**Fourth Grade**

Dear Fourth Grade Families,
This packet contains materials to support your students learning for two weeks (5/26 - 6/5). The learning goals for this week are listed below. All materials in this packet support these goals. Your teacher will contact you each week to support your child in their continued learning.

Reading: I can use details from a text to make inferences about what the text says.

Writing: I can write an informational essay using notes from my research

Math: I can compare two fractions with different numerators and denominators by creating a common denominator, using benchmark fractions, or a numberline. I can use <, =, > to show the comparison.

If you have any questions please reach out to your child's teacher.

Mr. Allen
Mrs. Hanson
Mrs. Hood

# Reading

Name: _____ Date: _____

4

# Making Inferences

Read the following scenario. Use what you already know about life, then search for clues in the text to make an inference about what is happening.

I had been staring at that little package for two days and couldn't wait to lay my hands on it. Though I didn't feel a year older, I knew that today was finally the day. I raced out of bed and headed straight to the living room.

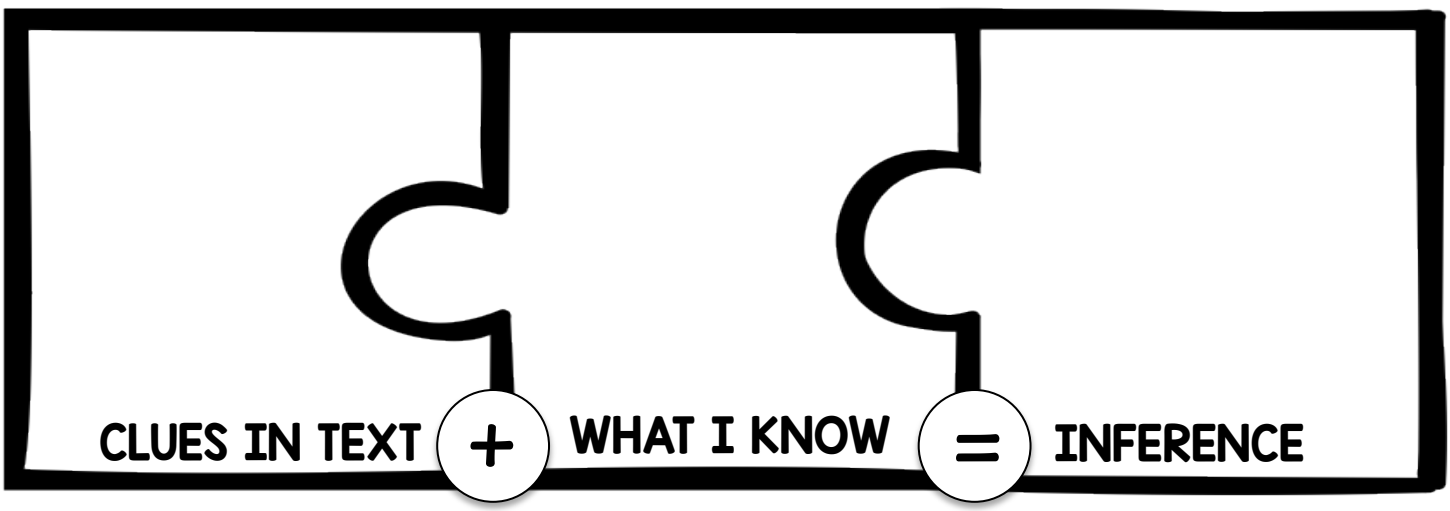
"Mom! Dad!" I called.

"Hold on, Jessie, we're coming!" mom replied.

I shook the box while I waited. I heard clinking and clanking and knew I must be careful. I would hate to break it before I even opened it!

"Okay, we're ready," said mom as they entered the room.

1. Use what you know about life combined with the clues in the text to make an inference. What is the significance of this day for Jessie? What is she waiting to do? Fill in the puzzle pieces.




2. How does Jessie feel in this reading passage? How do you know?

_____

_____

_____

3. Write one more clue that could have been included in this scenario to help the reader understand what might be happening.

_____

_____

(F) Trudy looked down; the sound of everyone's laughter burned in her ears. She felt her face grow warm and knew she was turning red. She wished she could just walk out of the classroom.

____ 11. Based on this description, what can the reader infer?

a. Trudy is embarrassed.
b. Trudy is new in school.
c. Trudy is very angry.

12. What background knowledge did you use to determine the answer?

(G) Casey loved this time of year. She loved the bright red leaves on the trees, piles of leaves on sidewalks, and the decorated pumpkins and jack-o-lanterns showing up on people's steps and porches.

____ 13. What season can the reader infer it is?

a. spring
b. summer
c. autumn

14. What background knowledge did you use to determine the answer?

(H) Sammy was promoted from third to fifth grade. The teachers at his school decided he did not have to attend fourth grade at all.

____ 15. The reader can infer:

a. Sammy did not attend second grade.
b. Sammy will not have to go through sixth grade.
c. Sammy did extremely well in the third grade.

16. What background knowledge did you use to determine the answer?

# Practice & Assess Reading
## Making Inferences

(I) Jonas loved going to the zoo. He especially loved visiting his favorite animal. He thought its spotted coat was beautiful and found its long, long neck very graceful. He was always amazed when one walked close to him or stretched out to eat the leaves at the top of a tree.

____ 17. The reader can infer that Jonas's favorite animal is a(n) _____.

a. elephant
b. giraffe
c. tiger

18. What background knowledge did you use to determine the answer?

(J) Timmy flicked the light switch on and off, but nothing happened. He tried to turn on his TV, but it wouldn't come on either. He began to worry because soon it would be dark and he was in the house alone.

____ 19. Based on this description, what can the reader infer?

a. Timmy's parents are on vacation.
b. Timmy is not in his own house.
c. The power has gone out.

20. What background knowledge did you use to determine the answer?

## Mount St. Helens: Before and After
## Background Reading

Most volcanic eruptions occur in stages, each of which may cause different degrees of destruction. Two months prior to the massive 1980 eruption of Mount St. Helens, a series of small earthquakes precipitated steam explosions that blasted a crater through the volcano's ice cap. By May 17, more than 10,000 earthquakes had shaken the volcano, and a large bulge — visual evidence that molten rock had risen high into the volcano—appeared on its northern flank. A day later, a stronger earthquake shook loose the bulge, resulting in the largest known landslide in history. The landslide released pressure inside the volcano, triggering a lateral blast northward that deposited blocks and smaller rock fragments over a wide area and splintered mature trees like matchsticks.

Almost immediately following the lateral blast, a vertical column of steam, water, and volcanic debris erupted from the newly formed crater. Within 10 minutes, the column had risen into the atmosphere more than 19 kilometers (12 miles) above sea level. Hundreds of thousands of tons of ash completely darkened the sky to the east of the volcano for more than 200 kilometers (125 miles).

Parts of the eruption cloud surged over the newly formed crater rim and down the west, south, and east sides of the volcano. The hot rocks and gas quickly melted some of the snow and ice capping the volcano. The resulting surge of water mixed with loose rock debris to form lahars, volcanic mudflows with the consistency of wet concrete. Flowing at speeds up to 130 kilometers per hour (80 miles per hour), the lahars uprooted trees, destroyed roads and bridges, and buried everything in their paths.

Beginning just after noon and continuing over the next five hours, multiple avalanches of hot ash, pumice, and gas poured out of the crater. During explosive eruptions, fiery, pyroclastic flows travel downslope from a volcano. The Mount St. Helens pyroclastic flow spread as far as five miles north of the crater. Based on measurements of the plume height as well as the volume of expelled material, the Mount St. Helens eruption was extraordinary in size—a so-called Plinian eruption that occurs once every hundred years or more.

The destruction caused by the eruption was widespread. Nearly all exposed life forms were decimated over a 240-square-kilometer (150-square-mile) area. Remarkably, beginning just a few months after the initial blast, vegetation returned to Mount St. Helens. First to appear were small trees and plants that had been protected by snowpack. Gradually, new seeds arrived—carried by the wind and by animals that moved in from adjacent areas. Twenty years later, significant populations of mammals, birds, insects, and fish had been re-established and, as images from space-based monitoring satellites show, most of the affected area has again been covered by vegetation. It will take 200 years or more, however, to restore the old-growth forest conditions that preceded the blast.

1. Describe what is happening throughout the eruption. What kind of material is being ejected? Do you see lava?

_____

_____

_____

_____

2. What happens to all of the ash that is ejected by the volcano?

_____

_____

3. How do you think observation can help geologists understand volcanic eruptions?

_____

_____

_____

_____

4. Can scientists predict when eruptions like this will occur? Were people warned about Mount St. Helens?

_____

_____

_____

_____

# Writing

Directions: Read the following article to gather information about the 1980 eruption of Mt. St. Helens.

# Witnesses recount devastation after Mount St. Helens eruption

BY MYNORTHWEST STAFF

**MAY 11, 2018 AT 1:28 PM**

Smoke, ash and debris spew skyward as Mount St. Helens erupts, May 19, 1980 sending a plume more than nine miles into the air. At least seven deaths have been attributed to the volcano which is located 45 miles northeast of Portland, Washington. (AP Photo/Jack Smith)

It was a quiet Sunday morning, at 8:32 a.m., 38 years ago when Mount St. Helens blew its top, sending tons of ash into the sky.

The volcano had been quiet since the 1850s, but in 1980, geologists were observing volcanic action in the Northwest.

“I remember in the mid-70s, Mount Baker was active for a while. They thought Mount Baker might erupt and they shut down the National Forest for awhile in 1975,” said local historian Feliks Banel.In the spring of 1980 they shut down what they called “the red zone,” surrounding Mount St. Helens.

“It was fairly controversial because there were people that had vacation homes there, people trying to do logging operations, some people ignored it. They didn’t enforce it really strictly,” Banel said.

Fifty-seven people perished in one of Washington’s largest natural disasters. Some of them were never recovered. But some of those most memorable still left their mark on St. Helens before the 1980 eruption, Banel told KIRO Radio.

**Jerry Martin**

There was a network of Ham Radio operators who had been helping the United States Geological Survey keep track of what was happening on the mountain.

“There’s a recording of a gentlemen that witnessed the eruption happening,” Banel said. “Jerry Martin didn’t survive, but a recording of him was preserved, with rumbling of the mountain almost overwhelming one of his last transmissions warning of the mountain’s imminent eruption.”

**Harry Truman**

As a World War I veteran who refused to leave his home, Harry Truman is an iconic victim of the eruption.

“I remember the Northwest in the 1970s — there were guys like Harry Truman all over the place. Every lodge, every forest, every river had a guy like Harry Truman — he just happened to be doomed to be in the place where the (eruption) was coming,” Banel said. “He refused to leave. He was a perfect character, perfect for television.”

There are several interviews with Truman in the weeks before Mount St. Helens erupted where he talked with TV and radio stations, and newspaper reporters. In one interview, you can hear the player piano in his Spirit Lake Lodge. In another he says, “If I left and I lost this place, I’d die in a week. I couldn’t live. I couldn’t stand it. So I’m like that old captain, I’m going down with the ship. If this damn thing takes this mountain I’m going down with it. I’d rather be dead than to live without it.”“He’s a folk hero. Like he said, he went down with the ship,” Banel said.

The body of the 83-year-old was never recovered, and no one would ever step in the gorgeous lodge where he had lived, again. He lived in the lodge with his 16 cats until the end. It’s believed Truman was covered by 150 feet deep of mud and the pyroclastic flows.

**David Johnston**

“The one thing there is not a recording of but I wish there was was the young geologist David Johnston. He was 30 years old, working for the U.S. Geological Survey. He was the government face of the mountain those few months leading up to the eruption,” Banel said.

The last thing they heard was the call, ‘Vancouver! Vancouver! This is it!’”

He saw the eruption, he announced it to the base station in Vancouver, and then he was gone within seconds. According to Banel, there was a very short period of time between his final call and the mountain exploding.

David Johnston is the namesake for Johnston Ridge Observatory, the visitors center on Mount St. Helens. It’s there that his trailer was found after the eruption. Johnston’s body was never recovered.

**Dave Crocket**

Dave Crocket was a 28-year-old TV photographer. He said he had a feeling something terrible was going to happen and he just wanted to be at the mountain that day. He was about 10 miles southwest of what’s now the crater as he had his camera going. You can hear him saying, “My god, this is hell. I just can’t describe it. It’s pitch black. This is hell on earth.”

“At one point, he thinks he’s not going to make it because it’s dark when he’s covered in the ash cloud,” Banel explained. “But eventually, he finds a lighter moment.”

He said, “I can’t see a thing. I keep walking, if only I could do something. If only I could do something instead of just sitting here,” he said. Crocket then laughed, “I got the wrong attitude here, it’s got be something to tell my grandkids about.”

He survived.

Mount St. Helens is still an active mountain, and is one of seven mountains in Washington state that the USGS observes for potential volcanic activity.

---

Writing Activity:

Now you have read three different stories of what it was like to experience Mt. St. Helens erupting. Use what you know to write an informational essay. Describe what it was like for people who experienced the  Mt. St. Helens eruption. Use a three paragraph structure, and look at the ‘Step up to Writing’ outline to help you organize your ideas.

Name: _____ Date: _____ **Tool E4-2a**

# Planning an Informative/Explanatory Paragraph: Informal Outline

**Title =** _____

**Topic =** _____

☆ _____

_____

- _____
  - _____
  - _____
- _____
  - _____
  - _____

☆ _____

_____

- _____
  - _____
  - _____
- _____
  - _____
  - _____

**Conclusion =** _____

_____

# Math

# Compare Fractions

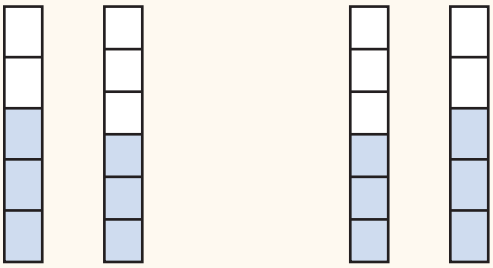
LESSON 18

## Dear Family,

### This week your child is learning to compare fractions.

There are different ways to compare fractions.

One way to compare fractions, such as $\frac{3}{5}$ and $\frac{3}{6}$, is to use models. You must use the same-sized whole for both. If the wholes are different sizes, it does not make sense to compare the parts. Each whole model below is the same size.



$\frac{3}{5} > \frac{3}{6}$ $\qquad$ $\frac{3}{6} < \frac{3}{5}$

$\frac{3}{5}$ is greater than $\frac{3}{6}$. $\qquad$ $\frac{3}{6}$ is less than $\frac{3}{5}$.

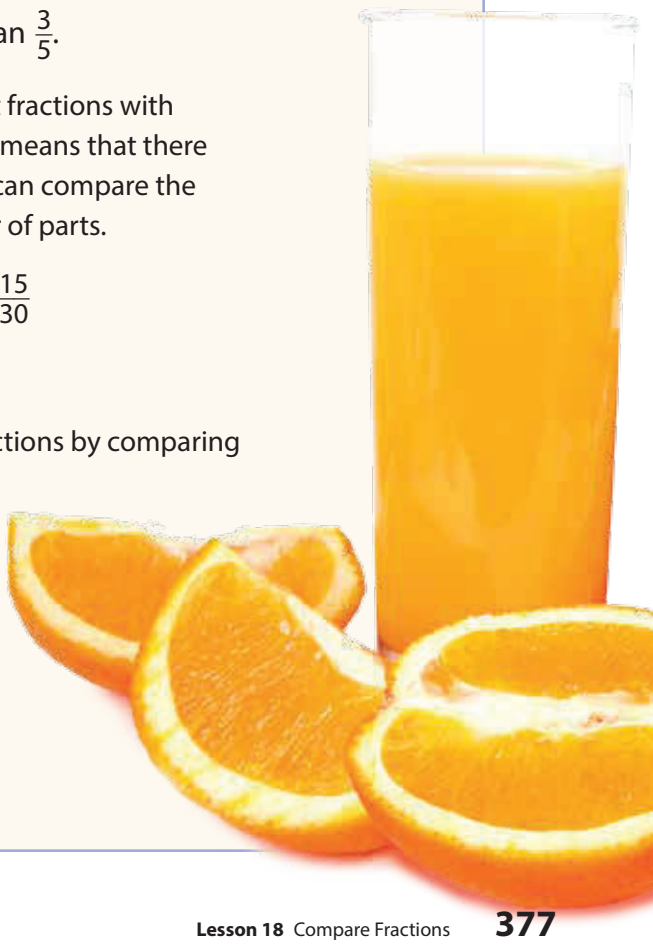
Another way to compare fractions is to write equivalent fractions with the same denominators. Using the same denominators means that there are the same number of parts in each whole. Then you can compare the numerators to find which fraction has a greater number of parts.

$$\frac{3 \times 6}{5 \times 6} = \frac{18}{30} \qquad \frac{3 \times 5}{6 \times 5} = \frac{15}{30}$$

$$\frac{18}{30} > \frac{15}{30}, \text{ so } \frac{3}{5} > \frac{3}{6}.$$

Your child might also use a number line to compare fractions by comparing each fraction to a **benchmark fraction,** such as $\frac{1}{2}$.

Invite your child to share what he or she knows about comparing fractions by doing the following activity together.



# ACTIVITY COMPARING FRACTIONS

**Do this activity with your child to compare fractions.**

***Materials*** 4 same-sized clear glasses, colored liquid

- Fill one glass to the top with colored liquid. This glass represents 1 whole. Fill another glass half full to represent $\frac{1}{2}$. Leave a third glass empty to represent 0.
- Pour any amount of liquid into the fourth glass. Compare the fourth glass to the full glass and the empty glass to determine if the amount of liquid represents a fraction that is closer to 0 or to 1.
- Then determine if the amount of liquid in the fourth glass represents a fraction that is greater than or less than $\frac{1}{2}$. You can check your answer by comparing the fourth glass to the glass that is half full.
- Now empty the fourth glass. Take turns filling it with various amounts of colored liquid and describing the quantity as representing a fraction that is greater than or less than $\frac{1}{2}$.
- Talk with your child about why it is important that the four glasses are the same size and shape. (Half of a tall glass is a different amount of liquid than half of a short glass.)

# Compara fracciones

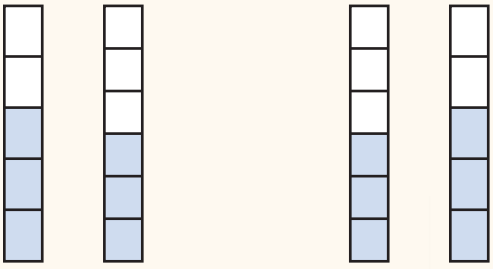
LECCIÓN 18

## Estimada familia:

### Esta semana su niño está aprendiendo a comparar fracciones.

Hay diferentes maneras de comparar fracciones.

Una manera de comparar fracciones, como $\frac{3}{5}$ y $\frac{3}{6}$, es usar modelos. Debe usar enteros del mismo tamaño para ambas. Si los enteros tienen diferente tamaño, no tiene sentido comparar las partes. Cada modelo de entero que se muestra abajo tiene el mismo tamaño.



$\frac{3}{5} > \frac{3}{6}$ $\qquad$ $\frac{3}{6} < \frac{3}{5}$

$\frac{3}{5}$ es mayor que $\frac{3}{6}$. $\qquad$ $\frac{3}{6}$ es menor que $\frac{3}{5}$.

Otra manera de comparar fracciones es escribir fracciones equivalentes con el mismo denominador. Tener el mismo denominador significa que cada entero está dividido en el mismo número de partes. Luego se pueden comparar los numeradores para hallar qué fracción tiene un mayor número de partes.

$$\frac{3 \times 6}{5 \times 6} = \frac{18}{30} \qquad \frac{3 \times 5}{6 \times 5} = \frac{15}{30}$$

$$\frac{18}{30} > \frac{15}{30}; \text{ por lo tanto } \frac{3}{5} > \frac{3}{6}.$$

Su niño también puede usar una recta numérica para comparar fracciones, comparando cada fracción con una **fracción de referencia**, como $\frac{1}{2}$.

Invite a su niño a compartir lo que sabe sobre comparar fracciones.

# ACTIVIDAD COMPARAR FRACCIONES

**Haga la siguiente actividad con su niño para comparar fracciones.**

***Materiales*** 4 vasos transparentes del mismo tamaño, líquido de color.

- Llene un vaso hasta el borde con líquido de color. Este vaso representa 1 entero. Llene otro vaso hasta la mitad para representar $\frac{1}{2}$. Deje un tercer vaso vacío para representar 0.

- Vierta la cantidad de líquido que quiera en el cuarto vaso. Compare el cuarto vaso con el vaso lleno y con el vaso vacío para determinar si la cantidad de líquido representa una fracción que está más cerca de 0 o más cerca de 1.

- Luego determine si la cantidad de líquido en el cuarto vaso representa una fracción que es mayor o menor que $\frac{1}{2}$. Puede comprobar su respuesta comparando el cuarto vaso con el vaso que está lleno hasta la mitad.

- Ahora vacíe el cuarto vaso. Túrnense para llenarlo con diferentes cantidades de líquido de color y describir la cantidad para representar una fracción que es mayor o menor que $\frac{1}{2}$.

- Hable con su niño sobre por qué es importante que los cuatro vasos tengan el mismo tamaño y la misma forma. (La mitad de un vaso alto es una cantidad diferente de líquido que la mitad de un vaso corto.)

# Explore Comparing Fractions

Previously, you learned to compare fractions using models. Use what you know to try to solve the problem below.

**Adriana and June have granola bars that are the same size. Adriana eats $\frac{2}{4}$ of her granola bar. June eats $\frac{2}{5}$ of her granola bar. Which girl eats more of her granola bar?**

## Learning Target

- Compare two fractions with different numerators and different denominators. Recognize that comparisons are valid only when the two fractions refer to the same whole. Record the results of comparisons with symbols >, =, or <, and justify the conclusions.

**SMP** 1, 2, 3, 4, 5, 6, 7

## TRY IT

### Math Toolkit

- fraction circles
- fraction tiles
- number lines
- fraction bars
- index cards
- fraction models

## DISCUSS IT

**Ask your partner:** Do you agree with me? Why or why not?

**Tell your partner:** I agree with you about . . . because . . .

# CONNECT IT

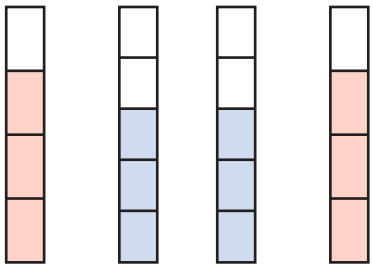
## 1 LOOK BACK

Who eats more of her granola bar, Adriana or June? Explain.

## 2 LOOK AHEAD

Deciding who eats more of her granola bar means comparing the fractions $\frac{2}{4}$ and $\frac{2}{5}$. To compare fractions, you must use the same-sized whole.

**a.** Suppose you have two more granola bars that are the same size. Compare the fractions $\frac{3}{4}$ and $\frac{3}{5}$ using the area models to know who ate more. Use $>$, $<$, or $=$ to compare, just as with whole numbers.



$\frac{3}{4}$ ◯ $\frac{3}{5}$ $\qquad$ $\frac{3}{5}$ ◯ $\frac{3}{4}$

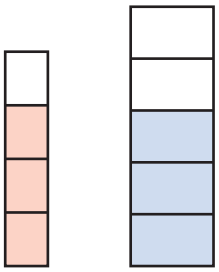
**b.** You can use equivalent fractions to compare fractions with different denominators. Compare $\frac{3}{4}$ and $\frac{3}{5}$. Rewrite one or both of the fractions so they have the same denominator, or a **common denominator**. Use $>$, $<$, or $=$ to compare.

$\frac{3 \times \square}{4 \times \square} = \frac{15}{\square}$ $\qquad$ $\frac{3 \times \square}{5 \times \square} = \frac{\square}{20}$

$\frac{15}{\square}$ ◯ $\frac{\square}{20}$, so $\frac{3}{4}$ ◯ $\frac{3}{5}$.

## 3 REFLECT

Suppose the granola bars were different sizes. Could you still compare $\frac{3}{4}$ and $\frac{3}{5}$ in the same way? Explain.



# Develop Using Common Numerators and Denominators

Read and try to solve the problem below.

**A grasshopper weighs $\frac{2}{100}$ of an ounce. A beetle weighs $\frac{8}{10}$ of an ounce. Which weighs more?**

## TRY IT

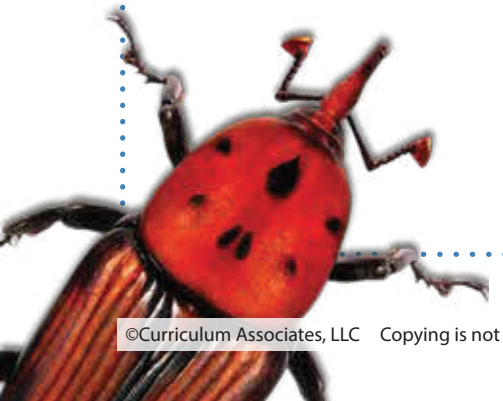
### Math Toolkit

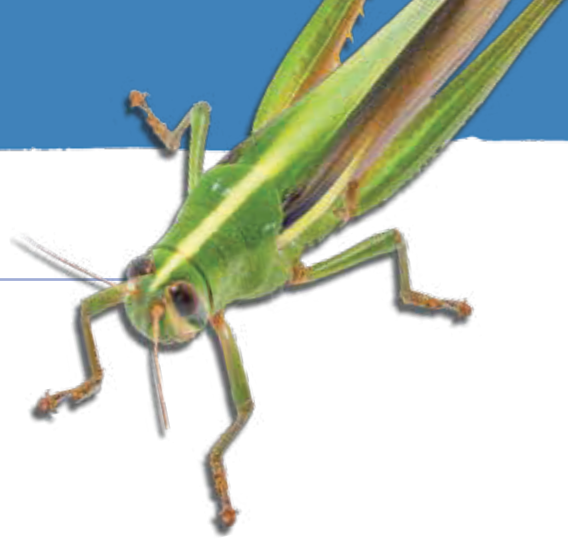
- number lines
- hundredths grids
- tenths grids
- index cards
- fraction models

## DISCUSS IT

**Ask your partner:** How did you get started?

**Tell your partner:** I started by . . .





Explore different ways to understand comparing fractions.

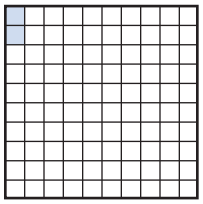
**A grasshopper weighs $\frac{2}{100}$ of an ounce. A beetle weighs $\frac{8}{10}$ of an ounce. Which weighs more?**

## MODEL IT

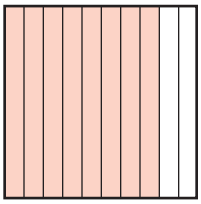
**You can use models to help compare fractions.**

The models show the fractions of an ounce that the grasshopper and beetle weigh.

Grasshopper



Beetle



## MODEL IT

**You can use a common denominator to help compare fractions.**

When you compare two fractions, it helps if they have a common denominator. Fractions with the same denominator are made up of parts of the same size. The numerators tell how many of those parts each fraction has. When two fractions have the same denominator, you can compare the numerators.

Compare $\frac{2}{100}$ and $\frac{8}{10}$.

The fractions are not written with a common denominator. Find a fraction equivalent to $\frac{8}{10}$ that has a denominator of 100.

$$\frac{8 \times 10}{10 \times 10} = \frac{80}{100}$$

Now, compare the numerators of $\frac{2}{100}$ and $\frac{80}{100}$.

$$80 > 2$$

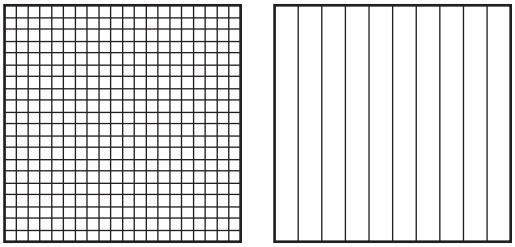
So, $\frac{80}{100} > \frac{2}{100}$ and $\frac{8}{10} > \frac{2}{100}$.

## CONNECT IT

**Now you will use the problem from the previous page to help you understand how to compare fractions by finding a common numerator.**

1. What is an equivalent fraction for $\frac{2}{100}$ that has a numerator of 8? .....

2. One model is divided into 400 equal parts, and the other is divided into 10 equal parts. Which model has smaller parts?



3. Shade 8 parts of each model.

4. Which model has a greater area shaded?

5. Which fraction is greater, $\frac{8}{400}$ or $\frac{8}{10}$? .....

6. Which weighs more, the grasshopper or the beetle? .....

7. Look at the denominators of $\frac{8}{400}$ and $\frac{8}{10}$. When two fractions have the same numerator and different denominators, how do you know which fraction is greater? Explain.

8. **REFLECT**

Look back at your **Try It**, strategies by classmates, **Model Its**, and the **Connect It** problems on this page. Which models or strategies do you like best for comparing fractions? Explain.

.....

.....

.....

## APPLY IT

**Use what you just learned to solve these problems.**

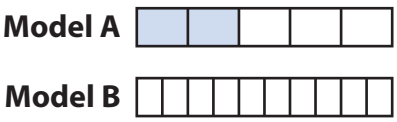
**9** Mel's tomato plant is $\frac{8}{12}$ of a foot tall. Her pepper plant is $\frac{3}{4}$ of a foot tall. Compare the heights of the plants using $<$, $>$, or $=$. Use a model to show your comparison. Show your work.

***Solution***

**10** Compare the fractions $\frac{4}{6}$ and $\frac{2}{5}$ using $<$, $>$, or $=$. Use a model to show your comparison. Show your work.

***Solution***

**11** Morgan has the two fraction models shown. Morgan shades Model B to show a fraction less than the fraction shown by Model A. How many parts of Model B could she have shaded? Explain.



# Develop Using a Benchmark to Compare Fractions

Read and try to solve the problem below.

**Jasmine's swimming lesson lasts for $\frac{2}{3}$ of an hour. It takes her $\frac{1}{6}$ of an hour to do her homework. Does Jasmine spend more time on her homework or at her swimming lesson?**

## TRY IT

### Math Toolkit

- fraction circles
- fraction tiles
- number lines
- fraction bars
- index cards
- fraction models

## DISCUSS IT

**Ask your partner:** Why did you choose that strategy?

**Tell your partner:** I knew . . . so I . . .

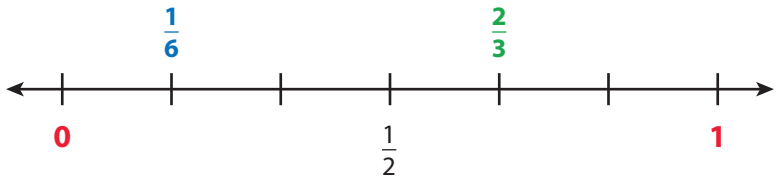
Explore different ways to understand using benchmarks to compare fractions.

**Jasmine's swimming lesson lasts for $\frac{2}{3}$ of an hour. It takes her $\frac{1}{6}$ of an hour to do her homework. Does Jasmine spend more time on her homework or at her swimming lesson?**

## MODEL IT

**You can use a number line to help you compare fractions.**

The number line shows where the fractions $\frac{2}{3}$ and $\frac{1}{6}$ are compared to 0 and 1.

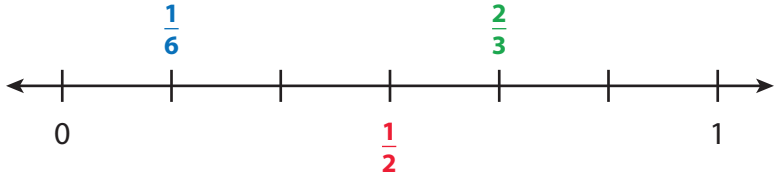



The number line shows that $\frac{1}{6}$ is closer to 0 than $\frac{2}{3}$ is.
It also shows that $\frac{2}{3}$ is closer to 1 than $\frac{1}{6}$ is.
This means that $\frac{1}{6} < \frac{2}{3}$ and $\frac{2}{3} > \frac{1}{6}$.

## SOLVE IT

**You can use a benchmark fraction to solve the problem.**

Another way to compare fractions is by using a benchmark fraction.
Use $\frac{1}{2}$ as a benchmark to compare $\frac{1}{6}$ and $\frac{2}{3}$.




The number line shows that $\frac{1}{6}$ is less than $\frac{1}{2}$ and $\frac{2}{3}$ is greater than $\frac{1}{2}$.
So, $\frac{1}{6} < \frac{2}{3}$ and $\frac{2}{3} > \frac{1}{6}$.

Jasmine spends more time at her swimming lesson than on homework.

## CONNECT IT

**Now you will solve a similar problem using 1 as a benchmark. Think about the two fractions $\frac{11}{10}$ and $\frac{7}{8}$.**

1. Which fraction, $\frac{11}{10}$ or $\frac{7}{8}$, is greater than 1? .....

2. Which fraction, $\frac{11}{10}$ or $\frac{7}{8}$, is less than 1? .....

3. Which fraction, $\frac{11}{10}$ or $\frac{7}{8}$, is greater? Explain.

4. Write $<$, $>$, or $=$ to show the comparison. $\frac{11}{10}$ ◯ $\frac{7}{8}$

5. Explain how you can use benchmarks to compare fractions.

## 6 REFLECT

Look back at your **Try It**, strategies by classmates, and **Model It** and **Solve It**. Which models or strategies do you like best for using benchmarks to compare fractions? Explain.

.....

.....

.....

.....

# APPLY IT

**Use what you just learned to solve these problems.**

**7** Tell which fraction is greater, $\frac{4}{8}$ or $\frac{3}{4}$. Use the benchmark fraction $\frac{1}{2}$ to explain your answer. Show your work.

***Solution***

**8** Nathan walks $\frac{10}{10}$ of a mile. Sarah walks $\frac{11}{12}$ of a mile. Who walks a greater distance? Explain. Use a benchmark number in your explanation.

***Solution***

**9** Use the benchmark fraction $\frac{1}{2}$ to compare the two fractions below. Which symbol correctly compares the fractions?

$\frac{4}{6}$ ◯ $\frac{3}{8}$

Ⓐ $<$

Ⓑ $>$

Ⓒ $=$

Ⓓ $+$

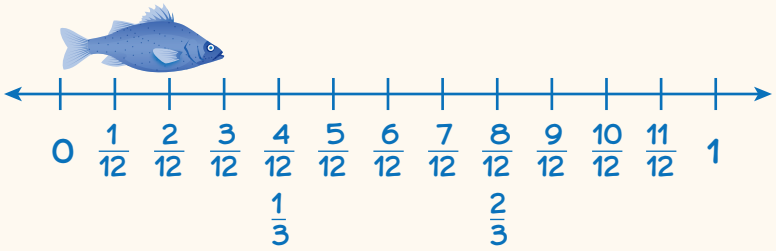
# Refine Comparing Fractions

**Complete the Example below. Then solve problems 1–9.**

## EXAMPLE

**Becker catches a fish that is $\frac{3}{12}$ of a yard long. The fish has to be longer than $\frac{1}{3}$ of a yard in order to keep it. Can Becker keep the fish?**

Look at how you could show your work using a number line.




***Solution*** .....

It is important that both measurements use the same unit!

**PAIR/SHARE**
How else could you solve this problem?

## APPLY IT

**1** Myron and Jane work on the same set of homework problems. Myron finishes $\frac{5}{6}$ of the problems, and Jane finishes $\frac{2}{3}$ of the problems. Who finishes more of their homework problems? Show your work.

***Solution*** .....

Which strategy for comparing do you think works best with these fractions?

**PAIR/SHARE**
How did you and your partner decide what strategy to use to solve the problem?

**2** Compare the fractions $\frac{3}{10}$ and $\frac{7}{12}$ using the benchmark fraction $\frac{1}{2}$. Show your work.

You already know about how big $\frac{1}{2}$ is!

**PAIR/SHARE**
Draw a model to check your answer.

***Solution***

**3** Janelle walks $\frac{3}{6}$ of a mile. Pedro walks $\frac{6}{10}$ of a mile. Which statement shows how to find the greater fraction?

Ⓐ $\frac{3}{6} = \frac{6}{12}$ and $\frac{6}{12} < \frac{6}{10}$

Ⓑ $\frac{3}{6} = \frac{6}{12}$ and $\frac{6}{12} > \frac{6}{10}$

Ⓒ $\frac{6}{10} = \frac{3}{5}$ and $\frac{3}{5} < \frac{3}{6}$

Ⓓ $\frac{3}{6} < \frac{1}{2}$ and $\frac{6}{10} > \frac{1}{2}$

Tina chose Ⓑ as the correct answer. How did she get that answer?

There are several ways to compare fractions!

**PAIR/SHARE**
How can you find the answer using a benchmark fraction?

**4** Grant uses $\frac{2}{3}$ of a cup of raisins and $\frac{3}{4}$ of a cup of almonds to make trail mix. Which statement can be used to find out if there are more raisins or almonds in the trail mix?

Ⓐ $\frac{2}{3} = \frac{8}{12}$ and $\frac{3}{4} = \frac{9}{12}$

Ⓑ $\frac{2}{3} = \frac{4}{6}$ and $\frac{3}{4} = \frac{4}{5}$

Ⓒ $\frac{2}{3} = \frac{6}{9}$ and $\frac{3}{4} = \frac{6}{12}$

Ⓓ $\frac{2}{3} = \frac{6}{9}$ and $\frac{3}{4} = \frac{6}{7}$

**5** Select >, <, or = to complete a true comparison for each pair of fractions.

| | > | < | = |
|---|---|---|---|
| $\frac{8}{3} \square \frac{9}{4}$ | Ⓐ | Ⓑ | Ⓒ |
| $\frac{7}{10} \square \frac{7}{8}$ | Ⓓ | Ⓔ | Ⓕ |
| $\frac{1}{2} \square \frac{3}{8}$ | Ⓖ | Ⓗ | Ⓘ |
| $\frac{2}{4} \square \frac{4}{6}$ | Ⓙ | Ⓚ | Ⓛ |
| $\frac{7}{5} \square \frac{140}{100}$ | Ⓜ | Ⓝ | Ⓞ |

**6** Sam's music teacher tells him to practice his trombone for $\frac{5}{10}$ of an hour. Sam practices for $\frac{2}{6}$ of an hour. Does he practice long enough? Show your work.

Sam ..... practice long enough.

**7** Compare the fractions $\frac{5}{10}$ and $\frac{5}{8}$. Write the symbol >, <, or =.

$\frac{5}{10}$ ◯ $\frac{5}{8}$

**8** Rachel and Sierra have the same number of boxes of fruit to sell for a fundraiser. Each box is the same size. Rachel sells $\frac{9}{10}$ of her boxes, and Sierra sells $\frac{5}{8}$ of her boxes. Which girl sells a greater fraction of her boxes of fruit? Draw a model to show your answer. Show your work.

..... sells a greater fraction of her boxes of fruit.

**9** MATH JOURNAL

Jeff says $\frac{3}{4}$ of a small pizza is more than $\frac{1}{3}$ of a large pizza. Alicia disagrees. Who is right? Do you have enough information to know who is right? Explain.

SELF CHECK Go back to the Unit 4 Opener and see what you can check off.