# YEAR 4: Incredible Inventions





Hello, Year 4! We hope that you had a lovely half-term and made the most of opportunities to go outdoors and have some fun safely. This half term we begin our new topic, which is called Incredible Inventions. Do you know any famous inventors? Maybe you have a great idea for a new invention! Please continue to share what you are doing via Twitter @oldburypark. We always look forward to hearing about the wonderful activities you have been doing at home. Have fun! #StaySafe

Ms Condon Mrs Screen Miss Doughty Mrs Sheppard

#### **EVERY DAY**

Daily Maths lessons – <a href="https://whiterosemaths.com/homelearning/year-4/">https://whiterosemaths.com/homelearning/year-4/</a> Fractions week 6 Mathletics – 15-20 minutes (more if you wish).

Read for at least 15 minutes.

## Additional tasks for this week (1/6/20)

### <u>English</u> <u>Topic</u>

#### Monday

One of our RSA fellows is Benjamin Franklin. You may remember learning about him. Did you know he was also well known for his inventions? Read this biography to find out more about his life.

https://www.ducksters.com/biography/ben franklin.php What did he invent? What key events happened in his life that might have inspired him?

#### Tuesday

Look again at the Benjamin Franklin biography. A biography is a piece of writing that tells you about someone's life. It is organised chronologically and contains lots of key facts and information. What other features can you find in a biography? Think about how the information is organised under subheadings and how key events in that person's life are explained.

https://www.twinkl.co.uk/resource/features-of-an-biography-word-mat-t2-e-5172

#### Wednesday

Use your computing skills to find out about other people who were significant in the discovery of electricity or the invention of electrical items. Remember to use search engines effectively to find the information that you want. Create a mind map or use post-it notes to write down what you find out. If you are struggling, try researching these people: Thomas Edison or Michael Faraday.

#### Thursday / Friday

Choose one person who you think made the most important discovery about electricity to write a biography about. This might help you plan your ideas.

https://www.twinkl.co.uk/resource/t2-e-1262-minibiography-writing-frame

Find out about the person's early life, important events in their life and why they are remembered. Organise your ideas into paragraphs and write your biography! This week we want you to complete at least one of the following –

Electricity- please ask the adults in your house if you need to look at items in the house!

https://www.stem.org.uk/resources/elibrary/resource/30647/things-use-electricity cut and paste link!

Heather is late for work so her friend Jason kindly offers to make her breakfast. How many things

offers to make her breakfast. How many things does Jason use or does Heather need, that require electricity to work? Either make a list/table or discuss with your adults. What else can you find in your house that uses electricity? Add them to your list/table.

#### https://www.educationcity.com/

Education City log on needed-under Homework complete 'The days of the week' activity.

#### **RE-The Golden Rule**

Why do we have rules? Rules are essential to keep us safe, healthy and happy. They feature in many aspects of our lives such as school and society, as well as in religious and non-religious groups.

These are the Golden Rule of some groups:

Christianity Love your neighbour as yourself.

<u>Humanism</u> Treat other people as you'd want to be treated in their situation; don't do things you wouldn't want to have done to you.

<u>Judaism</u> What is hateful to you, do not do to your neighbour.

What do you think the message of the rule actually is? Look at the following website to help you. It features artwork that is based in the Golden Rule.

https://www.natre.org.uk/about-natre/projects/spirited-arts/spirited-arts-gallery/archive/2014/?ThemeID=60

TASK: Using the images from the website to help you, produce your own piece of art showing one of the Golden Rules from above.

#### **Monday**

# Biography Benjamin Franklin



Benjamin Franklin by Joseph Duplessis

• Occupation: Statesman and Inventor

• Born: January 17, 1706 in Boston, Massachusetts

• Died: April 17, 1790 in Philadelphia, Pennsylvania

Best known for: Founding father of the United States

· Biography:

Benjamin Franklin was one of the most important and influential Founding Fathers of the United States of America. He is sometimes referred to as the "First American". Franklin was a multitalented "Renaissance Man" who excelled in many areas including science, politics, writing, music, invention, and diplomacy.

#### Where was Benjamin Franklin born?

Ben Franklin was born in Boston, Massachusetts on January 17, 1706. His father was a chandler (someone who makes candles and soap). Ben had sixteen brothers and sisters and was the youngest boy in the family. Young Ben had very little formal education. At the age of 10, he was forced to leave school in order to work with his dad. A few years later, he became a printer's apprentice for his brother James. Although Ben was denied a traditional education, he loved to read, and he became quite knowledgeable over the years by reading lots of books.

Ben ran away from Boston when he was 17, breaking his apprenticeship with his brother. He went to Philadelphia, Pennsylvania where he worked as a printer.

### **Early Career**

Franklin spent the next several years working at various jobs in London and Philadelphia. In 1729, Franklin became the publisher of a newspaper called the Pennsylvania Gazette. As a newspaper publisher, Franklin became a prominent voice in Pennsylvania politics and his reputation began to grow throughout the American colonies. In the 1750s and 1760s, Franklin spent much of his time in London, England. At first, he acted as the voice of the Pennsylvania colonists to the British Parliament, mostly protesting the influence of the Penn family on the colony. Later, he represented all of the American colonies when he spoke out against the much hated Stamp Act of 1765. His arguments eventually led to the repeal of the act by Parliament.

•

#### Revolutionary War and the Continental Congress

Franklin was still living in London as the Revolutionary War approached. It was Franklin who first suggested that the colonies meet at the First Continental Congress in 1774. Franklin later delivered their petition to King George III of England. In 1775, Franklin returned to Philadelphia and was elected as the Pennsylvania delegate to the Second Continental Congress. By this time the Revolutionary War had begun. Franklin played an important role in the early part of the Revolutionary War. He was part of the committee that wrote the Declaration of Independence and was the nation's first Postmaster General.

#### **Ambassador and Europe**

In 1776, Ben Franklin travelled to France. He spent the next few years gathering support in France for the American Revolution. In 1778, France allied with the colonies in their fight against England. The alliance with France would prove to be one of the most important factors in the American victory. Franklin remained in France throughout the war. In 1783, he helped to negotiate an end to the Revolutionary War with the Treaty of Paris.



Benjamin Franklin's Lightning Experiment by Le Roy C. Cooley

#### What did Benjamin Franklin invent?

As if being a prolific writer and a major player in the founding of the United States wasn't enough, Ben Franklin still found time to be a prominent inventor and scientist.

Perhaps Ben Franklin is most famous for his experiments with <u>electricity</u>. He performed many experiments that proved that lightning is in fact electricity. This led to his invention of the lighting rod, which helps to keep buildings safe from lighting. Other inventions by Ben Franklin include bifocals (a type of glasses), the Franklin stove, an odometer for a carriage, and the glass harmonica. In science he studied and made discoveries in theareas of electricity, cooling, meteorology, printing, and the <u>wave theory of light</u>.

Other firsts Ben Franklin was involved in include starting the first lending library in America, founding the University of Pennsylvania, and establishing the first fire department in Pennsylvania.

#### **Later Life and Death**

Franklin returned from France to the United States in 1785. He participated in the Constitutional Convention and became the only founding father to sign the Declaration of Independence, the Treaty of Alliance with France, the Treaty of Paris, and the Constitution. He also served as the President of Pennsylvania (like the governor). Franklin died in Philadelphia on April 17, 1790.

# Features of a Biography

# Purpose:

to give an account of someone's life.



## Tense:

- written in the past tense
- Closing statements may use present/ future tense

## Structure:

Opens with an attention grabbing introduction that summarises the main events of the person's life and makes the audience want to read on.

Key events are written in chronological order.

Early life, family, home and influences help the audience to understand the person.

Use relevant images and captions for interest.

Concludes with what they are doing now, or how they are/will be remembered.

# Include:

- information about their personality
- specific
  facts about
  achievements,
  influences and
  significant people

# Include:

- their feelings
   about different
   points and events
   in their life
- quotes from the person themselves, or other key people

# Include:

third person
 pronouns, such
 as:
 he, she, they,
 himself, herself,
 it, their, them

# twinkl visit twinkl.com

# Include:

- adverbials, such
  as:
  accordingly
  consequently
  therefore
  - hence

# Include:

ellipses,
repetition, and
time conjunctions
to link sentences
and paragraphs,
such as:
then, after that,
this, firstly,
whenever

#### Wednesday

## The History of Electricity

**Electricity** is the flow of an electrical power or charge from sources of energy like coal or oil. Basically, electricity helps us use daily items around the house so we have lights to see at night and charged phones to use to call our family and friends. However, electricity was not always something that humans used the way we do today. Someone had to discover electricity on Earth, and that person was Benjamin Franklin.

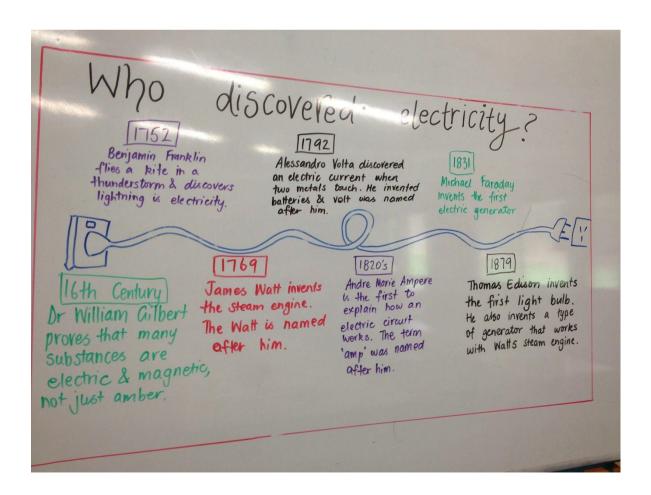
# Benjamin Franklin

**Benjamin Franklin** decided to do a little experiment with lightning back in 1752. He thought that lightning was interesting and wanted to find out more about it. So Mr. Franklin did something very dangerous, that none of us should try. He took a kite outside during a thunderstorm, got the string of the kite wet, put a metal key at the end and then let the kite float up into the storm. What he discovered was that the electricity from the storm clouds came down the string, and he received an electrical shock.

Benjamin Franklin was lucky he only received a shock. That dangerous experiment, however, was the starting point for more scientists to experiment with electricity over the next hundred years. These scientists and inventors wanted to discover what could be done with the electricity that Benjamin Franklin found through his experiment.

# **Thomas Edison**

**Thomas Edison** was the first recorded inventor to produce a long-lasting electric light bulb, which he created in his laboratory in 1879. He kept experimenting with improving his invention, and by the end of the 1880s Thomas Edison was able to power a few city blocks through electrical stations towards the end of the 1880s.



#### Michael Faraday

At the time when he lived, people like him were called *natural philosophers*. At that time only a little was known about electricity. Michael Faraday discovered many things about the way electricity flowing in a wire can act like a magnet (now called electromagnetism). He also found out a lot about the way electricity can be used with chemicals to make them change (now called electrochemistry).

He showed that magnetism is able to affect rays of light, as there is an underlying relationship between the two phenomena. His inventions of electromagnetic rotary devices formed the foundation of electric motor technology, and it was largely due to his efforts that electricity became viable for use in technology. He made the first electric motor. It is thanks to his early work that the electricity has been made into a useful thing today.

## **Electric Cars**

Thomas Davenport (1802–1851), a blacksmith from Brandon, Vermont, built a roadworthy electric car in 1835. Twelve years later U.S. electrical engineer Moses Farmer (1820–1893) exhibited an electric-driven locomotive. In 1851, Massachusetts inventor Charles Grafton Page (1712–1868) drove an electric car on the tracks of the Baltimore and Ohio Railroad, from Washington to Bladensburg, at the rate of nineteen miles an hour.

However, the cost of batteries was too great at the time and the use of the electric motor in transportation not yet practical.

#### Other Electrical Inventions

The very **first electric train** was invented by a German in 1879. Electric trains were quieter than and not as dirty as steam trains but it was many years before they were used for passengers.

A relatively recent (**19th century**) but very significant contribution to the discovery and use of electricity is the development of commercial electricity. And the one man this credit goes to, was Nikola Tesla, a mechanical and electrical engineer and inventor. His works led to the development of modern-day electrical systems that use alternating current.

#### Thursday / Friday

Use this information about Thomas Edison to write your biography.

#### **Thomas Edison**

Thomas Edison or Thomas Alva Edison was an American businessman and famous inventor.

He has been described as the greatest inventor of America for his invention of the phonograph, motion picture camera, and electric bulb.

#### What Is Thomas Edison Famous For?

Thomas Edison is famous for his work in many fields like electric power generation, mass communication, motion pictures, and sound recording.

Mostly, he is remembered for his invention of the electric light bulb, motion picture camera, and for his phonograph.



#### Thomas Edison Contribution To Science

Thomas Edison has many contributions to science, some of which are:

In 1876, Thomas Edison established an industrial research laboratory, the Menlo Park Laboratory, which is considered his major innovation in the field of science.

In 1879, he invented the first electric light bulb, which is his most famous invention.

He improved the electricity producing generators and also improved batteries that store electricity.

#### Where Was Thomas Edison Born?

The birthplace of Thomas Edison was the Milan village in the Ohio state of United States.

#### When Was Thomas Edison Born?

The date of birth of Thomas Edison was February 11, 1847.

#### Thomas Edison Childhood

Thomas Edison was born in the Milan village of the Ohio state in the USA.

He was the last and seventh child of his parents, Samuel Ogden and Nancy Mathews.

During his early age, he developed deafness (hearing problems).

In 1854, his family moved to Port Huron city of Michigan state.

Thomas Edison abandoned school a few months later of attending and was home schooled by his mother.

Only at the age of 13, he sold newspapers and candies on railroads and trains that were running from Port Huron to Detroit.

#### Thomas Edison Early Life

Thomas Edison was seven years old when his family moved from Ohio to Michigan.

He developed hearing problems during his early ages.

He was a curious child and always spent much of his free time in reading technical and scientific books.

In his early life, Thomas Edison was enterprising and sold vegetables.

He also sold newspapers and candies in trains and on railroads only at the age of 13.

At that time, he saved the life of a 3 years old child, Jimmie Mackenzie, from being struck by a running train.

The child's father was so thankful to Edison that he trained him on how to operate a telegraph.

At the age of sixteen, he was skilled enough to work as a full-time telegrapher.

#### Thomas Edison Education

Thomas Edison went to school for only a few months.

He was home schooled by his mother, who taught him reading, writing, and arithmatic.

His father also had a library at home and encouraged him to read and learn by himself.

He got much of his education by self-reading the School of Natural Philosophy, a scientific textbook by R. G. Paker, and The Cooper Union for the Advancement of Science and Arts.

## How Many Inventions Did Thomas Edison Make?

Thomas Edison obtained 1,093 patents (singly or jointly) throughout his life.

Out of 1,093 patents, 389 were for power and electric light, 195 were for the phonographs, 150 for the telegraph, 141 were for the power storage batteries, and 34 patents were for the telephone.

The first invention of Thomas Edison was an automatic voice recorder, which he invented in 1868

The invention of the first kinetophone, or the talking motion picture, in 1912-1913 was possibly the last major invention of Thomas Edison.

The incandescent electric light bulb is the most famous invention of Thomas Edison.

## Thomas Edison Experiments

Thomas Edison began conducting experiments from the time he was working as a newsboy in trains and railroads.

He made a chemical laboratory at home where he collected chemicals and conducted experiments.

He established the first industrial research laboratory of the world where he conducted experiments and invent some of his famous inventions.

In inventing the light bulb, he performed about 1,000 unsuccessful attempts.

He discovered a complete system of electric current distribution, regulation, and measurement.

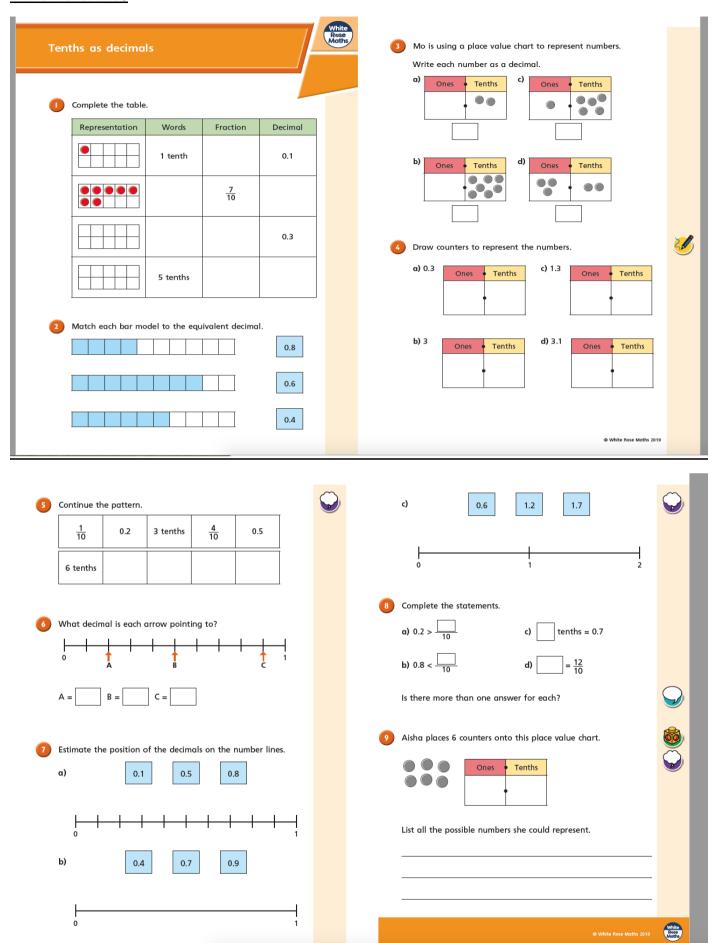
In 1880, he discovered the fundamental principle of electronics known as the "Edison Effect".

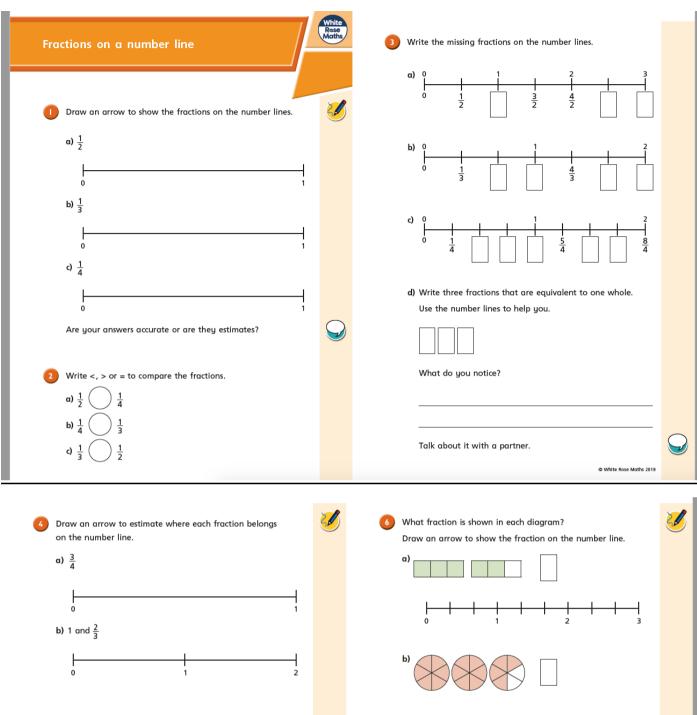
### <u>Death</u>

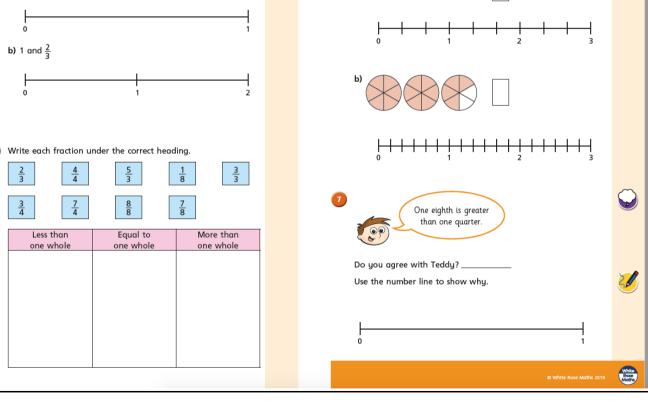
Thomas Edison died on October 18 1931, age 84, in New Jersey due to the problems of diabetes.

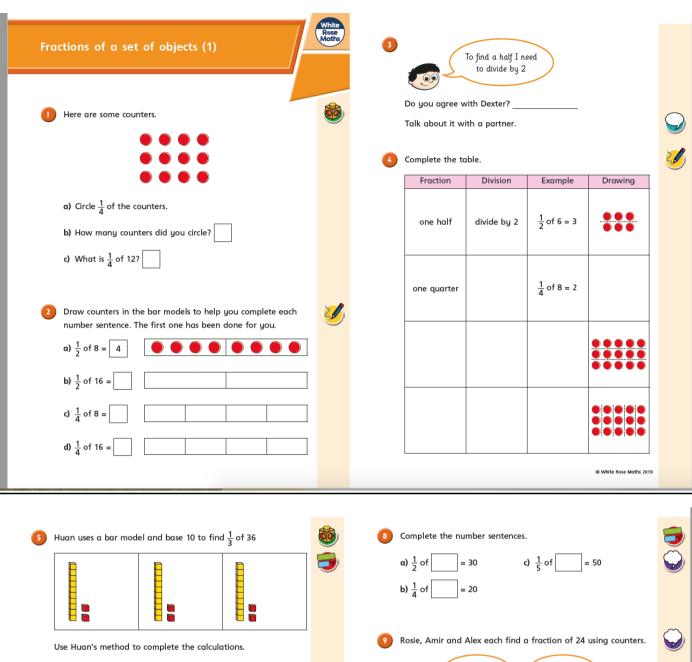
Researcher:		
Person's Name:		
Lived from: year	_ to year	
Most Known for:		Person's Portrait
Five Facts		
1		
2		
3		
4		
5		

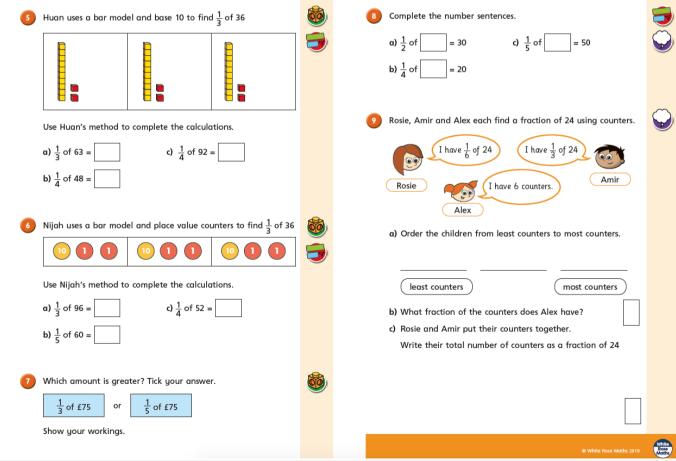
<u>Year 3 Maths https://whiterosemaths.com/homelearning/year-3/ this is he link for the video tutorials.</u>

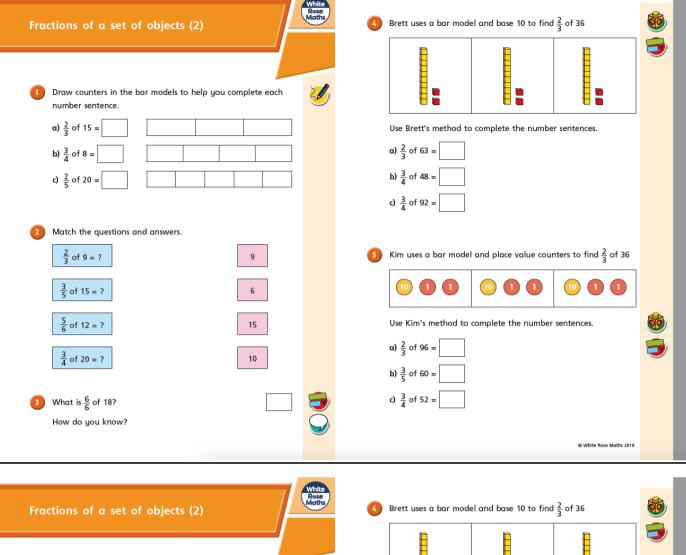


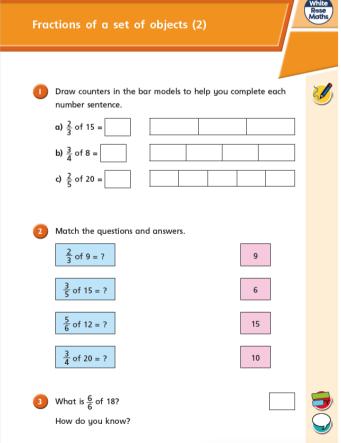


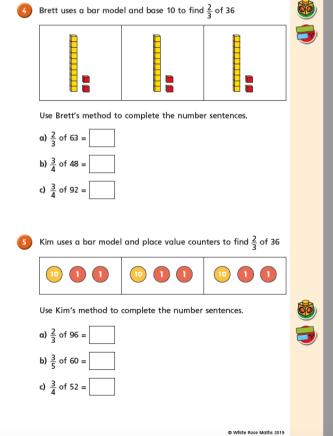




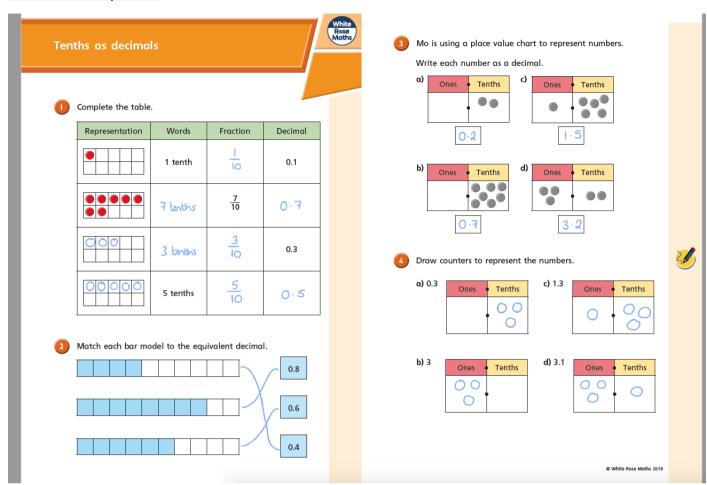


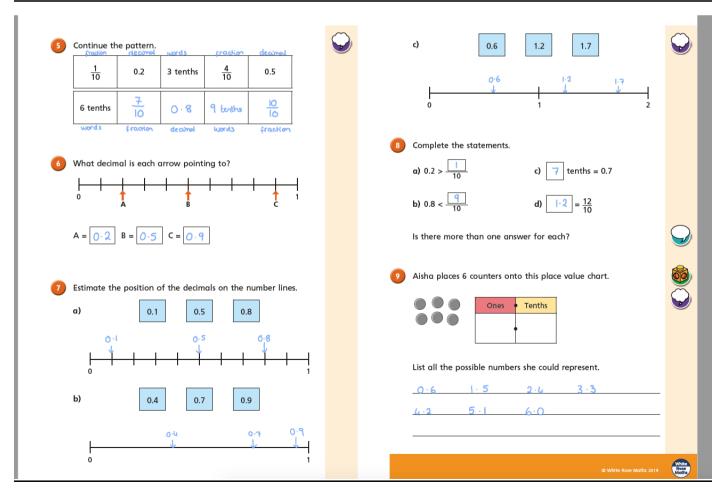






# Answers for year 3







Draw an arrow to show the fractions on the number lines.



- a)  $\frac{1}{2}$
- b)  $\frac{1}{3}$
- b)  $\frac{1}{4}$

Are your answers accurate or are they estimates?

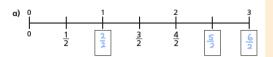


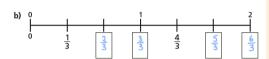
Write <, > or = to compare the fractions.

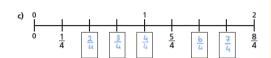


c) 
$$\frac{1}{3}$$
  $(<)$   $\frac{1}{2}$ 

Write the missing fractions on the number lines.







d) Write three fractions that are equivalent to one whole. Use the number lines to help you.



What do you notice?

Talk about it with a partner.



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Draw an arrow to estimate where each fraction belongs on the number line.



**b)** 1 and  $\frac{2}{3}$ 

Write each fraction under the correct heading.

2/3
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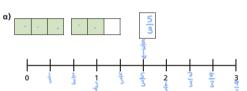


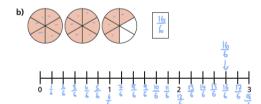




Less than one whole	Equal to one whole	More than one whole
2 3 4	44 89 3/3	5/3
دراس لباهه ساري 1- په		

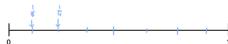
What fraction is shown in each diagram? Draw an arrow to show the fraction on the number line.

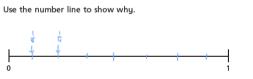




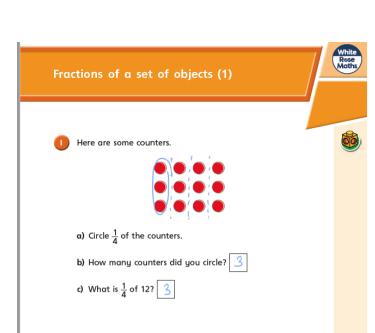


Do you agree with Teddy? \_\_\_\_\_









Draw counters in the bar models to help you complete each number sentence. The first one has been done for you.



Do you agree with Dexter? \_\_\_\_

Talk about it with a partner.



F. C.	D: : : .	F 1	D
Fraction	Division	Example	Drawing
one half	divide by 2	$\frac{1}{2}$ of 6 = 3	***
one quarter	divideby 4	$\frac{1}{4}$ of 8 = 2	0,0,0,0
one third	divide by 3	3 of 15 = 5	
One fifth	divide by 5	5 04 15 =3	

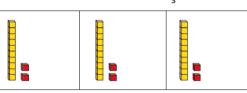
Huan uses a bar model and base 10 to find  $\frac{1}{3}$  of 36

a)  $\frac{1}{2}$  of 8 = 4

**b)**  $\frac{1}{2}$  of 16 =  $\frac{8}{3}$ 

c)  $\frac{1}{4}$  of 8 = 2

d)  $\frac{1}{4}$  of 16 =  $\frac{1}{4}$ 



Use Huan's method to complete the calculations.

a) 
$$\frac{1}{3}$$
 of 63 =

c) 
$$\frac{1}{4}$$
 of 92 =

b) 
$$\frac{1}{4}$$
 of 48 =

Nijah uses a bar model and place value counters to find  $\frac{1}{3}$  of 36





















Use Nijah's method to complete the calculations.

a) 
$$\frac{1}{3}$$
 of 96 =

c) 
$$\frac{1}{4}$$
 of 52 =

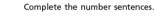
**b)** 
$$\frac{1}{5}$$
 of 60 =

Which amount is greater? Tick your answer.

$$\frac{1}{3}$$
 of £75

 $\frac{1}{5}$  of £75

Show your workings.

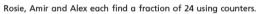




a)  $\frac{1}{2}$  of















Amir

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a) Order the children from least counters to most counters.

least counters

most counters

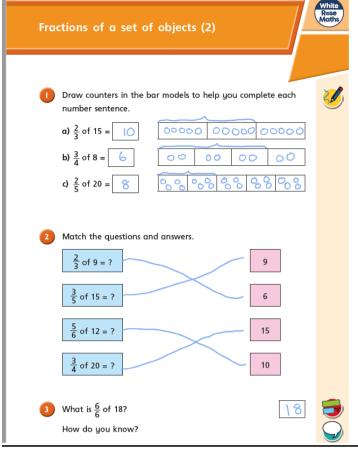
- b) What fraction of the counters does Alex have?
- c) Rosie and Amir put their counters together.

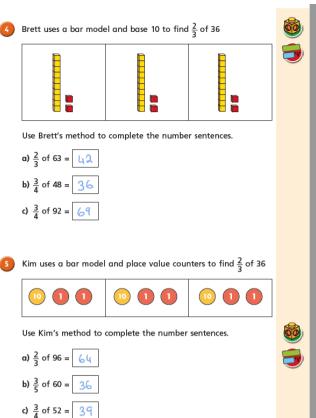
Write their total number of counters as a fraction of 24

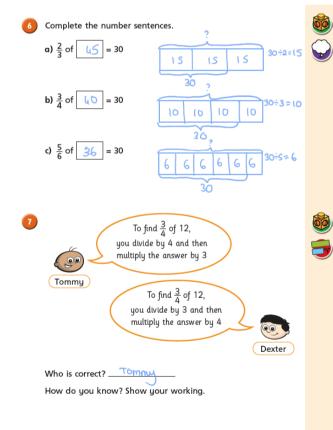


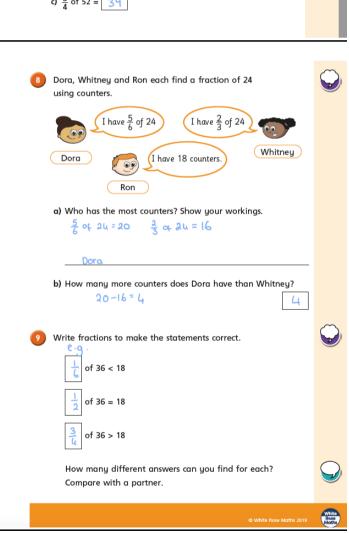










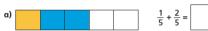


### link.

#### Add 2 or more fractions



Complete the additions.

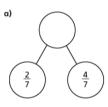


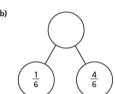


c) 
$$\frac{3}{8} + \frac{3}{8} =$$

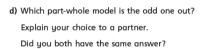


Complete the part-whole models.





c)



Complete the additions.

a) 
$$\frac{3}{7} + \frac{3}{7} =$$

e) 
$$\frac{8}{11} + \frac{6}{11} = \boxed{\phantom{000}}$$

b) 
$$\frac{3}{7} + \frac{4}{7} = \boxed{\phantom{0}}$$

f) 
$$\frac{4}{11} + \frac{4}{11} + \frac{6}{11} =$$

$$\frac{4}{5} + \frac{3}{5} = \boxed{}$$

g) 
$$\frac{3}{11} + \frac{3}{11} + \frac{8}{11} = \boxed{\phantom{0}}$$

d) 
$$\frac{8}{5} + \frac{6}{5} = \boxed{}$$

h) 
$$\frac{3}{7} + \frac{3}{7} + \frac{8}{7} =$$





What could the missing numerators be?

Give four different possibilities.

$$\frac{\boxed{\phantom{a}}}{4} + \frac{\boxed{\phantom{a}}}{4} = \frac{9}{4}$$

$$\frac{\boxed{\phantom{0}}}{4} + \frac{\boxed{\phantom{0}}}{4} = \frac{9}{4}$$

$$\frac{\Box}{A} + \frac{\Box}{A} = \frac{9}{4}$$

$$\frac{\Box}{4} + \frac{\Box}{4} = \frac{9}{4}$$

Tommy is adding fractions.



Explain why Tommy is incorrect.



a) 
$$\frac{3}{8} + \frac{8}{8} = \frac{7}{8}$$

e) 
$$\frac{4}{9} + \frac{9}{9} = \frac{13}{9} = 1$$

b) 
$$\frac{3}{9} + \frac{1}{9} = 1$$

f) 
$$\frac{4}{9} + \frac{1}{9} = \frac{17}{9} = 1\frac{7}{9}$$

c) 
$$\frac{3}{16} + \frac{}{} = 1$$

g) 
$$\frac{5}{7} + \frac{2}{7} + \frac{5}{7} = 2$$

d) 
$$\frac{4}{9} + \frac{9}{9} = \frac{11}{9} = 1 \frac{9}{9}$$
 h)  $\frac{5}{7} + \frac{7}{7} + \frac{5}{7} = 3$ 

h) 
$$\frac{5}{7} + \frac{5}{7} = 3$$

Rosie, Whitney and Teddy have each been for a walk.

Altogether the four children walked 3 km.

Rosie walked  $\frac{5}{8}$  km.

Whitney walked  $\frac{7}{8}$  km.

Teddy walked  $\frac{3}{8}$  km.

- a) How far did they walk altogether?
- b) Jack also went for a walk.



How far did Jack walk?







Complete the subtractions.







d)					

$$\frac{7}{9} - \frac{4}{9} =$$

- Complete the calculations.
  - a)  $\frac{7}{10} \frac{3}{10} =$
- e)  $\frac{9}{11} \frac{3}{11} =$

- g)  $\frac{8}{93} \frac{2}{93} =$
- h)  $\frac{10}{991} \frac{3}{991} =$
- Complete the subtractions

a)  $\frac{9}{5} - \frac{6}{5} =$ 

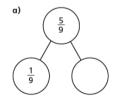
4 Jack has  $2\frac{1}{4}$  kg of potatoes.

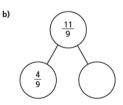
He uses  $\frac{5}{4}$  kg of potatoes. How many kilograms does he have left?



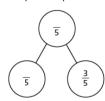
Jack has kg left.

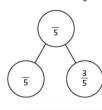
Complete the part-whole models.





Complete the part-whole model in two different ways.





Fill in the missing numerators.





b)  $\frac{10}{11} - \frac{7}{11} = \frac{7}{11} - \frac{4}{11}$  e)  $\frac{9}{4} - \frac{1}{4} = \frac{1}{4} + 1$ 

e) 
$$\frac{9}{4} - \frac{1}{4} = \frac{4}{4} + \frac{1}{4}$$

c)  $\frac{10}{11} - \frac{4}{11} = \frac{1}{11} - \frac{7}{11}$  f)  $\frac{11}{4} - \frac{3}{4} = \frac{11}{3} - \frac{1}{4}$ 

f) 
$$\frac{11}{4} - \frac{3}{4} = \frac{11}{3} - \frac{3}{3}$$

Alex and Annie are taking turns playing a computer game. Annie plays for a total of  $2\frac{1}{4}$  hours.

Annie plays for  $\frac{3}{4}$  of an hour more than Alex.

How much time do they spend in total playing on the game?





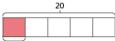
Complete the number sentences.

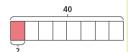
a) $\frac{1}{4}$ of 20	=

d)  $\frac{1}{4}$  of 40 =

	.0	

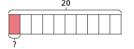
e)  $\frac{1}{8}$  of 40 =

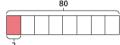




c)	10	of	20	=	

f)  $\frac{1}{8}$  of 80 =



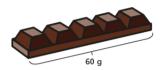


g) 
$$\frac{1}{3}$$
 of 36 = h)  $\frac{1}{6}$  of 36 =



Filip has a chocolate bar with 5 equal pieces.

The chocolate bar weighs 60 g.



a) What is the mass of one piece?

The mass of one piece is

b) Filip eats  $\frac{3}{5}$  of the bar of chocolate. How many grams does Filip eat?

Filip eats	g of chocolate

Complete the number sentences.

a) 
$$\frac{1}{4}$$
 of 24 =   
  $\frac{3}{4}$  of 24 =  $\frac{5}{8}$  of 32 =

c) 
$$\frac{1}{9}$$
 of 32 =

$$\frac{3}{2}$$
 of 24 =

$$\frac{5}{9}$$
 of 32 =

**b)** 
$$\frac{1}{7}$$
 of 35 =

d) 
$$\frac{5}{8}$$
 of 64 =

$$\frac{3}{7}$$
 of 35 =

$$\frac{7}{8}$$
 of 64 =

$$\frac{5}{7}$$
 of 35 =

$$\frac{10}{8}$$
 of 64 =

Match the calculations to the answers.

$$\frac{2}{3}$$
 of 18

$$\frac{5}{6}$$
 of 18

15

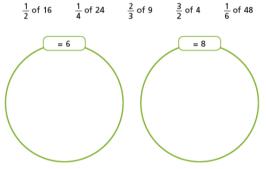
16

$$\frac{4}{5}$$
 of 20

a) Write each calculation in the correct circle.

$$\frac{2}{3}$$
 of 9

 $\frac{1}{6}$  of 48



b) Write one more calculation in each circle.

Write < , > or = to compare the calculations.

a) 
$$\frac{2}{7}$$
 of 21  $\frac{2}{3}$  of 21

b) 
$$\frac{3}{5}$$
 of 40  $\frac{2}{3}$  of 36

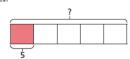
c) 
$$\frac{6}{8}$$
 of 40  $\frac{3}{4}$  of 40

d) 
$$\frac{6}{10}$$
 of 50  $\frac{3}{10}$  of 100

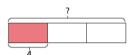


Match the calculations to the bar models. Work out the missing quantities.

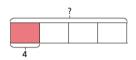
$\frac{1}{4}$ of	=	5



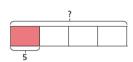
$$\frac{1}{4}$$
 of  $\boxed{\phantom{a}}$  = 4



$$\frac{1}{5}$$
 of  $= 5$ 



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



- Complete the sentences.
  - a) When one fifth is 1, the whole is

When one fifth is 10, the whole is

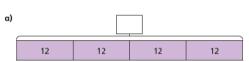
When one fifth is 20, the whole is

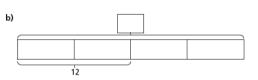


When  $\frac{1}{7}$  is 4, the whole is

When  $\frac{1}{7}$  is 8, the whole is





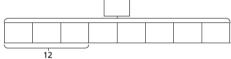


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c)



d)



Complete the calculations.

a) 
$$\frac{1}{2}$$
 of  $= 30$ 

e) 
$$\frac{3}{7}$$
 of = 15

b) 
$$\frac{1}{2}$$
 of = 1

f) 
$$\frac{5}{7}$$
 of = 15

c) 
$$\frac{1}{4}$$
 of  $= 1$ 

g) 
$$\frac{5}{7}$$
 of  $= 35$ 

d) 
$$\frac{3}{4}$$
 of = 15

h) 
$$\frac{7}{5}$$
 of = 35

Dora and Mo have a full bottle of juice.

Dora drinks  $\frac{2}{5}$  of the juice.

Mo drinks  $\frac{1}{5}$  of the juice.

There is 150 ml of juice left in the bottle.

How much juice was in the full bottle?



Rosie and Ron are collecting red and blue counters.

They have the same number of blue counters.

They have a different number of red counters.



Rosie

Ron has





a) How many counters does Ron have altogether?

b) How many red counters do they each have?

red counters.

Rosie has red counters.



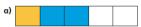


## Answers for Year 4 Maths

#### Add 2 or more fractions



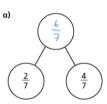
Complete the additions.

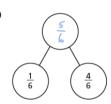






- Complete the part-whole models.





- c)
- d) Which part-whole model is the odd one out? Explain your choice to a partner. Did you both have the same answer?
- Complete the additions.

a) 
$$\frac{3}{7} + \frac{3}{7} = \frac{6}{3}$$

e) 
$$\frac{8}{11} + \frac{6}{11} = \boxed{\frac{J_4}{11}}$$

b) 
$$\frac{3}{7} + \frac{4}{7} = \boxed{\frac{7}{2}} = \boxed{|}$$

b) 
$$\frac{3}{7} + \frac{4}{7} = \boxed{\frac{?}{?}} = \boxed{\boxed{}}$$
 f)  $\frac{4}{11} + \frac{4}{11} + \frac{6}{11} = \boxed{\frac{|14|}{|1|}} = \boxed{\boxed{}}$ 

c) 
$$\frac{4}{5} + \frac{3}{5} = \boxed{\frac{7}{5}}$$

c) 
$$\frac{4}{5} + \frac{3}{5} = \boxed{\frac{7}{5}} = \boxed{\boxed{\frac{2}{5}}}$$
 g)  $\frac{3}{11} + \frac{3}{11} + \frac{8}{11} = \boxed{\frac{14}{11}} = \boxed{\boxed{\boxed{\frac{3}{11}}}}$ 

d) 
$$\frac{8}{5} + \frac{6}{5} = \boxed{\frac{14}{5}} = \boxed{2\frac{4}{5}}$$
 h)  $\frac{3}{7} + \frac{3}{7} + \frac{8}{7} = \boxed{\frac{14}{7}}$ 

h) 
$$\frac{3}{7} + \frac{3}{7} + \frac{8}{7} = \boxed{\frac{14}{7}} = \boxed{2}$$

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What could the missing numerators be? Give four different possibilities.

e.g. 
$$\frac{1}{4} + \frac{6}{4} = \frac{9}{4}$$
  $\frac{3}{4} + \frac{6}{4} = \frac{9}{4}$ 

$$\frac{2}{4} + \frac{7}{4} = \frac{9}{4}$$

$$\frac{2}{4} + \frac{7}{4} = \frac{9}{4}$$
  $\frac{1}{4} + \frac{5}{4} = \frac{9}{4}$ 

Tommy is adding fractions.



Explain why Tommy is incorrect.





Early whole is still solut into quarters so  $\frac{3}{4} + \frac{3}{6} = \frac{6}{4}$ 

Complete the number sentences.

a) 
$$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$$

a) 
$$\frac{3}{8} + \frac{4}{8} = \frac{7}{8}$$
 e)  $\frac{4}{9} + \frac{9}{9} = \frac{13}{9} = 1 \frac{4}{9}$ 

b) 
$$\frac{3}{8} + \frac{5}{8} = 1$$

f) 
$$\frac{4}{9} + \frac{\boxed{12}}{9} = \frac{\boxed{16}}{9} = 1\frac{7}{9}$$

c) 
$$\frac{3}{16} + \frac{13}{16} =$$

c) 
$$\frac{3}{16} + \frac{\boxed{13}}{\boxed{16}} = 1$$
  $g) \frac{5}{7} + \frac{\boxed{1}}{7} + \frac{5}{7} = 2$ 

d) 
$$\frac{4}{9} + \frac{7}{9} = \frac{11}{9} = 1 \frac{2}{9}$$
 h)  $\frac{5}{7} + \frac{1}{7} + \frac{5}{7} = 3$ 

h) 
$$\frac{5}{7} + \frac{5}{7} = 3$$

Rosie, Whitney and Teddy have each been for a walk.

Rosie walked  $\frac{5}{8}$  km.

Whitney walked  $\frac{7}{8}$  km.

Teddy walked  $\frac{3}{9}$  km.

a) How far did they walk altogether?

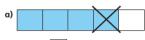








Complete the subtractions.



 $\frac{4}{5} - \frac{1}{5} = \boxed{\frac{3}{5}}$ 



 $\frac{4}{5} - \frac{2}{5} = \boxed{\frac{1}{5}}$ 



 $\frac{5}{7} - \frac{3}{7} = \boxed{\frac{2}{7}}$ 



 $\frac{7}{9} - \frac{4}{9} = \boxed{\frac{3}{9}}$ 

- Complete the calculations.
  - a)  $\frac{7}{10} \frac{3}{10} = \boxed{\frac{1}{10}}$
- e)  $\frac{9}{11} \frac{3}{11} = \boxed{\frac{6}{1}}$
- b)  $\frac{2}{3} \frac{1}{3} = \boxed{\frac{1}{3}}$
- f)  $\frac{6}{7} \frac{4}{7} = \boxed{\frac{2}{7}}$
- c)  $\frac{6}{6} \frac{6}{6} = \boxed{\bigcirc}$
- g)  $\frac{8}{93} \frac{2}{93} = \frac{6}{93}$
- d)  $\frac{3}{4} \frac{1}{4} = \boxed{\frac{2}{4}}$
- h)  $\frac{10}{991} \frac{3}{991} = \boxed{\frac{7}{991}}$
- Complete the subtractions
  - a)  $\frac{9}{5} \frac{6}{5} = \frac{3}{5}$
- e)  $\frac{8}{3} \frac{4}{3} = \boxed{\frac{4}{3}} = \boxed{\frac{1}{3}}$
- b)  $\frac{9}{5} \frac{5}{5} = \boxed{\frac{4}{5}}$

- c)  $\frac{9}{5} \frac{4}{5} = \boxed{\frac{5}{5}} = \boxed{ }$   $g) \frac{14}{3} \frac{4}{3} = \boxed{\frac{10}{3}} = \boxed{\frac{3}{3}}$
- d)  $\frac{9}{2} \frac{4}{2} = \boxed{\frac{5}{2}} = \boxed{\frac{1}{2}}$  h)  $\frac{15}{3} \frac{5}{3} = \boxed{\frac{10}{3}} = \boxed{\frac{10}{3}}$

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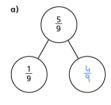
4 Jack has  $2\frac{1}{4}$  kg of potatoes.

He uses  $\frac{5}{4}$  kg of potatoes. How many kilograms does he have left?

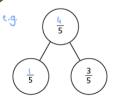


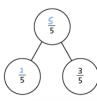
kg left. Jack has

Complete the part-whole models.



Complete the part-whole model in two different ways.





Fill in the missing numerators.

a) 
$$\frac{10}{11} - \frac{3}{11} = \frac{7}{11}$$
 d)  $\frac{15}{4} - \frac{7}{4} = 2$ 

d) 
$$\frac{15}{4} - \frac{7}{4} = 2$$

b) 
$$\frac{10}{11} - \frac{7}{11} = \frac{7}{11} - \frac{4}{11}$$

e) 
$$\frac{9}{4} - \frac{1}{4} = \frac{\frac{1}{4}}{4} + 1$$

c) 
$$\frac{10}{11} - \frac{4}{11} = \frac{\boxed{13}}{11} - \frac{7}{11}$$
 f)  $\frac{11}{4} - \frac{3}{4} = \frac{11}{3} - \frac{\boxed{5}}{3}$ 

f) 
$$\frac{11}{4} - \frac{3}{4} = \frac{11}{3} - \frac{5}{3}$$

Alex and Annie are taking turns playing a computer game. Annie plays for a total of  $2\frac{1}{4}$  hours.

Annie plays for  $\frac{3}{4}$  of an hour more than Alex.

How much time do they spend in total playing on the game?

3<sup>3</sup>/<sub>4</sub> hours



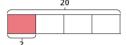
g)  $\frac{1}{3}$  of 36 = |2

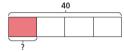
- h)  $\frac{1}{6}$  of 36 =  $\frac{6}{6}$

Complete the number sentences.



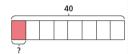
d) 
$$\frac{1}{4}$$
 of 40 =





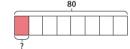
- b)  $\frac{1}{5}$  of 20 =
- e)  $\frac{1}{8}$  of 40 = 5



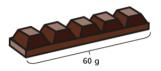


- c)  $\frac{1}{10}$  of 20 =  $\frac{1}{8}$  of 80 =  $\frac{1}{8}$





Filip has a chocolate bar with 5 equal pieces. The chocolate bar weighs 60 g.



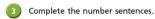
a) What is the mass of one piece?

The mass of one piece is 2

b) Filip eats  $\frac{3}{5}$  of the bar of chocolate. How many grams does Filip eat?

Filip eats 36 g of chocolate.

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a) 
$$\frac{1}{4}$$
 of 24 = 6

c) 
$$\frac{1}{8}$$
 of 32 = 4

$$\frac{3}{4}$$
 of 24 =  $\frac{5}{8}$  of 32 =  $\frac{5}{8}$ 

$$\frac{5}{9}$$
 of 32 = 20

**b)** 
$$\frac{1}{7}$$
 of 35 =  $\boxed{5}$ 

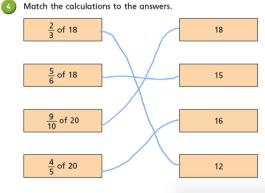
d) 
$$\frac{5}{8}$$
 of 64 = 40

$$\frac{3}{7}$$
 of 35 = | |5|

$$\frac{7}{8}$$
 of 64 =  $\frac{56}{}$ 

$$\frac{5}{7}$$
 of 35 = 25

$$\frac{5}{7}$$
 of 35 =  $25$   $\frac{10}{8}$  of 64 =  $80$ 



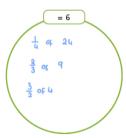
a) Write each calculation in the correct circle.

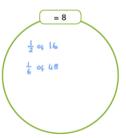
$$\frac{1}{2}$$
 of 16  $\frac{1}{4}$  of 2

$$\frac{2}{3}$$
 o

$$\frac{3}{2}$$
 of 4

$$\frac{1}{6}$$
 of 48





- b) Write one more calculation in each circle.
- Write < , > or = to compare the calculations.

a) 
$$\frac{2}{7}$$
 of 21  $\frac{2}{3}$  of 21

b) 
$$\frac{3}{5}$$
 of 40  $\frac{2}{3}$  of 36

c) 
$$\frac{6}{8}$$
 of 40  $=$   $\frac{3}{4}$  of 40

d) 
$$\frac{6}{10}$$
 of 50  $\frac{3}{10}$  of 100

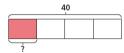


Complete the number sentences.

a) 
$$\frac{1}{4}$$
 of 20 =  $5$ 

d) 
$$\frac{1}{4}$$
 of 40 =

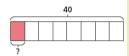






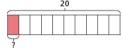
e) 
$$\frac{1}{8}$$
 of 40 =  $5$ 

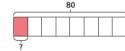








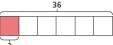




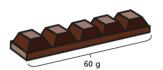
g) 
$$\frac{1}{3}$$
 of 36 = |2

h)  $\frac{1}{6}$  of 36 =  $\frac{6}{6}$ 





Filip has a chocolate bar with 5 equal pieces. The chocolate bar weighs 60 g.



a) What is the mass of one piece?

The mass of one piece is 2

b) Filip eats  $\frac{3}{5}$  of the bar of chocolate. How many grams does Filip eat?

Filip eats 36 g of chocolate.

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a) 
$$\frac{1}{4}$$
 of 24 = 6

c) 
$$\frac{1}{8}$$
 of 32 = 4

$$\frac{3}{4}$$
 of 24 =  $\boxed{ | 8 }$   $\frac{5}{8}$  of 32 =  $\boxed{ 20 }$ 

**b)** 
$$\frac{1}{7}$$
 of 35 =  $\boxed{5}$ 

d) 
$$\frac{5}{8}$$
 of 64 = 40

$$\frac{3}{7}$$
 of 35 =  $\boxed{56}$ 

$$\frac{5}{7}$$
 of 35 = 25

$$\frac{10}{8}$$
 of 64 = 80



$$\frac{1}{2}$$
 of 16

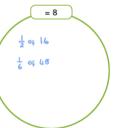
$$\frac{1}{4}$$
 of 24

$$\frac{2}{2}$$
 of 9

$$\frac{2}{3}$$
 of 9  $\frac{3}{2}$  of 4

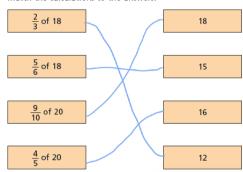
$$\frac{1}{6}$$
 of 48





b) Write one more calculation in each circle.

#### Match the calculations to the answers.



#### Write <, > or = to compare the calculations.

a) 
$$\frac{2}{7}$$
 of 21  $\frac{2}{3}$  of 21

b) 
$$\frac{3}{5}$$
 of 40  $\frac{2}{3}$  of 36

c) 
$$\frac{6}{8}$$
 of 40  $\frac{3}{4}$  of 40

d) 
$$\frac{6}{10}$$
 of 50  $\frac{3}{10}$  of 100



# Lundi, Paris!

**Activity Sheet** 

ئىڭ	<b>Educat</b>	ionCity
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Name:	Class:

Voici les souvenirs de Paris que Klara a acheté. Elle a achetés un souvenir chaque jour. Ecris le jour en français en dessous des souvenirs.

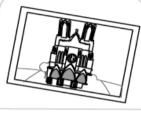
















- 1 On Saturday, she bought a toy boat near the River Seine.
- 2 She bought a postcard of the Notre Dame on Tuesday.
- **3** Klara bought a book about the Louvre on Wednesday.
- 4 She bought a model of the Eiffel Tower on Monday.
- **5** Klara bought a Mickey Mouse hat on Th<sup>ursday</sup>.
- **6** On Sunday, she bought a bottle of perfume.
- She bought a football scarf on Friday.



Remplis cette grille.

Calendrie		Hier	Aujourd'hui	→ Demain 🖟
de	<u>a</u>	lundi	mardi	mercredi
Joya g	(b)		vendredi	
	<b>©</b>			dimanche
9	<b>@</b>	samedi		
	<b>@</b>			jeudi

RE: What can we learn from religions about deciding what is right and wrong?

#### >The Golden Rule

Why do we have rules? Rules are essential to keep us safe, healthy and happy. They feature in many aspects of our lives such as school and society, as well as in religious and non-religious groups.

There are many different groups of people in the world and lots of them have at least one rule that is very important and more important than the others. This is called the Golden Rule. Although each group uses slightly different words to say the Golden Rule, the meaning of the words are very similar.

These are the Golden Rule of some groups:

Christianity	<u>Humanism</u>	<u>Judaism</u>
Love your neighbour as	Treat other people as	What is hateful to you,
yourself.	you'd want to be	do not do to your
	treated in their situation; don't do things you wouldn't want to have done to you.	neighbour.

What do you think what the message of the rule actually is?

Look at the following website to help you. It features artwork that is based in the Golden Rule.

https://www.natre.org.uk/about-natre/projects/spirited-arts/spirited-arts-gallery/archive/2014/?ThemeID=60

TASK: Using the images from the website to help you, produce your own piece of art showing one of the Golden Rules from above.