10 More About Fraction

Let's Begin

Zen and Tia are preparing for a presentation on World Forest Day.

Use the information given on the map to answer the following questions.

a. Circle the fraction showing the forest cover of India. $\frac{1}{5}$ $\frac{1}{4}$ $\frac{3}{4}$ $\frac{1}{4}$

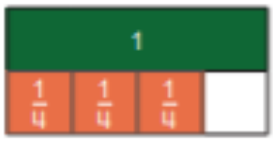
b. Two-fifth of the land in Spain is covered by forests.

c. Use the clues to name the countries.

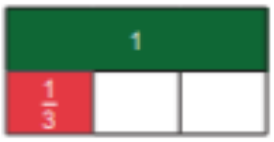
i. Tia likes this country that has $\frac{3}{5}$ of its land covered by forests. Brazil

ii. Zen wishes to visit the country where the forest cover is similar to India. Singapore

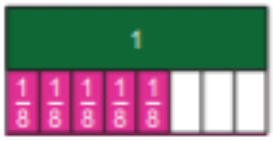
Write the given representations as fractions.



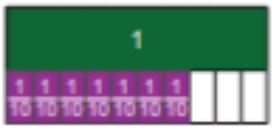
$\frac{3}{4}$



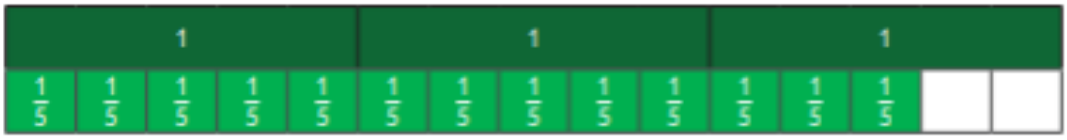
$\frac{1}{3}$



$\frac{5}{8}$



$\frac{7}{10}$



$2\frac{3}{5}$

Concrete Stage

Use 'Fraction Tiles' to identify the type of fractions. Write L for like fractions and U for unlike fractions.

Hintometer: To identify the type of fractions, just observe their denominators.

a) $\frac{1}{6}, \frac{1}{12}$ U

b) $\frac{3}{8}, \frac{4}{8}$ L

c) $\frac{2}{9}, \frac{3}{7}$ U

Pictorial Stage

1. Write the shaded parts of the figures as fractions and identify if they are like or unlike fractions.

a)  $\frac{1}{2}$ $\frac{1}{3}$ U

b)  $\frac{1}{4}$ $\frac{1}{6}$ U

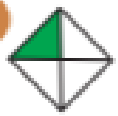
c)  $\frac{2}{8}$ $\frac{2}{8}$ L

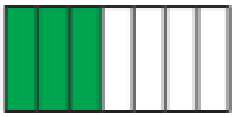
d)  $\frac{1}{3}$ $\frac{1}{3}$ L

2 Shade the figures according to the given fractions and circle all the unlike fractions.

a  $\frac{1}{5}$

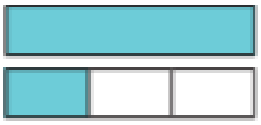
b  $\frac{4}{5}$

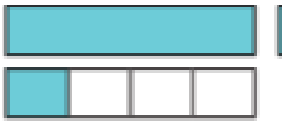
c  $\frac{1}{4}$

d  $\frac{3}{7}$

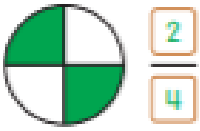
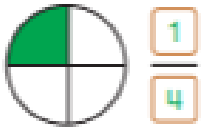
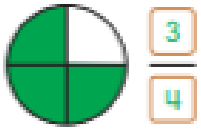
e  $\frac{5}{8}$

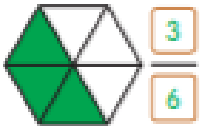
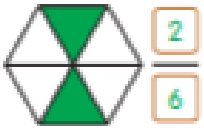
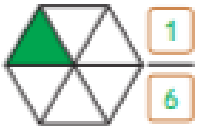
3 How many pieces are there?

a  1 $\frac{1}{3}$

b  2 $\frac{1}{4}$

4 Divide and shade the figures to indicate like fractions.

a  $\frac{2}{4}$  $\frac{1}{4}$  $\frac{3}{4}$

b  $\frac{3}{6}$  $\frac{2}{6}$  $\frac{1}{6}$

Abstract Stage

1 State whether the following fractions are unit, like, or unlike.

a $\frac{1}{2}, \frac{2}{6}, \frac{3}{2}$ Unlike

b $\frac{7}{4}, \frac{2}{4}, \frac{9}{4}$ Like

c $\frac{1}{4}, \frac{1}{5}, \frac{1}{10}, \frac{1}{6}$ Unit

12

2 **Solve the following word problems.**

a) Tia and Zen want to divide a square piece of paper into 4 equal parts. Zen shaded 3 parts and Tia shaded only 1 part of it. Show whether these figures represent like or unlike fractions.

Tiya = $\frac{1}{4}$; Zen = $\frac{3}{4}$ Like Fractions

b) Ram spends one-fourth of his day reading storybooks and three-fourths of his day playing with his brother. Name the activity that represents the unit fraction.

Reading Story Books

c) Tina and Ratan are planning to divide a hexagon (shape with 6 sides). Tina cuts it into 6 equal parts and Ratan divides the shape into 12 equal parts. They both agree to shade one part of their figure. State whether these fractions are like or unlike. Use a bar model to show.

Tina =

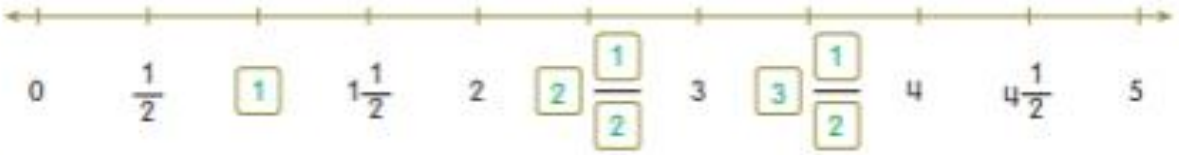
Ratan =

d) Varun's plate is divided into 5 equal sections. He puts the salads in one section. What fraction of his plate has salads?

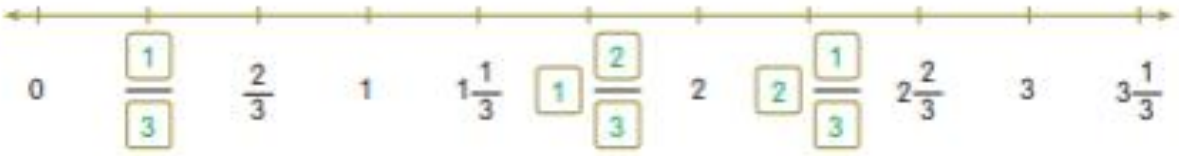
$\frac{1}{5}$

3 **Fill in the missing numbers on the number line.**

a)



b)



Concrete Stage

1. Use 'Fraction Tiles' to compare the following fractions.

a) $\frac{3}{8} > \frac{3}{9}$ b) $\frac{7}{9} < \frac{8}{9}$ c) $\frac{1}{3} > \frac{1}{4}$

2. Arrange $\frac{2}{8}$, $\frac{7}{8}$, and $\frac{5}{8}$ in ascending order.

$\frac{2}{8} < \frac{5}{8} < \frac{7}{8}$

3. Arrange $\frac{3}{4}$, $\frac{1}{2}$, and $\frac{2}{5}$ in descending order.

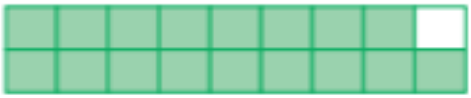
$\frac{3}{4} > \frac{1}{2} > \frac{2}{5}$

Pictorial Stage

1. Draw model and compare the fractions given below.

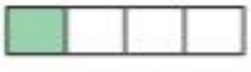
a) $\frac{4}{10}$ and $\frac{6}{10}$ $\frac{4}{10} < \frac{6}{10}$

b) $\frac{8}{9}$ and $\frac{9}{9}$ $\frac{8}{9} < \frac{9}{9}$



2. Mark these fractions as 1 (greatest), 2, and 3 to order in descending order.

3 Shade and fill in the blanks.

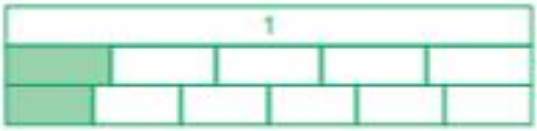
$\frac{3}{4}$  $\frac{1}{4}$ 

$\frac{3}{4}$ is greater than $\frac{1}{4}$

4 Arrange the fractions in order.

$\frac{1}{3} < \frac{2}{3} < \frac{3}{3}$

5 Your friend Eric says that $\frac{1}{6}$ is greater than $\frac{1}{5}$ because 6 is greater than 5. Is Eric correct? Use fraction tiles to answer Eric.

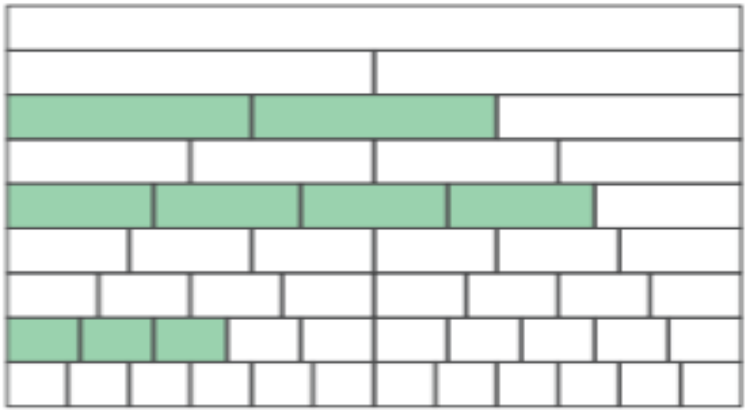


$\frac{1}{5} > \frac{1}{6}$

6 Colour the appropriate tiles to put the following fractions in ascending and descending order.

$\frac{3}{10}$, $\frac{4}{5}$, and $\frac{2}{3}$

Answer: $\frac{3}{10}$, $\frac{2}{3}$, $\frac{4}{5}$



Abstract Stage

Solve the following.

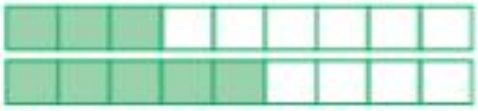
a Two friends James and John shared a pizza. James got $\frac{1}{3}$ of the pizza and John got $\frac{2}{3}$ of the pizza. Draw a model to identify who got more pizza?

Answer: James
John

John got more.

b Tony coloured $\frac{3}{9}$ of a picture and Tina coloured $\frac{5}{9}$ of it. Who coloured the larger part of the picture? Draw a model to compare these fractions.

Answer: Tony
Tina



Tina coloured larger part of the fraction.

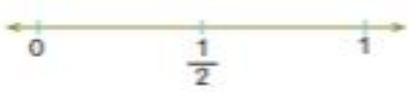
c Gargi is walking in the woods. She walked $\frac{3}{6}$ kilometres on Monday, $\frac{2}{6}$ kilometres on Tuesday, and $\frac{1}{6}$ kilometres on Wednesday. Order the distances from the least to the greatest.

Answer: Monday
Tuesday
Wednesday

Wednesday: $\frac{1}{6}$, Tuesday: $\frac{2}{6}$, Monday: $\frac{3}{6}$

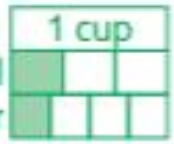
d Ria has a strip of wood 12 inches long. She cuts it into pieces that are each 6 inches in length. What fraction of the wood is one piece? Use a number line to represent the piece of wood and how Ria cut it.

Answer: $\frac{1}{2}$



e Prisha needs $\frac{1}{3}$ cup of oil and $\frac{1}{4}$ cup of water to make muffins. Will Prisha use more oil or more water? Explain your answer using pictures, numbers, and words.

Answer:



Prisha will use more oil.

f i. In your notebook, draw a small rectangle. Estimate to split it into 2 equal parts. How many lines did you draw to make 2 equal parts? What is the name of each fractional unit?

Answer: 1; $\frac{1}{2}$ one-half

ii. Draw another small rectangle. Estimate to split it into 3 equal parts. How many lines did you draw to make 3 equal parts? What is the name of each fractional unit?

Answer: 2; $\frac{1}{3}$ one-third

iii. Draw another small rectangle. Estimate to split it into 4 equal parts. How many lines did you draw to make 4 equal parts? What is the name of each fractional unit?

Answer: 3; $\frac{1}{4}$ one-fourth

Think Aloud

How many pieces does half of the chocolate bar have?

Answer: 6 pieces

Concrete Stage

Use 'Fraction Tiles' to identify whether the fractions are equivalent. Tick (✓) the equivalent fractions.

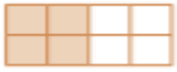
a $\frac{2}{6}, \frac{3}{12}$ ☐ b $\frac{4}{6}, \frac{8}{12}$ 3 c $\frac{1}{4}, \frac{4}{8}$ ☐ d $\frac{5}{10}, \frac{1}{5}$ ☐

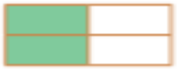
Pictorial Stage

1 Shade the models to find the equivalent fraction.

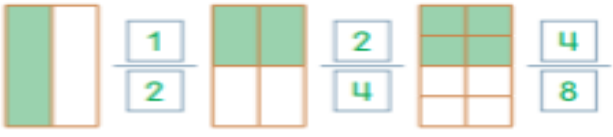
a

b





2 Shade the models to show equivalent fractions. Write them too.



Abstract Stage

1. Tia's mother made a cake. Now, there is $\frac{4}{8}$ of the cake left. Tick (✓) the fractions that are equivalent to the part of the cake that is left over.

$\frac{5}{8}$ ☐ $\frac{2}{4}$ ✓ $\frac{3}{4}$ ☐ $\frac{1}{4}$ ☐ $\frac{1}{2}$ ✓

2. Kabeer needs to cut a piece of paper into 6 equal parts. Draw at least 3 pictures to show how Kabeer can cut his paper so that all the parts are equal.

Answer: Answer may vary.

Study the pictures and answer the following questions.

a. Circle the years representing unit fractions?

1985 2000 2005 2010 (2020)

b. Compare the deforestation over the years and fill in the box with appropriate symbols (<, >, or =).

i. $\frac{1}{4}$ [<] $\frac{1}{2}$ ii. $\frac{2}{5}$ [<] $\frac{3}{5}$

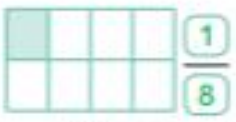
c. Draw a model to represent the amount of deforestation in the year 2020?

d. Tick (✓) the like fractions.

$\frac{1}{4}$ ☐ $\frac{3}{5}$ ✓ $\frac{7}{10}$ ☐ $\frac{2}{5}$ ✓

Blooming Questions

1. Write the shaded parts of the shapes as a fraction.

a.  $\frac{1}{5}$ b.  $\frac{1}{10}$ c.  $\frac{1}{8}$ d.  $\frac{1}{3}$

2. Tick (✓) all the like fractions.

a.  ✓

b.  ☐

c.  ✓

d.  ✓

e.  ☐

3 Represent these unit fractions as numerals and words.

a  $\frac{1}{2}$ one-half

b  $\frac{1}{3}$ one-third

c  $\frac{1}{4}$ one-four

d  $\frac{1}{5}$ one-fifth

e  $\frac{1}{6}$ one-sixth

f  $\frac{1}{7}$ one-seventh

4 Tina says $\frac{1}{8}$ and $\frac{1}{9}$ are like fraction. Do you agree? Explain using a model.

5 Azad, Sanjay, and Parul are painting same sized flashcards for a project. Azad painted $\frac{2}{4}$ of his card. Sanjay painted $\frac{2}{8}$ of his card, and Parul painted $\frac{2}{6}$ of her card.

Fill in the boxes and complete the comparison statements using the symbols (<, >, or =).

a $\frac{2}{4}$ [>] $\frac{2}{8}$ b $\frac{2}{8}$ [<] $\frac{2}{6}$ c $\frac{2}{6}$ [<] $\frac{2}{4}$ d $\frac{2}{8}$ [<] $\frac{2}{4}$

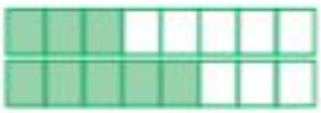
6 Work out the following word problems.

a A reserve forest offers 2 guided walks. The morning walk is $\frac{2}{3}$ kilometres. The evening walk is $\frac{3}{6}$ kilometres. Which walk is shorter? Explain how you can use a model to find the answer.

Answer: 

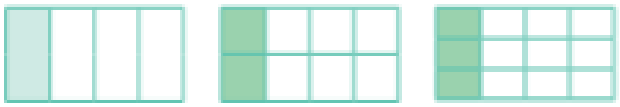
Evening walk is shorter.

b Charam lives $\frac{3}{8}$ kilometres from the national park. Goli lives $\frac{5}{8}$ kilometres from the national park. Use fractions and symbols to show which distance is longer.

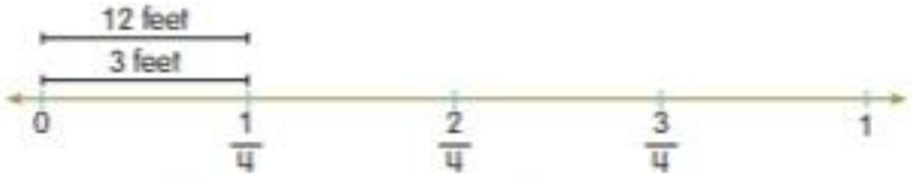
Answer: 

$\frac{5}{8} > \frac{3}{8}$ Hence, Goli lives farther.

7 David drew a model to show equivalent fractions. Use the model to complete the number sentence. $\frac{1}{4} = \frac{\boxed{2}}{\boxed{8}} = \frac{\boxed{3}}{\boxed{12}}$



8 A plumber has 12 feet of pipe. He cuts it into pieces that are each 3 feet in length. What fraction of the pipe would one piece represent? Show it with a number line.



Answer: One piece of the pipe represents $\frac{1}{4}$.

Mental Maths

1 Write the missing fraction to make a complete whole.

a) $\frac{4}{5}$ $\frac{\boxed{1}}{\boxed{5}}$ b) $\frac{5}{7}$ $\frac{\boxed{2}}{\boxed{7}}$ c) $\frac{3}{6}$ $\frac{\boxed{3}}{\boxed{6}}$ d) $\frac{9}{10}$ $\frac{\boxed{1}}{\boxed{10}}$

2 Write the fractions for the following.

a) Numerator = 4 $\frac{\boxed{4}}{\boxed{5}}$
Denominator = 5

b) Numerator = 5 $\frac{\boxed{5}}{\boxed{12}}$
Denominator = 12

c) Numerator = 3 $\frac{\boxed{3}}{\boxed{8}}$
Denominator = 8

d) Numerator = 7 $\frac{\boxed{7}}{\boxed{10}}$
Denominator = 10

3 Write the numerator and the denominator of the following fractions.

a) $\frac{1}{3}$ N = 1 D = 3

b) $\frac{1}{13}$ N = 1 D = 13

c) $\frac{4}{6}$ N = 4 D = 6

d) $\frac{9}{17}$ N = 9 D = 17

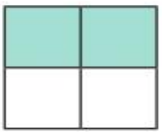
4 Use the symbols (>, <, or =) to compare the given fractions.

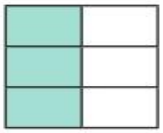
a) $\frac{5}{6} \boxed{>} \frac{2}{6}$ b) $\frac{3}{8} \boxed{<} \frac{7}{8}$ c) $\frac{1}{5} \boxed{<} \frac{3}{5}$ d) $\frac{2}{3} \boxed{<} \frac{4}{6}$

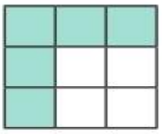
POST ACTIVITY :

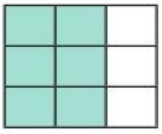
Identifying Fractions

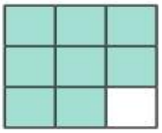
Circle the correct fraction from the given shaded area.

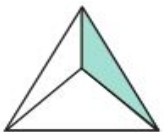
1.  $\frac{1}{2}$ $\frac{2}{3}$ $\frac{2}{4}$ $\frac{1}{4}$

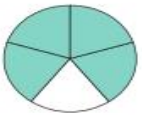
2.  $\frac{3}{3}$ $\frac{4}{6}$ $\frac{2}{3}$ $\frac{3}{6}$

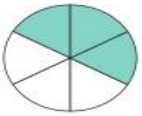
3.  $\frac{2}{9}$ $\frac{5}{9}$ $\frac{4}{9}$ $\frac{6}{9}$

4.  $\frac{3}{9}$ $\frac{7}{9}$ $\frac{6}{9}$ $\frac{5}{9}$

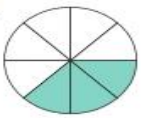
5.  $\frac{8}{9}$ $\frac{5}{9}$ $\frac{1}{9}$ $\frac{4}{9}$

6.  $\frac{1}{2}$ $\frac{3}{3}$ $\frac{1}{3}$ $\frac{2}{3}$

7.  $\frac{3}{4}$ $\frac{4}{5}$ $\frac{1}{4}$ $\frac{1}{5}$

8.  $\frac{1}{3}$ $\frac{4}{6}$ $\frac{3}{6}$ $\frac{1}{2}$

9.  $\frac{1}{8}$ $\frac{5}{8}$ $\frac{1}{3}$ $\frac{3}{8}$

10.  $\frac{5}{8}$ $\frac{3}{5}$ $\frac{3}{8}$ $\frac{3}{10}$

SUB TR: HOD: COORDINATOR: PRINCIPAL: