your child to “Use the four operations to solve word problems involving distances, intervals of time, liquid volumes, masses of objects, and money, including problems involving simple fractions or decimals, and problems that require expressing measurements given in a larger unit in terms of a smaller unit. Also, to represent measurement quantities using diagrams such as number line diagrams that feature a measurement scale.”

Click on Converting money word problems. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Converting to smaller units word problems (metric). Once the child has completed five problems correctly, close this page.

Continue with the next set of questions, Converting to smaller units word problems (US customary). Once the child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, Time word problems. Once the child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will represent and interpret data. By the end of the lesson, your child will be able to make a line plot to display a data set of measurements and solve problems by using information presented in the line plot.

Click on Video: Interpreting data in a line plot. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Measurement and Data.

Scroll down to 4.MD.B.4. The goal is for your child to “Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8). Also, to solve problems involving addition and subtraction of fractions by using information presented in line plots.”

Click on Interpreting line plots with fraction addition and subtraction. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will measure angles. By the end of the lesson, your child will be able to measure angles.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: Measuring angles in degrees
Video: Using a protractor
Video: Measuring angles

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Measurement and Data.

Scroll down to 4.MD.C.5. The goal is for your child to “Recognize angles as geometric shapes that are formed wherever two rays share a common endpoint and to understand concepts of angle measurement.”

Click on Benchmark angles. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Naming angles. Once the child has completed five problems correctly, close this page.
When that section is complete, begin the final set of questions, **Understanding angles**. Once the child has completed five problems correctly, close this page.

Next, scroll down to **4.MD.C.6**. The goal is for your child to “Measure angles in whole-number degrees using a protractor. Also, to sketch angles of specified measure.”

Click on **Drawing angles**. Again, have your child answer the questions until he or she completes five problems correctly, then close the page.

Begin the next set of questions, **Measuring angles**. Once the child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.

**NOTE:** Common Core **4.MD.C.5a** and **4.MD.C.5b** are also standards related to this goal.

The goal for your child in **4.MD.C.5a** is to understand that “An angle is measured with reference to a circle with its center at the common endpoint of the rays, by considering the fraction of the circular arc between the points where the two rays intersect the circle. Also, to understand that an angle that turns through 1/360 of a circle is called a “one-degree angle,” and can be used to measure angles.”

The goal for your child in **4.MD.C.5b** is to understand that “An angle that turns through n one-degree angles is said to have an angle measure of n degrees.”

At the time of this writing, skills for these standards were not available in Khan Academy. We hope to include them in a future edition of this manual.
In this lesson, your child will find the perimeter and area of a rectangular object. By the end of the lesson, your child will be able to find the perimeter and area of a rectangular.

Connect to Khan Academy Common Core Standards for Fourth Grade [Khan Academy Common Core Standards for Fourth Grade: Measurement and Data](#).

Scroll down to 4.MD.A.3. The goal is for your child to “Apply the area and perimeter formulas for rectangles in real world and mathematical problems.”

Click on Area and perimeter of rectangles word problems. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Area problems. Once the child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will draw and identify parallel, perpendicular, and intersecting lines, line segments, and rays. By the end of the lesson, your child will be able to draw and identify parallel, perpendicular, and intersecting lines, line segments, and rays.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

- Video: Parallel and perpendicular lines intro
- Video: Identifying parallel and perpendicular lines

Next, connect to Khan Academy Common Core Standards for Fourth Grade Khan Academy Common Core Standards for Fourth Grade: Geometry.

Scroll down to 4.G.A.1. The goal is for your child to “Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Also, to identify these in two-dimensional figures.”

Click on Drawing rays, lines, and line segments. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the set of questions, Recognizing parallel and perpendicular lines. Once the child has completed five problems correctly, close this page.
When that section is complete, begin the final set of questions, **Recognizing rays, lines, and line segments.** Once the child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
Draws and Identifies Angles

1. Draws and identifies parallel, perpendicular, and intersecting lines, line segments, and rays.
2. **Draws and identifies angles.**
3. Draws, identifies, and describes 2-D and 3-D shapes using properties of their lines and angles.

In this lesson, your child will draw and identify angles. By the end of the lesson, your child will be able to draw and identify angles.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

- Video: Constructing angles
- Video: Acute, right, and obtuse angles

Next, connect to Khan Academy Common Core Standards for Fourth Grade. Khan Academy Common Core Standards for Fourth Grade: Geometry.

Scroll down to 4.G.A.1. The goal is for your child to “Draw points, lines, line segments, rays, angles (right, acute, obtuse), and perpendicular and parallel lines. Also, to identify these in two-dimensional figures.”

Click on Angle types. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the set of questions, Drawing right, acute, and obtuse angles. Once the child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, Recognizing angles. Once the child has completed five problems correctly, close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Draws, Identifies, and Describes 2-D and 3-D Shapes Using Properties of Their Lines and Angles

1. Draws and identifies parallel, perpendicular, and intersecting lines, line segments, and rays.
2. Draws and identifies angles.
3. Draws, identifies, and describes 2-D and 3-D shapes using properties of their lines and angles.

In this lesson, your child will draw, identify, and describe 2-D and 3-D shapes. By the end of the lesson, your child will be able to draw, identify, and describe 2-D and 3-D shapes using properties of their lines and angles.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Quadrilateral overview
- Video: Quadrilateral properties
- Video: Scalene, isosceles, equilateral, acute, right and obtuse triangles
- Video: Using angles to categorize triangles

Next, connect to Khan Academy Common Core Standards for Fourth Grade.

Scroll down to 4.G.A.2. The goal is for your child to “Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Also, to recognize right triangles as a category, and identify right triangles.”

Click on Classifying shapes by line and angle types. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
Begin the set of questions, **Quadrilateral types**. Once the child has completed five problems correctly, close this page.

When that section is complete, begin the final set of questions, **Recognizing triangle types**. Once the child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?! ”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Fifth Grade

Often happy and friendly, fifth graders are receptive learners who take pride in their schoolwork. They can be quite attentive and expressive. They are often good at memorizing facts and increasingly able to think more abstractly. Fifth graders frequently enjoy collecting, classifying, and organizing. They are ready to start using more intricate math tools, such as compasses and protractors, but likely still need practice time. Gearing up for middle school, fifth graders often appreciate the use of technology in their learning. In this chapter, you’ll find lessons designed to support your child’s mastery of the Common Core State Standards that he or she is expected to learn in fifth grade.

In this lesson, your child will use brackets and parentheses to evaluate expressions. By the end of the lesson, your child will be able to interpret numerical expressions using brackets and parentheses.

Click on Video: Evaluating an expression with and without parentheses. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Operations and Algebraic Thinking.

Scroll down to 5.OA.A.1. The goal is for your child to “Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols.”

Click on Expressions with parentheses. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will create number patterns using two given rules. By the end of the lesson, your child will be able to generate two numerical patterns using two given rules.

Connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Operations and Algebraic Thinking](https://www.khanacademy.org/). Scroll down to 5.OA.B.3. The goal is for your child to “Generate two numerical patterns using two given rules. Also, to identify apparent relationships between corresponding terms. In addition, to form ordered pairs consisting of corresponding terms from the two patterns and graph the ordered pairs on a coordinate plane.”

Click on [Visualizing and interpreting relationships between patterns](https://www.khanacademy.org/). Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/) page.
Reads, Writes, and Compares Decimals to the Thousandths

In this lesson, your child will read, write, and compare decimals. By the end of the lesson, your child will be able to read, write, and compare decimals to the thousandths.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Writing out a decimal in words
- Video: Writing out a decimal in words 2
- Video: Comparing decimals, example 3
- Video: Comparing decimals, example 4

Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations in Base Ten.

Scroll down to 5.NBT.A.3. The goal is for your child to “Read, write, and compare decimals to thousandths.”

Click on Money and decimal place value intuition.
Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!"
Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Compares Two Decimals to the Thousandths Place Based on the Meaning of Digits in Each Place, Using >, <, and = Symbols

In this lesson, your child will compare decimals to the thousandths place. By the end of the lesson, your child will be able to compare two decimals to the thousandths place based on the meaning of digits in each place, using greater than, less than, and equal to symbols.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

Video: Comparing decimals, example 3
Video: Comparing decimals, example 4

Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations in Base Ten.

Scroll down to 5.NBT.A.3b. The goal is for your child to “Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons.”

Click on Comparing decimals 2. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Ordering decimals. Once your child has completed five problems correctly lose this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?! ”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will round decimals. By the end of the lesson, your child will be able to use place value understanding to round decimals to any place.

Click on Video: Rounding Decimals. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations in Base Ten.

Scroll down to 5.NBT.A.4. The goal is for your child to “Use place value understanding to round decimals to any place.”

Click on Rounding numbers. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Fluently Multiplies Multi-Digit Whole Numbers

In this lesson, your child will multiply whole numbers. By the end of the lesson, your child will be able to fluently multiply multi-digit whole numbers.

Click on Video: Multiplying multi-digit numbers. Watch the video with your child.

Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations in Base Ten.

Scroll down to 5.NBT.B.5. The goal is for your child to “Fluently multiply multi-digit whole numbers using the standard algorithm.”

Click on Multi-digit multiplication. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will divide whole numbers. By the end of the lesson, your child will be able to find whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

**Video: Dividing by two digits with no remainder**

**Video: Dividing by a two-digit number**

**Video: Division by two digits**

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Number and Operations in Base Ten](#).

Scroll down to **5.NBT.B.6**. The goal is for your child to “Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Also, to illustrate and explain the calculation by using equations, rectangular arrays, and/or area models.”

Click on **Division by 2 digits**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Add, Subtracts, Multiplies and Divides Decimals to Hundredths

1. Reads, writes, and compares decimals to the thousandths.
2. Compares two decimals to the thousandths place based on the meaning of digits in each place, using greater than, less than, and equal to symbols.
3. Uses place value understanding to round decimals to any place.
4. Fluently multiplies multi-digit whole numbers.
5. Finds whole number quotients of whole numbers with up to four-digit dividends and two-digit divisors.
6. Adds, subtracts, multiplies and divides decimals to hundredths.

NOTE: This lesson incorporates many goals within one Core Content Standard and may need to be split into multiple sessions. Consider working on each operation in a different session.

In this lesson, your child will add, subtract, multiply and divide decimals. By the end of the lesson, your child will be able to add, subtract, multiply and divide decimals to hundredths.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

ADDITION OF DECIMALS
- Video: Adding decimals, example 1
- Video: Adding decimals, example 2
- Video: Adding decimals, example 3

SUBTRACTION OF DECIMALS
- Video: Subtracting decimals up to hundredths
- Video: Another example of subtracting decimals up to hundredths

MULTIPLICATION OF DECIMALS
- Video: Intro to multiplying decimals
- Video: More intuition on multiplying decimals
- Video: Multiplying decimals

DIVISION OF DECIMALS
- Video: Dividing a decimal by a whole number
Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations in Base Ten.

Scroll down to 5.NBT.B.7. The goal is for your child to “Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; and to relate the strategy to a written method and explain the reasoning used.”

Click on Adding decimals 0.5. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, Adding decimals 1. Once your child has completed five problems correctly, close this page.

When that section is complete, scroll down just a bit, staying under the same standard, to the set of questions, Subtracting decimals.

Next, have your child complete the set of questions, Subtracting decimals 0.5. Once your child has completed five problems correctly, close this page.

Just above that, continue to the set of questions, Multiplying decimals 1. Once your child has completed five problems correctly, close this page.

Then move on to Multiplying decimals 2. Once your child has completed five problems correctly, close this page.

Finally, have your child work on the set of questions for division, starting with Dividing completely. Once your child has completed five problems correctly, close this page.

Continue to the set of questions, Dividing decimals 1. Once your child has completed five problems correctly, close this page.

Have your child complete the set of questions, Dividing decimals 2. Once your child has completed five problems correctly, close this page.

Finish with the last set of questions for this standards, Dividing decimals 3. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Section 9

Adds and Subtracts Fractions with Unlike Denominators, Finding Equivalent Fractions

1. **Adds and subtracts fractions with unlike denominators, finding equivalent fractions.**
2. Solves word problems involving addition and subtraction of fractions referring to the same whole, including unlike denominators.
3. Interprets a fraction as division of the numerator by the denominator and solves word problems involving division of whole numbers leading to answers in the form of fractions and mixed numbers.
4. Finds the area of a rectangle with fractional side lengths.
5. Solves real world problems involving multiplication of fractions and mixed numbers.

In this lesson, your child will add and subtract fractions. By the end of the lesson, your child will be able to add and subtract fractions with unlike denominators, finding equivalent fractions.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: Adding fractions with unlike denominators**

**Video: Subtracting fractions with unlike denominators**

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Number and Operations - Fractions](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-fractions). Scroll down to **5.NF.A.1**. The goal is for your child to “Add and subtract fractions with unlike denominators (including mixed numbers) by replacing given fractions with equivalent fractions in such a way as to produce an equivalent sum or difference of fractions with like denominators.”

Click on **Adding fractions with unlike denominators**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Subtracting fractions with unlike denominators**.” Once your child has completed five problems correctly, close this page.
When that section is complete, begin the final set of questions, which is listed first under this standard, **Adding and subtracting mixed numbers with unlike denominators.** Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s **Ideas for Parents and Mentors** page.
Solves Word Problems Involving Addition and Subtraction of Fractions

NUMBER AND OPERATIONS - FRACTIONS

1. Adds and subtracts fractions with unlike denominators, finding equivalent fractions.

2. **Solves word problems involving addition and subtraction of fractions referring to the same whole, including unlike denominators.**

3. Interprets a fraction as division of the numerator by the denominator and solves word problems involving division of whole numbers leading to answers in the form of fractions and mixed numbers.

4. Finds the area of a rectangle with fractional side lengths.

5. Solves real world problems involving multiplication of fractions and mixed numbers.

In this lesson, your child will solve word problems involving addition and subtraction of fractions. By the end of the lesson, your child will be able to solve word problems involving addition and subtraction of fractions referring to the same whole, including unlike denominators.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

- **Video: Adding fractions with unlike denominator word problem**
- **Video: Subtracting fractions with unlike denominator word problem**

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Number and Operations - Fractions](#).

Scroll down to **5.NF.A.2**. The goal is for your child to “Solve word problems involving addition and subtraction of fractions referring to the same whole, including cases of unlike denominators, e.g., by using visual fraction models or equations to represent the problem. Also, to use benchmark fractions and number sense of fractions to estimate mentally and assess the reasonableness of answers.”

Click on **Adding and subtracting fractions with unlike denominators word problems**. Have your child answer the questions, clicking on **I'd like a hint** when he or she needs more help. Once your child has completed five prob-
lems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Interprets a Fraction as a Division Problem and Solves Word Problems

In this lesson, your child will interpret a fraction as a division problem and solve word problems with answers of fractions and mixed numbers. By the end of the lesson, your child will be able to interpret a fraction as division of the numerator by the denominator and solve word problems involving division of whole numbers leading to answers in the form of fractions and mixed numbers.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

Video: Understanding fractions as division
Video: Using fractions as division to create mixed numbers
Video: Creating a fraction through division of whole numbers
Video: My share of soap as a mixed number on a number line
(continuation of previous video)

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Number and Operations - Fractions](https://www.khanacademy.org/math/cc-fifth-grade-math/cc-5th-fractions). Scroll down to **5.NF.B.3**. The goal is for your child to “Interpret a fraction as division of the numerator by the denominator (a/b = a ÷ b) and solve word problems involving division of whole numbers leading to answers in the form of fractions or mixed numbers, e.g., by using visual fraction models or equations to represent the problem.”
Click on **Understanding fractions as division**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org) page.

**NOTE:** For additional practice with simple division of fractions, not in real word problem form, scroll down to 5.NF.B.7. The goal is for your child to “Apply and extend previous understandings of division to divide unit fractions by whole numbers and whole numbers by unit fractions.”

Have your child complete the first set of questions, **Dividing fractions by whole numbers**. Once your child has completed five problems correctly, close this page.

Continue to the next set of questions, **Dividing whole numbers by fractions**. Once your child has completed five problems correctly, close this page.

Wrap up this session by continuing with the instructions described above.
In this lesson, your child will find the area of a rectangle with fractional side lengths. By the end of the lesson, your child will be able to find the area of a rectangle with fractional side lengths.

Connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations - Fractions.

Scroll down to 5.NF.B.4b. The goal is for your child to “Find the area of a rectangle with fractional side lengths by tiling it with unit squares of the appropriate unit fraction side lengths, and show that the area is the same as would be found by multiplying the side lengths. Also, to multiply fractional side lengths to find areas of rectangles, and represent fraction products as rectangular areas.”

Click on Understanding multiplying fractions by fractions. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Solves Real World Problems Involving Multiplication of Fractions & Mixed Numbers

In this lesson, your child will solve world problems that involve multiplying fractions and mixed numbers. By the end of the lesson, your child will be able to solve real world problems involving multiplication of fractions and mixed numbers.

If your child needs more help with multiplying fractions and whole numbers, have him or her watch any or all of the following videos:

- Video: How long will three movies last?
- Video: My family loves milk
- Video: We must have eaten more pie

If your child needs more help with multiplying fractions by fractions, have him or her watch any or all of the following videos:

- Video: Making banana oat muffins...mmm
- Video: How much laundry detergent left?
- Video: Biking to a friend

If your child needs more help with division with fractions, have him or her watch any or all of the following videos:

- Video: Putting out bowls of potpourri
- Video: Spending the weekend studying
- Video: How many t-shirts can I make?
Next, connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Number and Operations - Fractions.

Scroll down to 5.NF.B.6. The goal is for your child to “Solve real world problems involving multiplication of fractions and mixed numbers, e.g., by using visual fraction models or equations to represent the problem.”

Click on Multiplying fractions by fractions word problems. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

NOTE: For additional practice with simple multiplication of fractions, not in real word problem form, scroll down to 5.NF.B.4. The goal is for your child to, “Apply and extend previous understandings of multiplication to multiply a fraction or whole number by a fraction.”

Have your child complete the first set of questions, Multiplying mixed numbers. Once your child has completed five problems correctly, close this page.

Move on to the next set of questions, Multiplying positive fractions. Once your child has completed five problems correctly, close this page.

Now work on the last set of questions, Understanding multiplying fractions by fractions. Once your child has completed five problems correctly, close this page.

Continue to 5.NF.B.4a. The goal is for your child to “Interpret the product (a/b) × q as a parts of a partition of q into b equal parts; equivalently, as the result of a sequence of operations a × q ÷ b.”

Complete the set of questions labeled, Multiplying fractions by whole numbers. Once your child has completed five problems correctly, close this page.
Converting Among Different-Sized Standard Measurement Units

1. Converts among different-sized standard measurement units within a given system.
2. Makes a line plot to display data set of measurements in fractions of a unit.
3. Recognizes volume as an attribute of solid figures and knows a cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume.
4. Finds the volume of a rectangular prism with whole number side lengths by packing it with unit cubes and showing that the volume is the same as would be found by multiplying the sides.
5. Applies the formulas V=lxwxh and V=bxh for rectangular prisms.

In this lesson, your child will convert among different-sized standard measurement units. By the end of the lesson, your child will be able to convert among different-sized standard measurement units within a given system.

Click on any or all of the following videos, depending on what you might think your child might find helpful.

- Video: Converting minutes to hours
- Video: Ordering metric distances
- Video: Converting centimeters to meters
- Video: Converting gallons to quarts, pints, and cups
- Video: Performing arithmetic calculations on units of volume
- Video: Unit conversions with fractions

Next, connect to Khan Academy Common Core Standards for Fifth Grade. Scroll down to 5.MD.A.1. The goal is for your child to “Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to 0.05 m) and use these conversions in solving multi-step, real world problems.”

Click on Converting units. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems...
correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Converting units word problems**. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?! ”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will make a line plot in fractions of a unit. By the end of the lesson, your child will be able to make a line plot to display a data set of measurements in fractions of a unit.

Connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Measurement and Data.

Scroll down to 5.MD.B.2. The goal is for your child to “Make a line plot to display a data set of measurements in fractions of a unit (1/2, 1/4, 1/8) and to use operations on fractions for this grade to solve problems involving information presented in line plots.”

Click on Interpreting dot plots with fraction operations. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will recognize volume as an attribute of solid figures. By the end of the lesson, your child will be able to recognize volume as an attribute of solid figures and demonstrate understanding that a cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: How we measure volume**

**Video: Measuring volume with unit cubes**

Next, connect to Khan Academy Common Core Standards for Fifth Grade: [Khan Academy Common Core Standards for Fifth Grade: Measurement and Data](https://www.khanacademy.org/curriculum/5th-grade-math).

Scroll down to **5.MD.C.3**. The goal is for your child to “Recognize volume as an attribute of solid figures and understand concepts of volume measurement.”

Click on **Volume with unit cubes 1**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](https://www.khanacademy.org/parenting) page.
**Section 17**

**Finds the Volume of a Rectangular Prism by Using Unit Cubes and Multiplication**

1. Converts among different-sized standard measurement units within a given system.
2. Makes a line plot to display a data set of measurements in fractions of a unit.
3. Recognizes volume as an attribute of solid figures and demonstrates understanding that a cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume.
4. **Finds the volume of a rectangular prism with whole number side lengths by packing it with unit cubes and showing that the volume is the same as would be found by multiplying the sides.**
5. Applies the formulas V=lwxh and V=bxh for rectangular prisms.

In this lesson, your child will find the volume of a rectangular prism. By the end of the lesson, your child will be able to find the volume of a rectangular prism with whole number side lengths by packing it with unit cubes and showing that the volume is the same as would be found by multiplying the sides.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

**Video: How we measure volume**

**Video: Measuring volume with unit cubes**

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Measurement and Data](#).

Scroll down to **5.MD.C.5a**. The goal is for your child to “Find the volume of a right rectangular prism with whole-number side lengths by packing it with unit cubes, and show that the volume is the same as would be found by multiplying the edge lengths, equivalently by multiplying the height by the area of the base. Also, to represent threefold whole-number products as volumes, e.g., to represent the associative property of multiplication.”

Click on **Volume 1**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
Begin the next set of questions, **Volume word problems**. Once your child has completed five problems correctly, close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s [Ideas for Parents and Mentors](#) page.
Applies the Formulas $V=l\times w\times h$ and $V=b\times h$ for Rectangular Prisms

**MEASUREMENT AND DATA**

1. Converts among different-sized standard measurement units within a given system.

2. Makes a line plot to display a data set of measurements in fractions of a unit.

3. Recognizes volume as an attribute of solid figures and demonstrates understanding that a cube with side length 1 unit, called a “unit cube,” is said to have “one cubic unit” of volume.

4. Finds the volume of a rectangular prism with whole number side lengths by packing it with unit cubes and showing that the volume is the same as would be found by multiplying the sides.

5. Applies the formulas $V=l\times w\times h$ and $V=b\times h$ for rectangular prisms.

In this lesson, your child will apply the formulas $V=l\times w\times h$ and $V=b\times h$ for rectangular prisms. By the end of the lesson, your child will be able to apply the formulas $V=l\times w\times h$ and $V=b\times h$ for rectangular prisms.

Ask your child, “So, what have you been doing in math?” Share an enthusiastic response, such as “Fun!” Then tell child, “Today, we’re going to work on volume. We’re going to work on a series of problems to help us with this goal.”

Connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Measurement and Data](#).

Scroll down to **5.MD.C.5b**. The goal is for your child to “Apply the formulas $V = l \times w \times h$ and $V = b \times h$ for rectangular prisms to find volumes of right rectangular prisms with whole-number edge lengths in the context of solving real world and mathematical problems.”

Click on **Volume 1**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

Begin the next set of questions, **Volume word problems**. Once your child has completed five problems correctly, close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
In this lesson, your child will use a pair of perpendicular number lines to define a coordinate system with intersection of the lines. By the end of the lesson, your child will be able to use a pair of perpendicular number lines, called axes, to define a coordinate system with intersection of the lines.

For help with graphing points, have your child watch the following video:

**Video: Graphing points exercise**

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Geometry](https://www.khanacademy.org/). Scroll down to **5.G.A.1**. The goal is for your child to “Use a pair of perpendicular number lines, called axes, to define a coordinate system, with the intersection of the lines (the origin) arranged to coincide with the 0 on each line and a given point in the plane located by using an ordered pair of numbers, called its coordinates. Also, to understand that the first number indicates how far to travel from the origin in the direction of one axis, and the second number indicates how far to travel in the direction of the second axis, with the convention that the names of the two axes and the coordinates correspond (e.g., x-axis and x-coordinate, y-axis and y-coordinate).”

Click on **Graphing points**. Have your child answer the questions, clicking on **I’d like a hint** when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.
At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Demonstrates Understanding that Attributes Belonging to a Category of Two-Dimensional Figures Also Belong to All Subcategories of the Category

In this lesson, your child will demonstrate understanding that attributes belonging to a category of 2-dimensional figures also belong to all subcategories of the category. By the end of the lesson, your child will be able to understand that attributes belonging to a category of 2-dimensional figures also belong to all subcategories of the category.

Connect to Khan Academy Common Core Standards for Fifth Grade Khan Academy Common Core Standards for Fifth Grade: Geometry.

Scroll down to 5.G.B.3. The goal is for your child to “Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category.”

Click on Properties of shapes. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it!”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.

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1. Uses a pair of perpendicular number lines, called axes, to define a coordinate system with intersection of the lines.

2. Demonstrates understanding that attributes belonging to a category of two-dimensional figures also belong to all subcategories of the category.

3. Classifies two-dimensional figures in a hierarchy based on properties.

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GEOMETRY
In this lesson, your child will classify 2-dimensional figures. By the end of the lesson, your child will be able to classify 2-dimensional figures in a hierarchy based on properties.

Click on either or both of the following videos, depending on what you might think your child might find helpful.

Video: Quadrilateral overview

Video: Quadrilateral properties

Next, connect to Khan Academy Common Core Standards for Fifth Grade [Khan Academy Common Core Standards for Fifth Grade: Geometry](#).

Scroll down to 5.G.B.4. The goal is for your child to “Classify two-dimensional figures in a hierarchy based on properties.”

Click on Properties of shapes. Have your child answer the questions, clicking on I’d like a hint when he or she needs more help. Once your child has completed five problems correctly, the program will give a summary result. Close this page.

At the end of the session, congratulate your child on a job well done. Be very positive, saying something such as “Wow, great job! That was actually pretty fun, wasn’t it?”

Begin the next session. Click the section in this manual that you’d like to work on next with your child and follow the instructions.

For more tips on encouraging and motivating your child, visit Khan Academy’s Ideas for Parents and Mentors page.
Conclusion

We hope that this manual has helped parents, tutors, student teachers, and others who are working with our students on their educational journal through elementary school. It isn’t always easy to determine how best to help students in math, but, together, we can make a big difference and support their academic success!
Core Content State Standards (CCSS)

New mathematics standards built on the best of high-quality standards from states across the country and drawn on the most important international models for mathematical practice, as well as research and input from numerous sources, including state departments of education, scholars, assessment developers, professional organizations, educators, parents and students, and members of the public. The new standards are intended to provide clarity and specificity rather than broad general statements. They endeavor to follow the design envisioned by William Schmidt and Richard Houang (2002), by not only stressing conceptual understanding of key ideas, but also by continually returning to organizing principles such as place value and the laws of arithmetic to structure those ideas.

Related Glossary Terms
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