18.8 Metric Units for Mass

Essential Question How can you measure mass in metric units?

the 5 Es ENGAGE

GO DIGITAL Lesson Opener

Making Connections

Invite students to tell you what they know about units of measurement.

How can you compare 2 objects? (Accept all reasonable responses) **What are different ways that we can measure an object?** (Possible answers: weight, length, capacity, etc.) **Do two objects that look the same always have the same measurements? Why or why not? Can two objects that look different have the same measurements? How?**

Using the Digital Lesson

Have students look at the illustration of the crow and the loaf of bread and make observations about each. Ask them to compare the two objects and speculate about how the two objects are equal.

Learning Task

What is the problem the students are trying to solve? Connect the story to the problem.

- **To what is Calypso's mass equal?** (a loaf of bread)
- **What do you know about a loaf of bread?** (Accept all reasonable responses.)
- **Does Calypso look similar to a loaf of bread?** (no) **What do you think it means that Calypso and a loaf of bread have the same mass?** (Accept all reasonable responses.)

Literacy and Mathematics

Choose one or more of the following activities.

- Write the words *unit of measure* on the board and discuss the meaning. Then have students write a list of the different units of measure that they know.
- Have students identify two everyday objects that they think would have about the same mass. Ask them two write a brief description comparing and contrasting the objects.

Texas Essential Knowledge and Skills

TEKS Geometry and Measurement— 3.7.D
Determine when it is appropriate to use measurements of liquid volume (capacity) or weight

3.7.E Determine liquid volume (capacity) or weight using appropriate units and tools

MATHEMATICAL PROCESSES
3.1.C Select tools, technology, and techniques
3.1.E Create and use representations

Are You Ready?

Access Prior Knowledge

Use the *Are You Ready?* 18.8 in the *Assessment Guide* to assess students' understanding of the prerequisite skills for this lesson.

Vocabulary

mass, **gram (g)**, **kilogram (kg)**

GO DIGITAL Multimedia eGlossary at *thinkcentral.com*

Materials

pan balance, gram and kilogram masses, classroom objects

GO DIGITAL Resources

For the student

- iSE **Interactive Student Edition** *provides students with an interactive learning environment!*
- Math on the Spot Video Tutor
- iTools Virtual Manipulatives
- Soar to Success Math Online Intervention

For the teacher

- **Digital Management Center** *organizes program resources by TEKS!*
- eTE eTeacher Edition
- Online Assessment System

Unlock the Problem

Have students read the problem and the definition of *mass* aloud. Discuss the new terms for metric units of mass: *gram* (*g*) and *kilogram* (*kg*) and the examples shown.

- **Which metric unit of mass is greater—gram or kilogram?** kilogram
- **Does a dollar bill appear to have a mass closer to one paper clip or to 1,000 paper clips? Explain.** one paper clip; possible answer: 1,000 paper clips fit in a box that has a much greater mass than a paper dollar bill

Activity 1

For the materials in this activity, if a 1-kilogram mass is not available, you may wish to use a 1-liter bottle of water instead. Tell students they will compare the mass of 10 grams with the mass of 1 kilogram.

- **What do you think causes one pan to go lower than the other pan?** Possible answer: the object has more mass than the object in the other pan.
- **If one pan is lower than the other, what can you conclude about the two objects?** Possible answer: the object in the pan that is lower has a greater mass than the object in the other pan.
- **What would it mean if both sides are even, or balanced?** Possible answer: it would mean that the objects on both sides have the same mass.

Math Talk Mathematical Processes

Use Math Talk to focus on students' understanding of comparing the mass of 10 grams to a kilogram.

Name _____

18.8 Metric Units for Mass

TEKS Geometry and Measurement—3.7.D, 3.7.E
MATHEMATICAL PROCESSES 3.1.C, 3.1.E

Essential Question How can you measure mass in metric units?

Unlock the Problem Real World

Peter has a dollar bill in his pocket. Should Peter measure the mass of the dollar bill in grams or kilograms?

The **gram (g)** is the basic metric unit for measuring **mass**, or the amount of matter in an object. Mass can also be measured by using the metric unit **kilogram (kg)**.

A small paper clip has a mass of about 1 gram.

A box of 1,000 paper clips has a mass of about 1 kilogram.

Think: The mass of a dollar bill is closer to the mass of a small paper clip than it is to a box of 1,000 paper clips.

So, Peter should measure the mass of the dollar bill in grams.

Activity 1

Materials ■ pan balance ■ gram and kilogram masses

You can use a pan balance to measure mass.

Do 10 grams have the same mass as 1 kilogram?

- Place 10 gram masses on one side of the balance.
- Place a 1-kilogram mass on the other side of the balance.

Possible drawing is shown.

1 kilogram; Possible explanation: the side with 1 kilogram is down.

Think: If it is balanced, then the objects have the same mass. If it is not balanced, the objects do not have the same mass.

- Complete the picture of the pan balance above by drawing in the masses.

The pan balance is not balanced.

So, 10 grams and 1 kilogram do not have the same mass.

Math Talk Mathematical Processes

Which has a greater mass, 10 grams or 1 kilogram? Explain.

Differentiated Instruction

ELL English Language Learners

Leveled Activities	ELPS
Beginning: Activity 39	4.C.3, 4.F.3, 4.G.3
Intermediate: Activity 21	3.D.2, 3.G.1, 4.C.1
Advanced: Activity 58	2.C.2, 4.C.3, 4.F.9
Advanced High: Activity 43	4.F.8, 4.G.2, 4.G.4

GO DIGITAL Go to *thinkcentral.com* for the **ELL Activity Guide** containing these leveled activities.

ELL Language Support

Visual / Spatial
Small Group

ELPS 1.A.1, 2.C.4, 3.F.2

Strategy: Restate

- Students can restate key vocabulary to help them understand problems.
- Help students recall that a *gram* is a metric unit of mass. Spell out the word *gram*, and write an acrostic poem using words that name items whose mass they would measure with the gram unit, for example:

  Glove

  Ring

  Apricot

  Marker

- Have students make up their own acrostic poem for the term. Then continue similarly for the term *kilogram*.

Activity 2

Materials ■ pan balance ■ gram and kilogram masses ■ classroom objects

STEP 1 Use the objects in the table. Decide if the object should be measured in grams or kilograms.

STEP 2 Find the mass of each object to the nearest gram or kilogram. Place the object on one side of the balance. Place gram or kilogram masses on the other side until both sides are balanced.

STEP 3 Add the measures of the gram or kilogram masses. This is the mass of the object. Record the mass in the table.

Answers will vary.

Mass		
Object	Unit	Mass
crayon		
stapler		
marker		
scissors		

- Write the objects in order from greatest mass to least mass. Possible order is shown.

stapler, scissors, marker, crayon

Share and Show

MATH BOARD

1. Five bananas have a mass of about 1 kilogram.

Think: The pan balance is balanced, so the objects on both sides have the same mass.

Choose the unit you would use to measure the mass. Write *gram* or *kilogram*.

2. strawberry

gram

3. dog

kilogram

4. sunglasses

gram

Enrich

Logical / Mathematical
Individual

Materials: pan balance, gram masses, dime, nickel, penny, quarter

- Have students estimate the mass of each coin in grams: dime, nickel, penny, and quarter.
- Have students record their estimates for the mass of each coin in a table.
- Then students can use the pan balance and gram masses to measure the mass of each coin. dime: about 2 g; nickel: about 5 g; penny: about 2 g or 3 g (2.5 g); quarter: about 6 g
- Have students record their measurement of the mass of each coin.
- Students should compare their measurements with their estimates and describe whether any of their findings were unexpected.

GO DIGITAL Go to *thinkcentral.com* for additional enrichment activities in the **Enrich Activity Guide**.

3 the 5 Es EXPLAIN

Understanding how mass and weight are different may be difficult for third-grade students. *If students ask,* explain that the mass of an object is not affected by gravity, so the mass of an object is the same on every planet. However, since weight is affected by gravity, it will change from planet to planet because the force of gravity can vary.

Activity 2

In this activity, students will measure the mass of classroom objects. Remind students to include the units when recording the estimates and the actual masses in the table. Also make sure students use precise language, such as "___ has a mass of __ grams." Explain to students that saying, "___ weighs ___ grams" is incorrect, since mass is the amount of matter in an object and not the measure of how heavy an object is.

For Step 3, students may count the number of masses rather than finding the measure of mass in a pan. Remind students that they must consider the mass of each hexagram mass when finding the total mass in the pan. After completing the activity, have students find a classroom object with a mass of less than 50 grams and an object with a mass of greater than 1 kilogram.

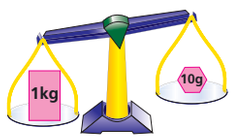
Share and Show

The first problem connects to the learning model.

COMMON ERRORS

Error Students find that the pan that is higher on the balance is the pan that has the object of greater mass.

Example Students find 10 g has a greater mass than 1 kg.



Springboard to Learning Have students place a 10-gram mass on each pan. Then have them place 1 more gram mass on the left pan. Have them describe how the pan looks for the amount with the greater mass.

RtI Quick Check

IF a student misses the checked exercises

THEN **Differentiate Instruction** with RtI Tier 1 Lesson 91

Problem Solving

For Problem 5 encourage students to use prior experiences with the sports balls pictured to order them by mass.

H.O.T. Problems

Problem 6, requires students to use higher order thinking and multiple steps to solve. Students are asked to represent the steps they used to solve the problem.

Problem 9 requires students to use reasoning to explain the problem.

Math on the Spot Video Tutor

Through the ***Math on the Spot Video Tutor***, students will be guided through an interactive solving of this type of H.O.T. problem. Use this video to also help students solve the H.O.T. problem in the Interactive Student Edition. With these videos and the H.O.T. problems, students will build skills needed in the TEXAS assessment.

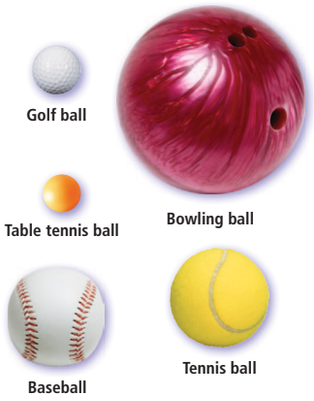
GO DIGITAL **Math on the Spot** videos are in the Interactive Student Edition and at *thinkcentral.com*.

Name _____

Problem Solving Real World

5. Put the sports balls shown at the right in order from greatest mass to least mass.

Accept reasonable responses: bowling ball, baseball, tennis ball, golf ball, table tennis ball



6. H.O.T. **Multi-Step** One golf ball has a mass of about 46 grams. Mrs. Downs bought a box of 2 golf balls for her first round of golf and bought another box of 2 golf balls for the second round of golf. What is the total mass of the golf balls that Mrs. Downs bought? **Represent** your steps to solve the problem.

184 grams; Possible answer: I can show a box with 46 + 46 and a box with 46 + 46; add each box 92 + 92 = 184; I could also multiple 46 × 4 to get the answer.

7. H.O.T. Our dog, Dexter, weighs 72 kilograms. He is 8 times heavier than our cat. What does our cat weigh? **Explain**.

9 kilograms; I divided 72 by 8 to get the answer 9

8. **Use Diagrams** Choose two objects that have different masses. Draw a balance with one of these objects on each side.

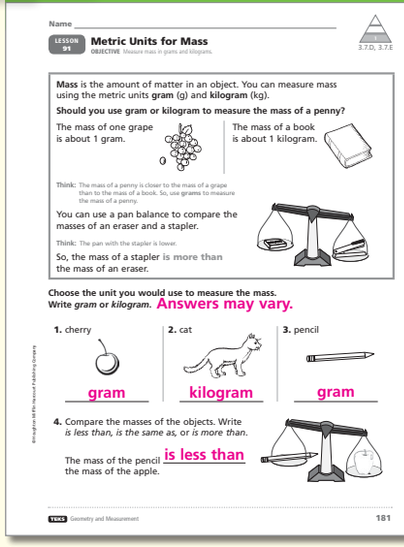
Check students' drawings. Objects will vary. Pan balance should not be balanced.

9. H.O.T. **Sense or Nonsense?** Amber is buying produce at the grocery store. She says that a Fuji apple and a green bell pepper would have the same mass because they are the same size. Does her statement make sense? **Explain**.

No; possible explanation: just because two objects are the same size does not mean that they have the same mass. The mass of the apple may be greater because it is solid inside.

Differentiated Instruction

RtI Tier I Lesson 91



Name _____

LESSON 91 **Metric Units for Mass** OBJECTIVE Measure mass in grams and kilograms. 3.7.D, 3.7.E

Mass is the amount of matter in an object. You can measure mass using the metric units **gram** (g) and **kilogram** (kg).

Should you use gram or kilogram to measure the mass of a penny?

The mass of one grape is about 1 gram.

The mass of a book is about 1 kilogram.

Think: The mass of a penny is closer to the mass of a grape than to the mass of a book. So, use **grams** to measure the mass of a penny.

You can use a pan balance to compare the masses of an eraser and a stapler.

Think: The pan with the stapler is lower.

So, the mass of a stapler is more than the mass of an eraser.

Choose the unit you would use to measure the mass. Write *gram* or *kilogram*. Answers may vary.

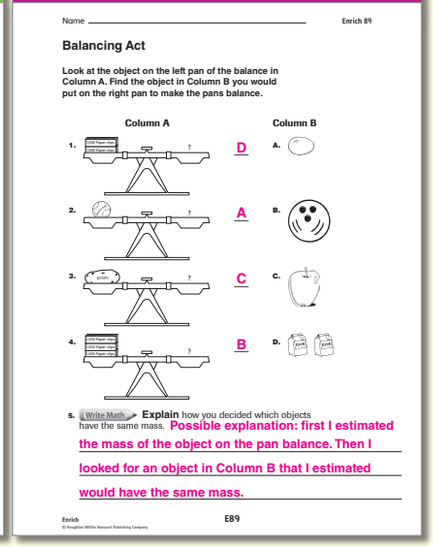
1. cherry — gram
2. cat — kilogram
3. pencil — gram

4. Compare the masses of the objects. Write *is less than, is the same as, or is more than.*

The mass of the pencil is less than the mass of the apple.

TEKS Geometry and Measurement 181

Enrich 89



Name _____ Enrich 89

Balancing Act

Look at the object on the left pan of the balance in Column A. Find the object in Column B you would put on the right pan to make the pans balance.

	Column A	Column B
1.		D
2.		A
3.		C
4.		B

A. B. C. D.

5. Write Math **Explain** how you decided which objects have the same mass. Possible explanation: first I estimated the mass of the object on the pan balance. Then I looked for an object in Column B that I estimated would have the same mass.

Enrich E89

Mathematical Processes
Model • Reason • Communicate

Daily Assessment Task

Fill in the bubble for the correct answer choice.

10. A turkey vulture weighs about as much as a laptop computer. Which is the best unit of measure to find the mass of a turkey vulture?

Ⓐ liter Ⓒ ounce
● kilogram Ⓓ gram

11. Which item's mass should be measured in grams?

Ⓐ 
Ⓒ 
● 
Ⓓ 

12. **Multi-Step** The third grade classes are making three salt maps on a thin piece of plywood. Together the three maps will have a total mass of 6 kilograms. If the salt mass is about half the mass of each map, which is the mass of salt needed for each map?

● 1 kilogram Ⓒ 3 liters
Ⓑ 5 cups Ⓓ 5 grams

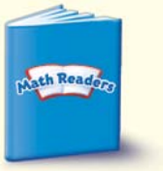
TEXAS Test Prep

13. Dan wants to find the mass of a large pumpkin. Which unit should he use?

Ⓐ inch ● kilogram
Ⓑ gram Ⓓ liter

Grab-and-Go!™ Ready-Made Independent Activities

Differentiated Centers Kit



Literature
How Heavy? How Much?
Students read about customary units of measures used to buy groceries.

Activities
Race A-Weigh
Students complete purple Activity Card 6 by estimating the weight/mass of objects.

5 the 5 Es EVALUATE

Daily Assessment Task RtI

Can students measure mass in metric units?

IF	THEN
NO	• Soar to Success Math Warm-Up 42.07, 42.08
YES	• Enrich 89 • Homework and Practice Lesson 18.8

TEXAS Test Prep Coach

Test Prep Coach helps teachers to identify common errors that students can make.

In the Test Prep exercise if students selected:

A They confused a unit of length with a unit of mass.

B They confused a gram with a kilogram.

D They confused a unit of liquid volume with a unit of mass.

Essential Question

Write Math

How can you measure mass in metric units? Possible answer: use gram masses or kilogram masses; place the object on a pan balance; add gram masses or kilogram masses to the other pan until the pans are evenly balanced.

5 the 5 Es EVALUATE

Homework and Practice

TEKS Geometry and Measurement—3.7.D, 3.7.E
MATHEMATICAL PROCESSES 3.1.C, 3.1.E

Name ______________________

18.8 Metric Units for Mass

Choose the unit you would use to measure the mass. Write *gram* or *kilogram*.

1. 
kilogram

2. 
gram

3. 
gram

4. 
kilogram

5. 
gram

6. 
kilogram

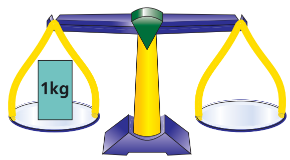
Problem Solving Real World

7. A bag of peanuts weighs about 36 grams. A bag of walnuts weighs about 42 grams. Yola buys 2 bags of each. How many grams of nuts does Yola have? Represent your steps to solve the problem.

156 grams; Possible answer: I can show a box with $36 + 36$ and a box with $42 + 42$; I can add each box $72 + 84 = 156$. I can also add $36 + 42 = 78$ and then multiply $2 \times 78 = 156$.

8. Look at the balance scale below. Draw an object on one side of the scale to make the scale balanced.

Check students' drawings. Objects will vary.



Lesson Check

TEXAS Test Prep

Fill in the bubble completely to show your answer.

9. A juice box weighs about as much as a softball. Which is the best unit to use to measure the mass of a juice box?
   - ● gram
   - Ⓑ pound
   - Ⓒ kilogram
   - Ⓓ milliliter

10. Antonio wants to find the mass of his backpack filled with books. Which unit should he use?
   - Ⓐ ounce
   - Ⓑ gram
   - ● kilogram
   - Ⓓ quart

11. Which item's mass should be measured in kilograms?
   - Ⓐ 
   - Ⓑ 
   - Ⓒ 
   - ● 

12. Which item's mass should be measured in grams?
   - ● 
   - Ⓑ 
   - Ⓒ 
   - Ⓓ 

13. **Multi-Step** Sarah is making fruit salad for a picnic. She slices 3 kilograms of apples, 5 kilograms of peaches, and 2 kilograms of strawberries. She divides the fruit into 5 large bowls. About how many kilograms of fruit are in each bowl?
   - Ⓐ 12 kilograms
   - ● 2 kilograms
   - Ⓒ 7 kilograms
   - Ⓓ 10 kilograms

14. **Multi-Step** Desiree is baking cakes. She needs 9 grams of baking powder and 12 grams of baking soda. She divides the baking powder and baking soda equally among 3 pies. How many combined grams of baking powder and baking soda will each pie get?
   - Ⓐ 21 grams
   - ● 7 grams
   - Ⓒ 24 grams
   - Ⓓ 8 grams

Homework and Practice

Use the Homework and Practice pages to provide students with more practice on the concepts and skills of this lesson.

Name _____

Module 18 Assessment

Vocabulary

Choose the best term from the box.

Vocabulary
capacity
kilograms
liquid volume
liters

1. Capacity is the amount a container can hold. (p. 589)
2. Mass can be measured in kilograms. (p. 607)

Concepts and Skills

Locate and draw points at $\frac{1}{4}$, $\frac{3}{4}$, and $\frac{2}{2}$. Write the fraction that is closest to zero and farthest from zero. TEKS 3.3.B, 3.7.A

3. $\frac{0}{4}$ $\frac{1}{4}$ $\frac{2}{4}$ $\frac{3}{4}$ $\frac{4}{4}$ — $\frac{0}{2}$ $\frac{1}{2}$ $\frac{2}{2}$

closest $\frac{1}{4}$

farthest $\frac{2}{2}$ or $\frac{4}{4}$

Choose the best unit to measure each capacity. Write *cup*, *pint*, *quart*, or *gallon*. TEKS 3.7.D, 3.7.E

4. bathtub gallon

5. pitcher quart

6. a dog bowl cup

Choose the unit you would use to measure the mass. Write *gram* or *kilogram*. TEKS 3.7.D, 3.7.E

7. earphones gram

8. lamp kilogram

9. boots kilogram

Formative Assessment

Use the Module Assessment to assess students' learning and progress. The formative assessment provides the opportunity to adjust teaching methods for individual or whole class instruction.

Data-Driven Decision Making RtI

Based on the results of the Module 18 Assessment, use the following resources to strengthen individual or whole class instruction.

Item	Lesson	TEKS*	Common Error	Intervene With RtI* Tier 1 Lessons	Soar to Success Math
3	18.4	3.3.B, 3.7.A	May not understand locating the point and the distance from the point to zero	82	35.15
4–6	18.5	3.7.D 3.7.E	May confuse cup, pint, quart, or gallon	89	43.07, 43.11
7–9	18.8	3.7.D 3.7.E	May confuse gram and kilogram	91	42.07, 42.08

***TEKS**—Texas Essential Knowledge and Skills; ***RtI**—Response to Intervention

Fill in the bubble for the correct answer choice.

TEXAS Test Prep

10. At soccer practice, Valerie ran for 13 minutes and practiced drills for 20 minutes. She left practice at 2:15 P.M. At what time did Valerie arrive at soccer practice? TEKS 3.7.C

Ⓐ 1:33 P.M.
Ⓒ 2:03 P.M.
● 1:42 P.M.
Ⓓ 2:48 P.M.

11. Dora placed a pencil on one side of a balance. Which is the mass of the pencil? TEKS 3.7.D, 3.7.E

Ⓐ 1 gram
Ⓒ 1 kilogram
● 6 grams
Ⓓ 6 kilograms

12. Arielle and Vienna baked a pan of brownies. Then they divided the pan of brownies into 8 equal squares, each weighing 2 ounces. Which is the combined weight of the the 8 brownies? TEKS 3.7.D, 3.7.E

● 1 pound
Ⓒ 8 ounces
Ⓑ 2 ounces
Ⓓ 2 pounds

13. Which measurement unit would you use to find the total liquid volume of this container? TEKS 3.7.D, 3.7.E

Ⓐ pounds
Ⓑ milliliter
● liters
Ⓓ grams

14. Allen started his homework at 8:10 P.M. and worked for 45 minutes. Then he phoned a friend and talked for 20 minutes. Allen went to bed at 9:15 P.M. How much time elapsed from Allen starting his homework till he went to bed? TEKS 3.7.C

Ⓐ 15 minutes
● 65 minutes
Ⓑ 45 minutes
Ⓓ 20 minutes

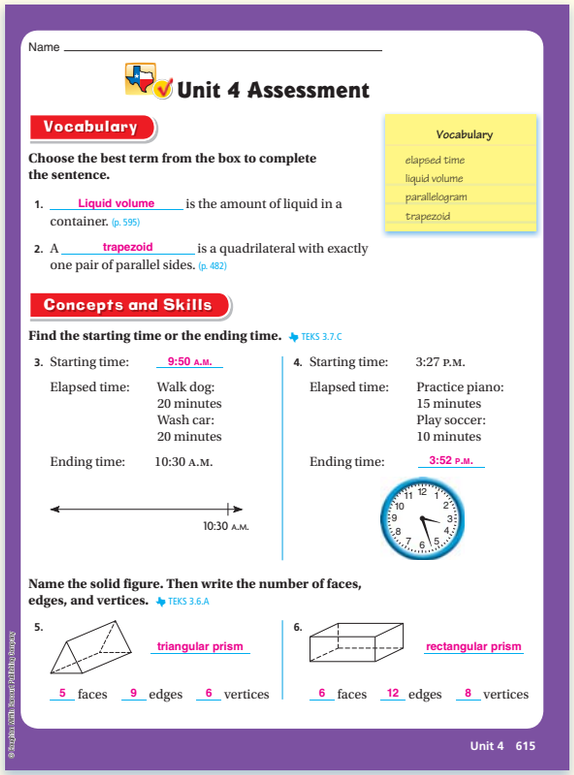
614

Depth of Knowledge	
DOK Level	**Items**
1	3–9, 11, 13
2	10, 12, 14

Data-Driven Decision Making RtI

Item	Lesson	TEKS*	Common Error	Intervene With RtI* Tier 1 Lessons	Soar to Success Math
10	18.1–18.3	3.7.C	May miscalculate elapsed time	86, 87, 88	51.16
11	18.8	3.7.D 3.7.E	May confuse gram and kilogram	91	42.07, 42.08
12	18.7	3.7.D 3.7.E	May not understand ounces and pounds	90	42.05, 42.06
13	18.6	3.7.D 3.7.E	May not recognize the metric units used for liquid volume	92	43.09, 43.10
14	18.1–18.3	3.7.C	May have miscounted the number of minutes	86, 87, 88	51.16

***TEKS**—Texas Essential Knowledge and Skills; ***RtI**—Response to Intervention



Name _____

Unit 4 Assessment

Vocabulary

Choose the best term from the box to complete the sentence.

Vocabulary
elapsed time
liquid volume
parallelogram
trapezoid

1. ___Liquid volume___ is the amount of liquid in a container. (p. 595)
2. A ___trapezoid___ is a quadrilateral with exactly one pair of parallel sides. (p. 482)

Concepts and Skills

Find the starting time or the ending time. TEKS 3.7.C

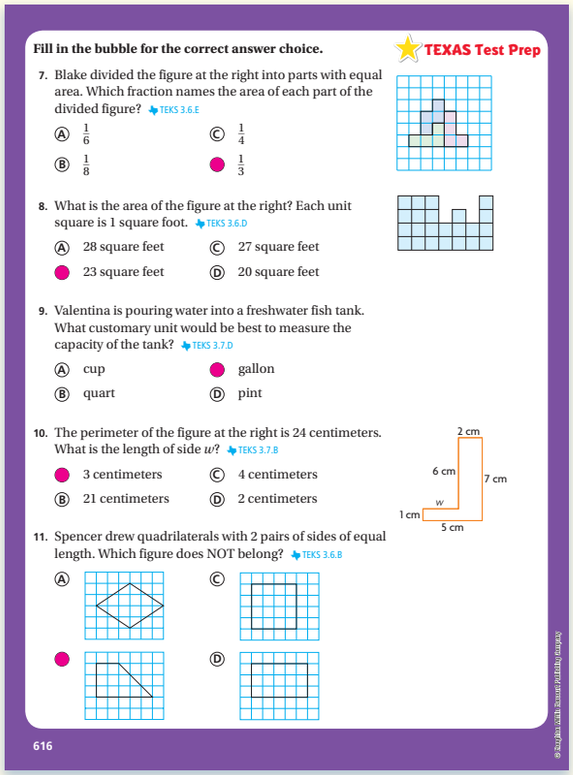
3. Starting time: ___9:50 A.M.___
   Elapsed time: Walk dog: 20 minutes; Wash car: 20 minutes
   Ending time: 10:30 A.M.

4. Starting time: 3:27 P.M.
   Elapsed time: Practice piano: 15 minutes; Play soccer: 10 minutes
   Ending time: ___3:52 P.M.___

Name the solid figure. Then write the number of faces, edges, and vertices. TEKS 3.6.A

5.
   ___triangular prism___
   ___5___ faces ___9___ edges ___6___ vertices

6.
   ___rectangular prism___
   ___6___ faces ___12___ edges ___8___ vertices



Fill in the bubble for the correct answer choice.

TEXAS Test Prep

7. Blake divided the figure at the right into parts with equal area. Which fraction names the area of each part of the divided figure? TEKS 3.6.E

   Ⓐ $\frac{1}{6}$ Ⓒ $\frac{1}{4}$
   Ⓑ $\frac{1}{8}$ ● $\frac{1}{3}$

8. What is the area of the figure at the right? Each unit square is 1 square foot. TEKS 3.6.D

   Ⓐ 28 square feet Ⓒ 27 square feet
   ● 23 square feet Ⓓ 20 square feet

9. Valentina is pouring water into a freshwater fish tank. What customary unit would be best to measure the capacity of the tank? TEKS 3.7.D
   Ⓐ cup ● gallon
   Ⓑ quart Ⓓ pint

10. The perimeter of the figure at the right is 24 centimeters. What is the length of side *w*? TEKS 3.7.B

   ● 3 centimeters Ⓒ 4 centimeters
   Ⓑ 21 centimeters Ⓓ 2 centimeters

11. Spencer drew quadrilaterals with 2 pairs of sides of equal length. Which figure does NOT belong? TEKS 3.6.B
    Ⓐ
    Ⓒ
    ●
    Ⓓ

Summative Assessment

Use the Unit Assessment to assess students' progress in Unit 4. You may want to review with students the essential question for Unit 4.

Unit Essential Question

What are some ways to analyze attributes of figures and use measurement to describe the size?

- **How can you use sides and angles to classify quadrilaterals?**
- **How can you determine area and perimeter?**
- **How can you use units, strategies, and tools to solve problems involving measurement?**

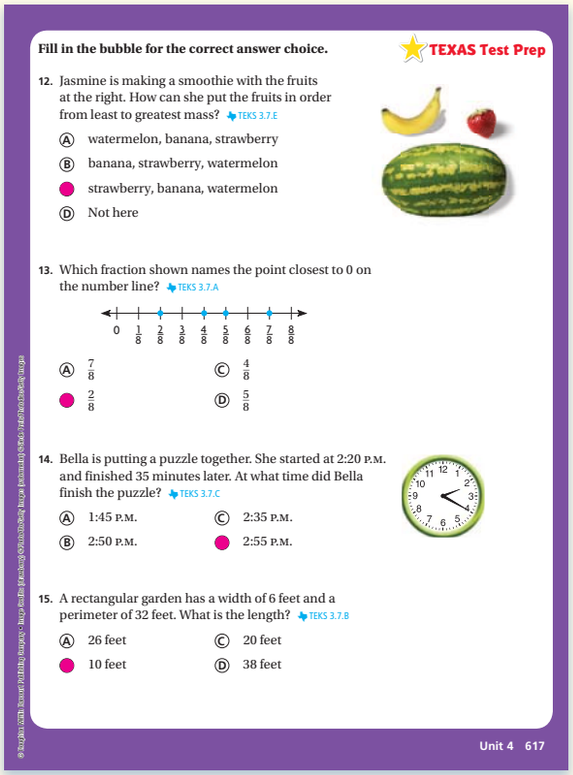
Data-Driven Decision Making RtI

Based on the results of the Unit 4 Assessment use the following resources to review skills.

Item	Lesson	TEKS*	Common Error	Intervene With RtI* Tier 1 Lessons	Soar to Success Math
3, 4	18.2	3.7.C	May count forward instead of backward or backward instead of forward	87	51.16
5, 6	15.5	3.6.A	May not be able to recall attributes and names of three-dimensional figures	74	39.30, 39.33

***TEKS**—Texas Essential Knowledge and Skills; **RtI**—Response to Intervention Tier 1

Depth of Knowledge	
DOK Level	**Items**
1	3–9, 13–14
2	10–12, 15–16
3	17



Fill in the bubble for the correct answer choice.

TEXAS Test Prep

12. Jasmine is making a smoothie with the fruits at the right. How can she put the fruits in order from least to greatest mass? TEKS 3.7.E

Ⓐ watermelon, banana, strawberry
Ⓑ banana, strawberry, watermelon
● strawberry, banana, watermelon
Ⓓ Not here

13. Which fraction shown names the point closest to 0 on the number line? TEKS 3.7.A

0 $\frac{1}{8}$ $\frac{2}{8}$ $\frac{3}{8}$ $\frac{4}{8}$ $\frac{5}{8}$ $\frac{6}{8}$ $\frac{7}{8}$ $\frac{8}{8}$

Ⓐ $\frac{7}{8}$ Ⓒ $\frac{4}{8}$
● $\frac{2}{8}$ Ⓓ $\frac{5}{8}$

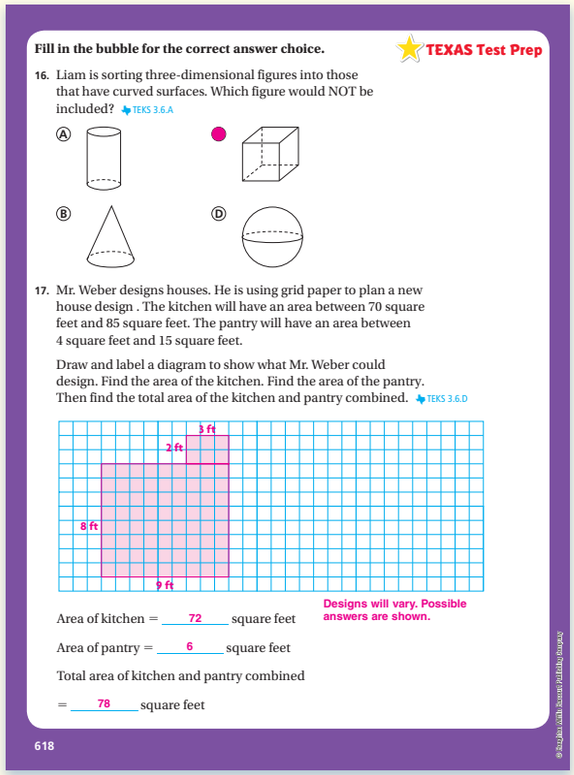
14. Bella is putting a puzzle together. She started at 2:20 P.M. and finished 35 minutes later. At what time did Bella finish the puzzle? TEKS 3.7.C

Ⓐ 1:45 P.M. Ⓒ 2:35 P.M.
Ⓑ 2:50 P.M. ● 2:55 P.M.

15. A rectangular garden has a width of 6 feet and a perimeter of 32 feet. What is the length? TEKS 3.7.B

Ⓐ 26 feet Ⓒ 20 feet
● 10 feet Ⓓ 38 feet

Unit 4 617



Fill in the bubble for the correct answer choice.

TEXAS Test Prep

16. Liam is sorting three-dimensional figures into those that have curved surfaces. Which figure would NOT be included? TEKS 3.6.A

Ⓐ ● Ⓑ Ⓓ

17. Mr. Weber designs houses. He is using grid paper to plan a new house design . The kitchen will have an area between 70 square feet and 85 square feet. The pantry will have an area between 4 square feet and 15 square feet.

Draw and label a diagram to show what Mr. Weber could design. Find the area of the kitchen. Find the area of the pantry. Then find the total area of the kitchen and pantry combined. TEKS 3.6.D

3 ft
2 ft
8 ft
9 ft

Designs will vary. Possible answers are shown.

Area of kitchen = 72 square feet

Area of pantry = 6 square feet

Total area of kitchen and pantry combined

= 78 square feet

618

Data-Driven Decision Making RtI

Item	Lesson	TEKS*	Common Error	Intervene With RtI* Tier 1 Lessons	Soar to Success Math
7	16.4	3.6.E	May not understand how to express area as a fraction for a figure divided into parts with equal area	81	5.10
8	16.5	3.6.D	May not know how to divide a combined rectangle into 4 rectangles to find area	78	48.29
9	18.5	3.7.D	May not understand units of capacity	89	43.07; 43.11
10, 15	17.3	3.7.B	May not be able to write an equation to find an unknown side length	85	47.31
11	15.2	3.6.B	May not recognize the attributes of quadrilaterals	75	38.31
12	18.8	3.7.E	May not be able to visually compare mass	91	42.07; 42.08
13	18.4	3.7.A	May choose a point closer to $\frac{8}{8}$	82	35.15
14	18.2	3.7.C	May count backward instead of forward	87	51.16
16	15.5	3.6.A	May not remember attributes of three-dimensional figures	74	39.33

***TEKS**—Texas Essential Knowledge and Skills; **RtI** —Response to Intervention Tier 1

Teacher Notes