Bridges in Mathematics Grade 1 Unit 8

Changes, Changes

In this unit, your student will:

- Develop a sense of time by experiencing activities that last a second, minute, hour, and day
- Solve word problems that involve comparing
- Add and subtract within 100
- Measure, order, compare, and find differences in length
- Collect and analyze data by making simple charts and graphs using pictures, numbers, and tally marks

Your student will practice these skills by solving problems such as these:

PROBLEM	COMMENTS
What do you know about an hour? How long is an hour? • It's o really long time • We have meding for an hour every day. • We have reading for 2 hours every day. • I play outside with my friend ofter school for 1 hour each day. • It takes me an hour to get ready for school. • In one hour, my family can drive to my grandma's.	How long is a second? A minute? What about an hour? For many first graders, time is an abstract concept. During this unit, students conduct experiments to find out what they can do in one second, one minute, and one hour. They also discuss familiar activities that occur during their day to develop a sense of time.
Is it time for the basketball game to start yet? Basketball Game 1:00 "One o'clock is an hour time. It can't be time for the game to start since the clock is showing a half-hour time."	Students also practice reading and writing time to the hour and half-hour on digital and analog clocks. <i>"It's not time for the game to start yet. The hour hand on that clock is between 12 and 1. That means it's a twelve o'clock time. Look at the minute hand. It's halfway, right on the 6. That means thirty. It's 12:30."</i>
Let's use tally marks to record everyone's flight distances from yesterday. What do you notice about our data?	Students make and fly paper gliders. They construct runways with cubes to measure and compare how far the gliders fly. They collect data on each flight's distance using tally marks. On another day, they make changes to their gliders to see whether they can improve their flying distance.

PROBLEM	COMMENTS
We used our measuring strips to help cut pieces of string to show how long Sasha was at birth and how tall he is now. How many inches has Sasha grown? How did you figure it out?	In the last few sessions of the year, students investigate some of the ways they've changed and grown since birth. They measure their own height, head circumference, foot length, and arm length, as well as those of three fictional first graders and a baby. Students devise and share various strategies to find differences between pairs of lengths. Some count on from the shorter length to the longer. Others use linking cubes to help.
<i>"We hopped on the classroom number line. We started counting at 17 and then counted the hops to 54. It's 37 hops. Sasha grew 37 inches."</i>	"We made a cube train for each length and then counted how many extras the longer train had. It was 10, 20, 30, plus 3 more is 33. Then 4 more makes 37."

Frequently Asked Questions About Unit 8

Q: Why end the year with a unit on change?

A: Scientists use mathematics to make sense of the data they collect through studies and experiments. In this unit, students use time, measurement, and computation to find patterns and make comparisons, focusing on their own activities, interests, and lives. By integrating math and science in a purposeful way, this unit helps students see that mathematics is not a collection of disconnected skills and topics, but a way of thinking and a set of tools they can use to make sense of the world around them.

Q: What can I do over summer break to help my student continue to grow mathematically?

A: Summer is a perfect time to help your child understand how math is used in everyday life. Travel brings many opportunities: Road games with license plates are always a favorite. Try assigning all letters a value of 5 or 10, and then adding the numbers to find the total. For example, if letters are worth 10, SGR 725 would be 10 + 10 + 10 + 7 + 2 + 5, or 44. While driving or waiting in lines, practice counting forward and backward, starting and stopping on different numbers.

There are plenty of everyday ways to enjoy math too. Practicing math facts with cards, spinners, and dice is fun when an adult and child take turns using strategies without pressure. The grocery store is a great place to find numbers and make comparisons. Your student will enjoy making real or pretend purchases when they count out the change to pay. A warm day outside with water and measuring cups provides lots of learning fun. Look for two- or three-dimensional shapes during a neighborhood walk or trip to the park. Plant something together; then measure and record its growth over time. Race toy cars or make your own paper gliders, and measure the distances they travel. Most important, have fun using math with your child.

To further support your student in learning mathematics, you can:

- Visit <u>mathathome.mathlearningcenter.org</u> and work through some or all of the activities in Grade 1 Summer Medley—Explore & Extend together. These activities complement the learning that takes place in the classroom during Unit 8 and provide fun ways to engage in mathematical thinking.
- Visit <u>apps.mathlearningcenter.org</u> and invite your student to explore the Math Clock, Number Frames, Number Chart, and Number Line apps. Throughout Unit 8 students use these tools in their physical forms in the classroom.
- Read books with your student that feature growth, change, and measurement. Some book suggestions for this unit include:
 - » *Inch by Inch* by Leo Lionni
 - » The Growing Story by Ruth Krauss, illustrated by Helen Oxenbury
 - » The Carpenter by Bruna Barros
 - » Up to My Knees! by Grace Lin
 - » Kids Who Are Changing the World by Sheila Sweeny Higginson, illustrated by Alyssa Petersen
 - » Measuring Penny by Loreen Leedy

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