

Dear Family,

In this chapter, your student is learning how to understand time, liquid volume, and mass. The lessons address how to tell time to the nearest minute and measure elapsed time. The lessons also address how to understand, estimate, and measure liquid volumes in metric units and masses of objects.

The vocabulary terms for this chapter are: elapsed time, time interval, liquid volume, liter (L), milliliter (mL), mass, gram (g), and kilogram (kg).

Do you and your student enjoy biking or walking outside? The next time you and your student head outdoors, bring along a notepad, a wrist watch (with an analog face), and a 1-liter water bottle.

- Start your adventure by telling and measuring time. If you have begun walking or biking, ask your student to make note of your starting time using the wrist watch. Ask, "What is another way to say the time?" Your student can reply, "\_\_\_ minutes after \_\_\_" or "\_\_\_ minutes before \_\_\_."
- After time has elapsed, ask your student to look at the watch once more. Ask, "How long have we been biking (or walking)?" Encourage your student to use the analog clock to count the minutes or to use a number line to find the elapsed time.
- Take out your 1-liter water bottle. Ask, "Which units should you use to measure the liquid volume of this bottle, *liters* or *milliliters*?" Encourage your student to explain his or her reasoning. During your outdoor adventure, keep an eye out for containers or areas that hold liquid, such as rain barrels or ponds. Continue asking your student to choose a unit of measure.
- Point out different objects such as picnic tables or leaves. Ask, "Which units should you use to measure the mass, *grams* or *kilograms*?" Ask your student to explain his or her reasoning. Then challenge your student to estimate the mass!

By the end of this chapter, your student should feel confident with the learning targets and success criteria. Encourage your student to think of other contexts for estimating and measuring time, liquid volumes, and masses.

Build your student's understanding of time, liquid volume, and mass during your next outdoor adventure!

<b>Lesson</b>	<b>Learning Target</b>	<b>Success Criteria</b>
12.1 Time to the Nearest Minute	Tell time to the nearest minute.	<ul style="list-style-type: none"> <li>I can write the time to the nearest minute.</li> <li>I can write the time in multiple ways.</li> <li>I can explain how to tell time to the nearest minute.</li> </ul>
12.2 Measure Elapsed Time within the Hour	Measure elapsed time, in minutes, within the same hour.	<ul style="list-style-type: none"> <li>I can identify start and end times.</li> <li>I can find the amount of time that passes between two times.</li> <li>I can explain how to find elapsed time within the same hour.</li> </ul>
12.3 Measure Elapsed Time Across the Hour	Measure elapsed time, in minutes, from one hour to the next.	<ul style="list-style-type: none"> <li>I can identify start and end times.</li> <li>I can find the amount of time that passes between two times.</li> <li>I can explain how to find elapsed time from one hour to the next.</li> </ul>
12.4 Problem Solving: Time Interval Problems	Use the problem-solving plan to solve time interval problems.	<ul style="list-style-type: none"> <li>I can understand a problem.</li> <li>I can make a plan to solve.</li> <li>I can solve a problem.</li> </ul>
12.5 Understand and Estimate Liquid Volume	Understand and estimate liquid volumes in metric units.	<ul style="list-style-type: none"> <li>I can tell the difference between a milliliter and a liter.</li> <li>I can identify which unit to use to measure a liquid volume.</li> <li>I can estimate a liquid volume.</li> </ul>
12.6 Measure Liquid Volume	Measure liquid volumes in liters and milliliters.	<ul style="list-style-type: none"> <li>I can measure a liquid volume in liters.</li> <li>I can measure a liquid volume in milliliters.</li> <li>I can measure a liquid volume in liters and milliliters.</li> </ul>
12.7 Understand and Estimate Mass	Understand and estimate masses of objects.	<ul style="list-style-type: none"> <li>I can tell the difference between a gram and a kilogram.</li> <li>I can identify which unit to use to measure the mass of an object.</li> <li>I can estimate the mass of an object.</li> </ul>
12.8 Measure Mass	Measure masses in grams and kilograms.	<ul style="list-style-type: none"> <li>I can measure a mass in grams.</li> <li>I can measure a mass in kilograms.</li> <li>I can measure a mass in grams and kilograms.</li> </ul>