Year 5 - Home Learning Project - Week 11 - 15/06/2020: Perilous Peaks

Daily activities:

English worksheet and tasks	Maths	Reading Plus	TTRS and Numbots	PE session	A Topic activity from the choices below.
Read 'My Cousin is a Time Traveller' by David Solomons and complete the tasks below.	Complete the White Rose Maths tasks at the end of this document - 1 per day. **Ensure you watch the video before you complete the task.**	Log into Reading Plus and complete your weekly reading comprehension tasks and vocabulary tasks. *Site code: rpendea2*	Working on Times Table Rockstars - Can you complete all the set games and challenge somebody in our school? Are you winning in the current Battle of the Bands?	Join Joe Wickes live every morning @ 9:00am or access it any time throughout the day.	Try to complete all of the tasks and send your work to your teacher.

This week's themed learning is based around our <u>new topic</u> of **Perilous Peaks.**

| Geography: Locate mountain ranges around the world	Geography: How are mountains formed?	Music: In the Hall of the Mountain King
We've all seen the famous images of Mount Everest - the tallest Mountain in the world but what other mountains or mountain ranges (a group of mountains close together) do you know? Where are they located around our globe? Take a look at this BBC video for more information. Look at the world map below – can you use google maps to locate the mountain ranges and label these correctly?	Begin by taking a look on this BBC Bitesize page and watching the video to gain an understanding of what mountains are. Complete the quiz to check your understanding! Mountains can be formed in several different ways. As a result of this, different types of Mountains are formed. These include: **Fold Mountains, Fault-Block Mountains, Dome Mountains, Volcanic Mountains** and **Plateau Mountains**. Investigate how these mountains are formed by completing the activities below and then completing the table. You can find extra information and video to support your investigation in the links below.	We're going to begin a music project focusing on a fantastic piece of music by a Norwegian composer called Edvard Grieg. You're going to begin by watching the introductory film with Dan Starkey from the BBC ten pieces website. 'In the Hall of the Mountain King' is about a man called Peer Gynt creeping around in the home of an evil troll called the Mountain King. Do you think Peer made it out safely? Play the video and watch and listen again, this time to the full orchestral performance film rather than the introduction. While you listen draw one of the following things a) The Hall of the Mountain King – i.e. his grand palace b) The Mountain King himself – i.e. a scary, ugly monster c) Peer Gynt running away down a twisty path d) The full story, featuring all of the above!

Science: Label the parts of a flower

We often take flowers and their role in nature for granted. What is inside a flower? What are the different parts and their functions?

Watch these BBC videos

Video 1 – Parts of a plant and **Video 3** – The anatomy of a flower.

Take a walk outside and collect any flowers you see growing wild or flowers you may have in your garden. Can you dissect (take apart) the flower carefully and see the different parts? Are all flowers the same inside? What do your flowers have in common? What are the differences?

We'd love to see photographs of any flowers you dissect. You could even try drawing some sketches of the different parts.

When you have finished looking at the different parts use this diagram to label the blank flower sheet found below. Then describe the function of each part in your own words. You can find more information about the different parts of a flower here.
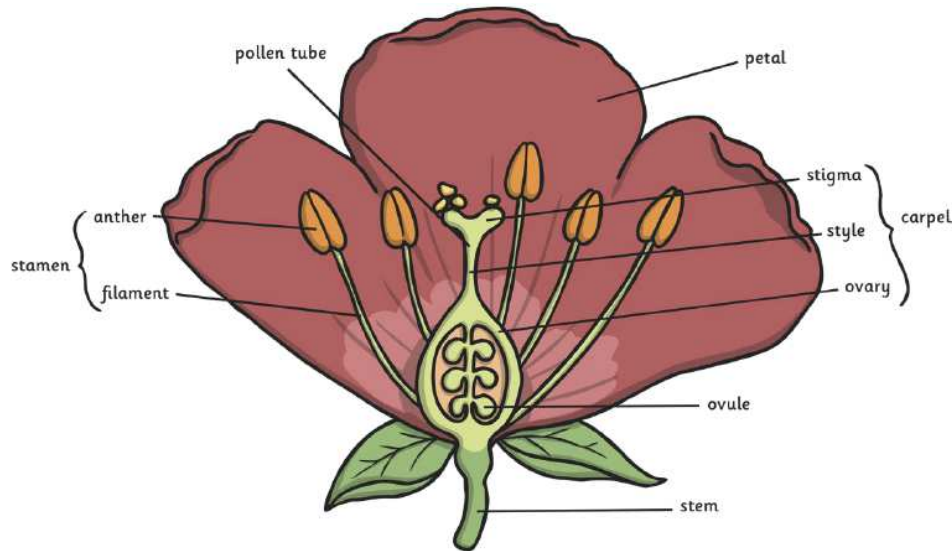
Science: The pollination process (insects)

Insects don't pollinate on purpose; it's just something that happens as they collect nectar from flowers to feed on. Insects are incredibly important when it comes to pollination. For example did you know that nearly all chocolate relies on midges pollinating the cocoa plant? Thank goodness for that!

But how does pollination take place? This BBC video will explain how pollination by insects occurs and will also look at other types of plant and flower pollination.

Read the detailed information about pollination below and then:

1) Put the mixed up stages of pollination in eth correct order.
2) Use the word bank to complete a description of insect pollination.

English: Grammar

A **hyphen** joins two or more words together while a **dash** separates words into parenthetical statements.

The two are sometimes confused because they look so similar, but their usage is different. **Hyphens** are not separated by spaces, while a **dash** has a space on either side.

Watch the video here for how to use hyphens and dashes then complete the worksheet below.

English: Writing

This 'Ridiculous Writers' competition lets kids be kids. It will encourage you to be creative, imaginative and original whilst having fun and enjoying writing! Adding the challenge of planning and writing a mini saga, a story told in just 100 words, means that you are using your technical skills box too. Use the worksheets below to create your mini saga then send to your teacher or submit your entry yourself.

Watch the video here which introduces you to the activity.

PRIZES:

1ST PRIZE: £500 Hope Education Voucher & The Young Writers' Award of Excellence

2ND PRIZE: £250 Hope Education Voucher

3RD PRIZE: £100 Hope Education Voucher

School prizes are awarded from entries received in the 2019/2020 academic year.

Young Writers Presents
RIDICULOUS WRITERS
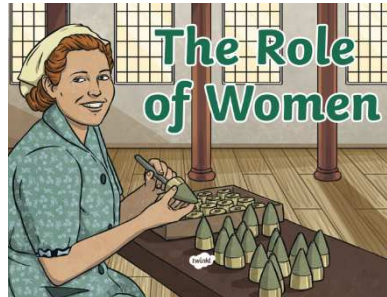MINI SAGA WRITING COMPETITION FOR 7-11 YEAR OLDS
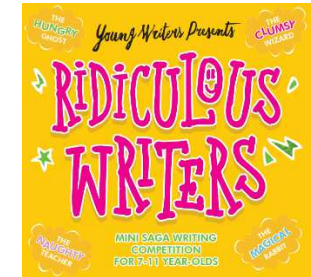
Sticky Knowledge (remembering our previous learning):

History: WW2

Read the information on the role of women pre and post WW2 then complete the table below.

Click here for more information.

The Role of Women

Geography: Structure of the Earth and Earthquakes

Can you remember what's under your feet?

Label the diagram of the Earth's layers and complete the sentences explaining how earthquakes happen.

Take a look at this video to deepen your understanding.

Science: exercise

Why exercise? What are the benefits?

Why do we exercise? What benefits are there from an active lifestyle? Watch this video from The British Heart Foundation and make notes.

Imagine you're a doctor and a patient has come to you asking for advice about why they should exercise. Write them a list of benefits using clear scientific vocabulary.

Website links mentioned above:

https://www.bbc.co.uk/bitesize/clips/z27tfg8 - BBC video showing mountain ranges around the world
https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/z4g3qp3 - BBC Bitesize information on Mountains and how they are formed
http://primaryhomeworkhelp.co.uk/mountains/types.htm - Information on types of mountains
http://primaryhomeworkhelp.co.uk/mountains/types.htm - Types of mountains and formation video
https://www.bbc.co.uk/teach/ten-pieces/KS2-edvard-grieg-in-the-hall-of-the-mountain-king-from-peer-gynt/z7nf3k7 - In the Hall of the Mountain King
https://www.bbc.co.uk/programmes/articles/Mf5rhbTkHLZ3fbJzScyDvC/primary-science-plants - BBC video on parts of a flower
https://www.dkfindout.com/uk/animals-and-nature/plants/parts-flower/ - information on the functions of the different flower parts
https://www.youtube.com/watch?v=j-S5ui9Us7U- the pollination process
https://www.bbc.co.uk/bitesize/topics/zvwwxnb/articles/zg8gbk7 - Grammar: Hyphens and dashes
https://www.youtube.com/watch?time_continue=3&v=0LOaMGnHcO4&feature=emb_logo – English writing competition
https://www.bbc.co.uk/teach/did-ww2-change-life-for-women/zbktwty – History: WW2 – Sticky Knowledge
https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zj89t39 - Structure of the Earth and Earthquakes
https://www.youtube.com/watch?v=wWGulLAa0O0 – Science sticky knowledge why do we exercise?

Geography: Use google maps to locate these mountain ranges around the world, then label the map below.

| Alps | Rocky Mountains | Great Dividing Range | Atlas | Andes | Himalayas | Ural | Pyrenees |

Name: _____

Continent: _____

Name: _____

Continent: _____

Name: _____

Continent: _____

Name: _____

Continent: _____

Name: _____

Continent: _____

Name: _____

Continent: _____

Name: _____

Continent: _____

Name: _____

Continent: _____

Can you add another mountain range to the map?

Geography: Investigate how the different types of mountains are formed by completing the activities then complete the table.

How Mountains are Made
Fold Mountains

You will need:

- Photocopier paper
- Tissue paper
- Thicker, more scratchy material
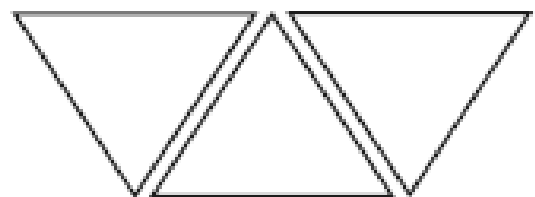
What to do:

For each material on your table:

- Push from the outside of the materials in until they make a fold.
- How easily do they fold?
- What kinds of fold do they make?
- What difference if any does the different types of material make?
- Make a note of anything else you find interesting.

How Mountains are Made
Fault-block Mountains

You will need:

- 3 triangular prisms
- 5 or 6 hardback books

What to do:

- Arrange your three triangular prisms as shown in the diagram above.
- Slowly, slide the left prism away from the others.
- What happens to the prism in the middle?
- What would happen if you tried to push the prisms back together again?
- Stand your books on the table so that they are all lined up with the spines at the top. Slowly allow the books to tilt from upright to an angle of 45°.
- What happens to the books in the middle?
- What would happen if you tried to push the books back together again?
- Make a note of anything else you find interesting.

How Mountains are Made

Dome Mountains

You will need:

- Tissues
- A variety of fabrics
- Balloons
- Balloon pumps

What to do:

- Make a small hole in the tissue.
- Feed your balloon through the hole.
- Begin to blow up your balloon slowly.
  What happens to the tissue? What happens to the balloon?
- Layer the different fabrics over the balloon and tissue.
- Make a note of anything else you find interesting.

How Mountains are Made

Volcanic Mountains

You will need:

- Tinfoil
- Red butter cream in piping bags

What to do:

- **Wash your hands!**
- Put the tinfoil flat across the icing bag, then slowly move the bag upwards. Make a small hole in the foil and release the icing.
- Note what happens.
- Does the butter cream stay in one place?
- What will happen if the butter cream dries?
- What will happen if the butter cream is then pushed out again?
- What happens to the tinfoil?
- What happens to the butter cream?
- Make a note of anything else you find interesting.

Butter Cream Ingredients:

- 70g soft spreadable butter
- 140g icing sugar
- 1 tbsp milk
- Few drops red food colouring

Butter Cream Method:

- Beat the butter in a large bowl until soft. Add half of the icing sugar and beat until smooth.
- Add the remaining icing sugar and one tablespoon of the milk and beat the mixture until creamy and smooth. Beat in the milk, if necessary, to loosen the mixture.
- Stir in the food colouring until well combined.

How Mountains are Made

Plateau Mountains

You will need:

- Wooden blocks (3D cubes/cuboids would do)
- Tray of sand
- Larger tray
- Jug of water

What to do:

- Put the tray of sand inside the larger tray.
- Put your blocks so your tray of sand is slightly higher at one end than at the other. Slowly pour the water into the higher end of the sand tray.
- What happens to the sand?
- What happens to the water?
- If you carried on pouring the water what would happen?
- Make a note of anything else you find interesting.

Mountain Type	What I Noticed Happening	Sketch of the Results	Other Interesting things
Fold Mountain			
Fault-block Mountain			
Dome Mountain			
Volcanic Mountain			
Plateau Mountain			

Science: Label the parts of a flower and describe their function
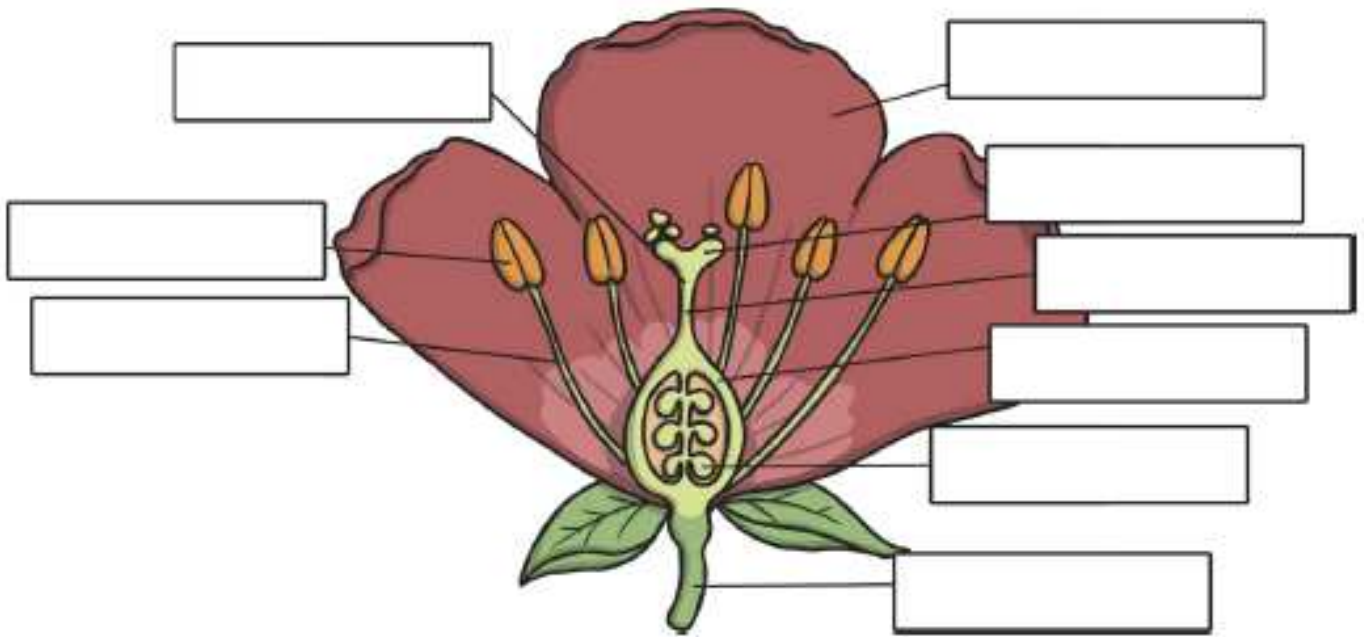
anther	filament	stem
_____	_____	_____
_____	_____	_____
_____	_____	_____

ovule	ovary	style
_____	_____	_____
_____	_____	_____
_____	_____	_____

stigma	petal	pollen tube
_____	_____	_____
_____	_____	_____
_____	_____	_____

The Pollination Process

1. The flower petal's bright colours and fragrant scents attract insects.

2. The insect arrives on the flower to collect nectar. This nectar is a sweet liquid which makes perfect insect food.

3. As the insect is gathering the nectar, it rubs against the anthers, which rub pollen onto the insect.

4. After the insect is done feeding on the flower's nectar, it gets hungry and gets attracted by another flower's bright colours.
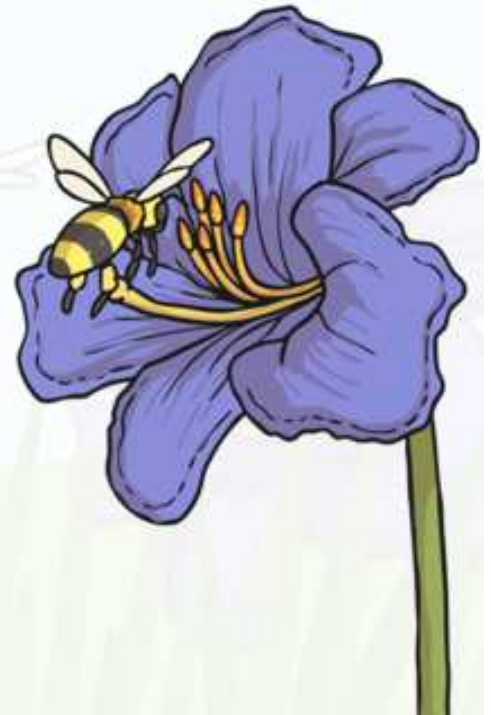
5. As the insect feeds on the nectar in this new flower, the pollen stuck to the insect from the first flower rubs off onto the female parts of the second flower (the stigma).

6. Part of this pollen travels down the style and then into the ovary.

7. The tiny piece of pollen joins onto an ovule in the ovary. The plant has now been fertilised.

8. The ovary of the flower turns into seeds which will then be dispersed so that new plants will be able to grow somewhere else.

Science Pollination: The different stages of insect pollination are all mixed up. Can you cut them out and put them in the right order?

The tiny piece of pollen joins onto an ovule in the ovary.
The plant has now been fertilised.

When the insect gets hungry again, it gets attracted to another
flower's bright colours and fragrant scent.

As the insect is gathering the nectar it rubs against the anthers
which rub pollen onto the insect.

The ovary of the flower turns into seeds which will then be
dispersed so that new plants will be able to grow somewhere else.

Part of this pollen travels down the style and then into the ovary.

The insect arrives on the flower to collect nectar.
This is a sweet liquid which makes perfect insect food.

The flower petal's bright colours and fragrant scents attract an insect.

As the insect is gathering the nectar it rubs against the
anthers which rub pollen onto the insect.

As the insect feeds on the nectar in this new flower, the pollen stuck to the insect from the
first flower rubs off onto the female parts of the second flower (the stigma).

Science pollination: use the word bank below to fill in the blanks to complete the information

Word Bank				
petal	nectar	anthers	ovule	seeds
stigma	pollen	fertilised	ovary	dispersed

1. The flower _____ 's bright colours and fragrant scents attract an insect.

2. The insect arrives on the flower to collect _____.
   This is a sweet liquid which makes perfect insect food.

3. As the insect is gathering the nectar it rubs against the _____
   which rub _____ on the insect.

4. When the insect gets hungry again, it gets attracted to another
   flower's bright colours and fragrant scent.

5. As the insect feeds on the nectar in this new flower, the _____
   stuck to the insect from the first flower rubs off onto the female parts of
   the second flower (the _____).

6. Part of this pollen travels down the style and then into the _____.

7. The tiny piece of pollen joins onto an _____
   in the ovary. The plant has now been fertilised.

8. The ovary of the flower turns into _____ which will then
   be _____ so that new plants will be able to grow somewhere else.

Grammar – Hyphens and Dashes

Put the dashes and hyphens in the correct places and then copy the sentences into your workbook. Write the reason why the dashes have been used after the sentences.

Either for:
1. Repetition
2. Subordinate Clause
3. or Suspense

Use red for dashes and green for hyphens.

For example:
" You-you evil king!" cried the blue-eyed Aztec woman. *(repetition)*

1. Sacrificing her was a mistake a mistake that could have been avoided.

2. As the temple door opened, I peered inside the pitch black room and saw nothing.

3. It was only when I squinted that I could see what lay at the bottom of Lake Texcoco gold, lots of gold.

4. When we get there if we get there I will have something to say about this terrible journey to Tenochtitlan.

5. As I wondered through the city on this damp cold night I found two Aztec farmers cultivating crops on a Chinampa which they co owned together.

6. " Go Go away!" the red faced, murderous priest shouted.

7. Aztec children respected their elders most of the time as this was important in their civilized Aztec society.

Now use the picture below to write some sentences about what is happening using dashes and hyphens.

English: Writing

Writers are you ready?

It's time to get ridiculous! Plan your story here...

What crazy combo did you pick?

1.

Draw it here!

2.

Where will your silly story be set?

3.

How does your story start?

What happens?
Will there be absurd adventures, mixed-up mischief or dizzy dramas?
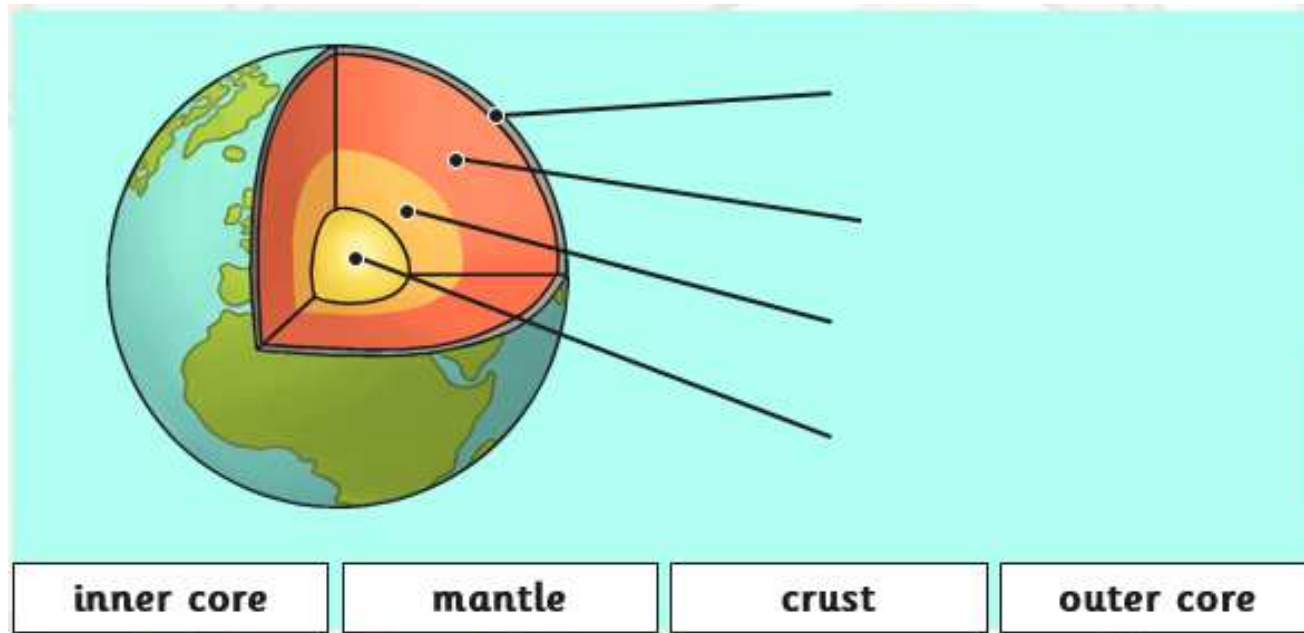
How does it end?

Get as ridiculous and crazy as you like, just remember the Golden Rules

1. **Be original!** You can be inspired by other stories, but add a twist, make it your own!

2. Keep to the **100-word limit** – make every word count!

3. Remember that mini sagas must have a **beginning**, a **middle** and an **end** and still **make sense!**

Write your mini saga here

(Title isn't included in 100-word limit)

Title: ....

Must have? (see about per line)

Number (10 words)

Name: .... Surname: .... Age: ....

Teacher's Name: .... Class: ....

School Name: .... Postcode: ....

Home Address: ....

.... Postcode: ....

Geography: Structure of the Earth and Earthquakes

Label the diagram:

| inner core | mantle | crust | outer core |

Complete the sentences:

The Earth's _____ are always moving. They move so slowly that we usually can't feel it. The edges of plates are called _____. Faults can rub together, _____ towards each other, or _____ away from each other. These kinds of _____ can cause _____.
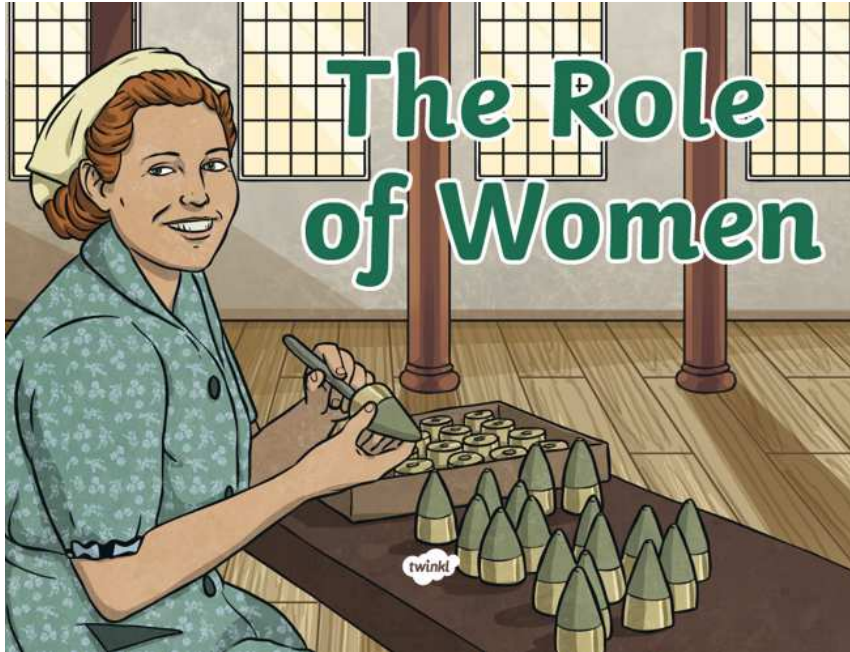
Movements   Faults   Pull   Plates   Push   Earthquakes

The Role of Women

The Role of Women
Pre-World War II

Life for most women before the war was quite different than it is today. Typically, most women stayed at home and did not go out to work.

Some younger women did go out to work but if they married, they had to give up their job. Women were paid less than men and they were generally only employed to do 'women's jobs', such as nursing or working as a shop assistant.

Men and women's roles were very stereotypical and even from a young age, boys and girls were brought up quite differently.

Lessons in school taught girls how to cook, sew and look after the home while boys were taught woodwork and other practical skills to equip them for the workplace.

How do you think men and women felt about their roles?

Changing Roles

With men called up for active service, there was a great need for women to undertake the jobs that the men had previously done. Suddenly, women became more than just homemakers and were given the opportunity to become patriotic heroines. They would contribute significantly to the war effort in a variety of ways.

Land Girls working on a farm

Changing Roles

During the war, women were employed in a wide range of jobs. Some became munition factory workers (making weapons); others joined the armed forces (army, navy and air force); many worked as Land Girls; some drove buses or trains; some worked on the canals; they worked as nurses or ambulance drivers; they built ships and worked in other engineering industries; they worked as searchlight operators and some became air raid wardens.

The Women's Voluntary Service also employed women, who assisted with a wide range of duties.

A WVS volunteer running a mobile canteen

Changing Roles

At the start of the war, the government relied on women to volunteer for work.

However, by late 1941, it became necessary to introduce conscription (making working compulsory).

Initially this only applied to single women between the ages of 20 and 30, but later in the war this was extended to women between the ages of 18 and 50.

In 1943, almost 90% of single women and 80% of married women were in employment.

After the War

When the war finished, many women lost their jobs when the men returned to the positions they had left. Other jobs, which were specific to the war effort, were simply not necessary any longer.

For lots of women, going back to the way they were before the war was quite difficult. They had got used to working and leading more independent lives and they were keen for the liberation of women to continue.

Do you think it was difficult for women who lost their jobs after the war? Why/why not?

What might women miss about their lives during the war?

After the War

In the 1940s and 1950s, Britain's economy was on the up and more employment opportunities were opened up to women.

However, jobs done by women were viewed as secondary to jobs done by men. It was common for women to be sacked if they got pregnant and women were still paid less than men even if they were doing exactly the same job!

Advertisements in the 1950s actually tried to encourage women to go back to being housewives!

How would you feel if this was the case today?

Why do you think it was considered acceptable to pay women less than men?

Why do you think society tried to exclude women from the workplace?
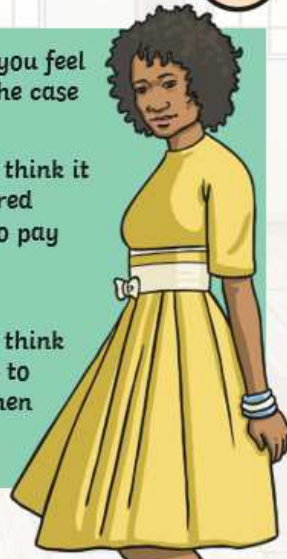
After the War

Times were changing and women no longer accepted their inequality to men. They had proved during and after the war that they were as capable as men and they wanted this to be acknowledged.

In the 1950s and 1960s, women campaigned for equal working rights and pay. However, it was not until 1961 that the very first occupation (teaching) paid its male and female workers the same rate.

How would you feel if this was the case today?

Why do you think it was considered acceptable to pay women less than men?

Complete the Role of Women Pre and Post World War II Activity Sheet.

The Role of Women Pre and Post World War II

Complete the table to describe how and why the role of women differed before, during and after World War II.

	Before World War II	During World War II	After World War II
Number of women in paid employment			
Women's job status compared to men			
Women's pay and working conditions			
Attitudes to women working			

English Home Learning Y5

15/06/2020 –
Introduction.
Each week you will receive a set of English tasks. You should aim to complete one each day. Spending about 30 minutes on reading, 45 minutes on writing and at least 20 minutes on grammar and spelling.
It is fine for you to ask for help from parents, siblings or your teacher through teams.
During the first week you will:

Colour the stars when you think you have achieved this.
If you love reading and writing and want more of a challenge you can keep writing stories based on your own ideas or other books you have read.
Or explore
 www.lovereading4kids.co.uk or www.newsela.com to find more extracts to read and write about.

Week 7

I have answered the questions around the text.

I have written a detailed paragraph.

I have read and answered the grammar questions carefully.

I have practised the spellings and used some in sentences.

<u>Monday 15th June 2020</u>
<u>Year 5 – My Cousin is a Time Traveller – Chapter 1 – Day 1</u>

Reading

On page 1:
1. What is Star Lad's real name?
2. Write down two things Star Lad saved Earth from.

On page 2:
1. Who gave Zack his superpowers?
2. What two things would Zack do when he returned home?
a)smile   b) grunt   c) eat   d) sleep

On page 3:
1. What is Lara Lee's superhero name?
2. The word 'inefficient' is closest in meaning to:
a) great   b) useless   c) skilled

<u>Tuesday 16th June 2020</u>
<u>Year 5 – My Cousin is a Time Traveller – Chapter 1 – Day 2</u>

Writing

Imagine you are given superpowers by Zorborn. Write a paragraph to describe the superpowers you are given and how you are given them.

What are your superpowers? How do you feel about them?

Who gave you your superpowers? How?

Who can you now help using your superpowers?

Grammar

Rearrange the words given to make a question. Use only the words given.
Statement: They are listening to music.
Question:

Write two sentences. The first sentence should use the word 'point' as a verb. The second sentence should use the word 'point' as a noun.

Circle the two words that show the tense in the sentence below.
They went to the theme park – the car journey home was difficult.

Underline the subordinate clause in each sentence below.
Although it was getting late, Dan still hadn't finished his homework.

If you get hungry, help yourself to a snack.

Change the underlined verbs into the simple past tense.
It was a cold day when we play handball.

My friend throw the ball to me and catch it.

Spelling

Practise each word. Choose two and write their definitions. Choose two to write in sentences.

conscious   controversy   definite
convenience   correspond   desperate
criticise   curiosity   determined
develop

DAVID SOLOMONS

MY COUSIN IS A TIME TRAVELLER

AND MY TOASTER IS TAKING OVER THE WORLD...

BY THE WINNER OF THE WATERSTONES CHILDREN'S BOOK PRIZE

nosy crow

1
THAT'S THE WAY THE WOOKIE CRUMBLES

I leaned on my bedroom windowsill and gazed out at the searchlight's vivid beam reaching up from the roof of the Civic Centre, illuminating the underside of the clouds with the letters "SL". They stood for Star Lad. To the wider world he was a superhero, but I knew him as Zack Parker, my big brother. So far, during his short career, he'd saved Earth from, in order: a giant asteroid and a comic-book-store-owning supervillain; alien invaders disguised as my gym teacher; a world-eating Top Trump card; my Evil Twin; and a particularly annoying brain-in-a-jar and her sister. Those were his big, end-of-the-world missions, but in his role as
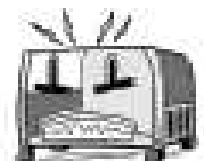
Earth's saviour he also carried out a host of lesser duties in between. He was out there now, no doubt rescuing some small child from a rampaging robot, or catching a falling plane, or rounding up some criminal kingpin and his henchmen.

There was a distant rumble and the horizon burst into light, the explosion sending bright-orange flames into the sky to silhouette the rooftops of our home town of Bromley.

Had to be Zack.

I might learn the details of tonight's adventure when he returned later, but in all likelihood the only thing I'd get from him would be a grunt as he pushed past me to the fridge for a snack. He was always hungry after a mission. That was his style: peckish after, and reluctant before. He'd never wanted the responsibility of being a superhero, not from that first moment when a purple-caped, egg-headed alien called Zorbon the Decider had chosen him to save the world. Zack couldn't see the point of having powers and it was never far from his thoughts. Earlier that evening he'd brought it up for the gazillionth time.

"And another thing," he'd said as we washed up the dinner dishes together. "Superheroes are expensive."

"But you don't get paid," I reminded him. "You're a

free service. Like that antivirus software Dad uses."

"Yes, but there are costs associated with my exploits. Have you read the council's latest annual report?"

"Is this a trick question?"

He scrubbed vigorously at the bottom of a pot. "It's all in there. Itemised. The clean-up bill from just one interdimensional monster attack means they've had to find savings elsewhere in the budget. Did you know we're down to a fortnightly bin collection?"

I did not. And I didn't care.

"That's not all." He was getting into his stride. "I am just one hero, which means I can only deal with one incident at a time."

"But you're not alone. You've got Dark Flutter." That was the superhero identity of our neighbour Lara Lee. She too had been turned into a superhero by Zorbon, but her powers were rather more limited than Zack's. Essentially, she could talk to fluffy animals.

"Fine, so there are two of us. Great." He shrugged. "So let's take firefighting, just as an example. Think how many more fires twenty new firemen could deal with compared with just two superheroes. See, we're expensive and inefficient."

Studying the blaze on the horizon I caught a whiff of burning in the night air and I thought about what

Zack had said. Were superheroes a waste of money? But without Star Lad, Earth would've been flattened by a giant asteroid, invaded by aliens, swallowed whole, or ripped apart by quantum forces. That stuff was more important than a weekly bin collection. And anyway, I liked living in a world with superheroes.

I yawned. My best friend, Serge, says that I sound like an exhausted Wookie when I yawn. It had been a long day; I'd expended a great deal of effort in avoiding a significant amount of maths and English homework. Before I went to bed I made sure to leave the window wide open for Zack to fly through when he did eventually come home. In that regard he was a bit like Peter Pan, but without the green tights and the curious attachment to fairies. Like the rest of the world, I felt safe with him out there. But unlike them, I realised as I rested my head on my Spider-Man pillow, I felt safe with him in here too. And as I drifted off into a superhero dream-filled sleep it struck me, not for the first time, that I liked living in a world with Zack. Not that I'd ever admit it to his face.

"Wake up."

I was flying in my dreams when Zack's voice brought me down to earth like a well-aimed kryptonite-tipped

arrow. I sat up in bed, startled by the urgency of his tone. My eyes slowly adjusted to the fuzzy dark. The streetlight outside my still-open window splashed an orange glow across the bedroom floor where I saw Zack pacing anxiously. He was wearing his Star Lad costume and his cape flicked out as he turned. His mask was pushed off his face and rested against his forehead. I glanced at my Green Lantern alarm clock on the bedside table. Three a.m.

"Must have been some night," I said. "You want to tell me about it?"

He peeled off the cape and folded it neatly into a square, tucking it under one arm. "False alarm. They didn't need me."

"But what about the explosion and the fire?"

"Someone was burning rubbish in their garden and it got out of control." He removed his mask. "The fire brigade dealt with it."

I propped myself up on my elbows. "So what have you been doing all this time?"

"Thinking," he said. I didn't like the way he said it. "I sent a message to Zorbon using my telepathic power. I've asked him to come over tomorrow."

That was weird. Usually Zorbon showed up unannounced with a dire prophecy about the end of the

world, which inevitably led to a mission for Star Lad and the rest of us. To my knowledge this was the first time that Zack had called him. I felt a creeping sense of unease.

"Luke, I've made a decision." Zack paused, and by the light of the streetlamp I could see his face knot up with concern. "I'm getting rid of my superpowers."

White Rose Maths

Add fractions

1 Complete the calculations.

Use the bar models to help you.

a)

$\frac{1}{2} + \frac{7}{10} = \boxed{} = \boxed{}$

b)

$\frac{1}{2} + \frac{3}{10} + \frac{1}{5} = \boxed{} = \boxed{}$

c)
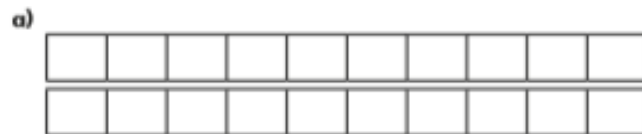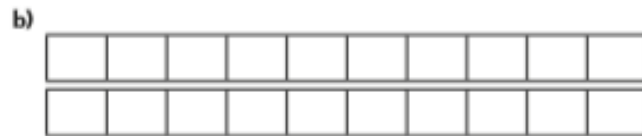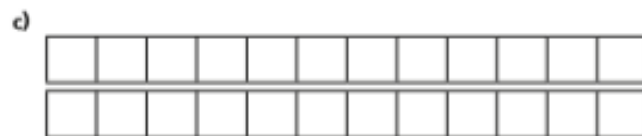
$\frac{2}{3} + \frac{5}{6} + \frac{1}{12} = \boxed{} = \boxed{}$

2 Complete the additions.

a) $\frac{4}{5} + \frac{7}{20} = \boxed{} = \boxed{}$

b) $\frac{5}{4} + \frac{7}{20} = \boxed{} = \boxed{}$

c) $\frac{3}{4} + \frac{5}{12} = \boxed{} = \boxed{}$

d) $\frac{4}{3} + \frac{5}{12} = \boxed{} = \boxed{}$

e) $\frac{3}{5} + \frac{11}{15} = \boxed{} = \boxed{}$

f) $\frac{5}{3} + \frac{11}{15} = \boxed{} = \boxed{}$

3 Match the additions that have the same answer.

$\frac{3}{5} + \frac{9}{20}$

$\frac{16}{20} + \frac{9}{20}$

$\frac{3}{4} + \frac{9}{20}$

$\frac{12}{20} + \frac{9}{20}$

$\frac{4}{5} + \frac{9}{20}$

$\frac{14}{20} + \frac{9}{20}$

$\frac{7}{10} + \frac{9}{20}$

$\frac{15}{20} + \frac{9}{20}$

4 Dexter has some tins of food. There are four types of food: beans, sweetcorn, soup and tomatoes.

- The total weight of all the tins is 2 kg.

- The tins of beans weigh $\frac{2}{3}$ kg.

- The tins of sweetcorn weigh $\frac{5}{12}$ kg.
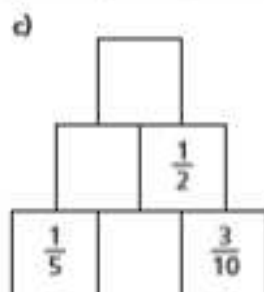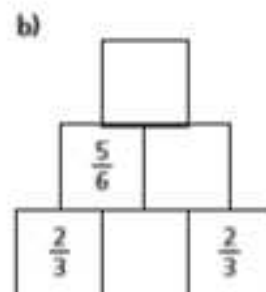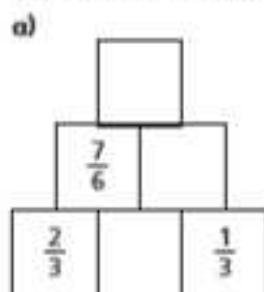
- The tins of soup weigh $\frac{1}{4}$ kg.

a) Work out the total weight of the tins of beans, sweetcorn and soup.

b) How much do the tins of tomatoes weigh?

5 Complete the addition pyramids.

a)

b)

c)

6 What could the three missing numerators be?

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

Give three different possibilities.

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

$$\frac{\square}{4} + \frac{\square}{12} + \frac{\square}{3} = \frac{13}{12}$$

Add mixed numbers

White Rose Maths

1 Teddy and Mo are adding mixed numbers.

Teddy: $3\frac{1}{4} + 2\frac{5}{8} = 5 + \frac{7}{8} = 5\frac{7}{8}$

Mo: $3\frac{1}{4} + 2\frac{5}{8} = \frac{26}{8} + \frac{21}{8} = \frac{47}{8} = 5\frac{7}{8}$

Whose method do you prefer? _____

Talk about it with a partner.

2 Complete the calculations.

a) $1\frac{2}{5} + 2\frac{3}{10} = \boxed{}$

b) $2\frac{2}{5} + 2\frac{3}{10} = \boxed{}$

c) $1\frac{3}{4} + 3\frac{3}{20} = \boxed{}$

e) $4\frac{1}{4} + 2\frac{11}{16} = \boxed{}$

d) $1\frac{3}{16} + 4\frac{3}{4} = \boxed{}$

f) $1\frac{4}{15} + 3\frac{2}{3} = \boxed{}$

3

$2\frac{3}{5} + 1\frac{7}{10} = 3 + \frac{13}{10} = 3\frac{13}{10}$

How can Ron improve his answer?

_____

_____

4 Complete the additions.

a) $2\frac{3}{4} + 3\frac{5}{12} = \boxed{}$

b) $3\frac{2}{3} + 2\frac{7}{12} = \boxed{}$

c) $5\frac{1}{6} + 3\frac{11}{12} = \boxed{}$

d) $6\frac{7}{15} + 3\frac{3}{5} = \boxed{}$

5 A blue ribbon is $2\frac{4}{9}$ metres long.

A yellow ribbon is $3\frac{2}{3}$ metres long.
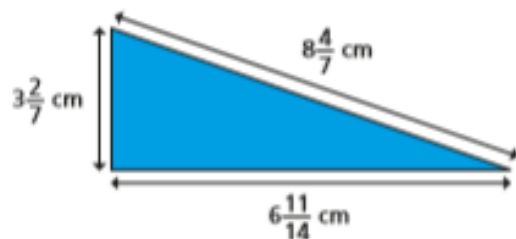
a) What is the total length of the blue and yellow ribbon?

$\boxed{}$ m

b) A red ribbon is $1\frac{5}{18}$ metres longer than the yellow ribbon.

How long is the red ribbon?

$\boxed{}$ m

6 Calculate the perimeter of the triangle.

$8\frac{4}{7}$ cm

$3\frac{2}{7}$ cm

$6\frac{11}{14}$ cm

$\boxed{}$ cm

7 Complete the calculation in three different ways.

$\boxed{}\dfrac{\boxed{}}{5} + \boxed{}\dfrac{\boxed{}}{15} = 6 + \dfrac{11}{15} = \boxed{}$

$\boxed{}\dfrac{\boxed{}}{5} + \boxed{}\dfrac{\boxed{}}{15} = 6 + \dfrac{11}{15} = \boxed{}$

$\boxed{}\dfrac{\boxed{}}{5} + \boxed{}\dfrac{\boxed{}}{15} = 6 + \dfrac{11}{15} = \boxed{}$

Compare answers with a partner.

8 Here are some number cards.

| $3\frac{1}{6}$ | $2\frac{11}{12}$ | $2\frac{5}{6}$ | $3\frac{5}{6}$ | $4\frac{1}{12}$ | $4\frac{1}{3}$ |

a) What is the greatest total you can make with two cards?

$\boxed{}$

b) What is the smallest total you can make with two cards?

$\boxed{}$

White Rose Maths

Subtract mixed numbers

1 Complete the subtractions.

Use the bar models to help you.

a)

$$\frac{15}{8} - \frac{1}{2} = \boxed{}$$
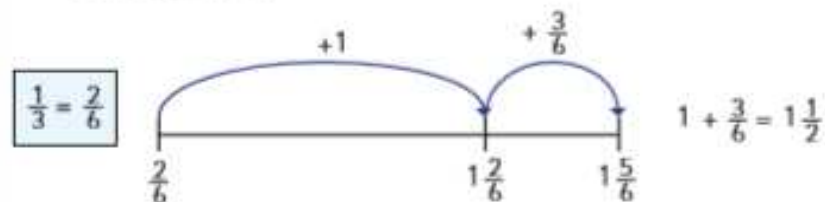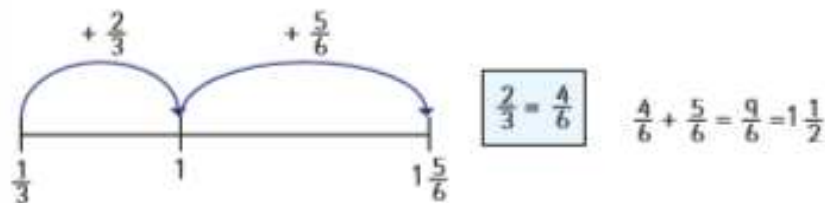
b)

$$1\frac{7}{8} - \frac{3}{4} = \boxed{}$$

c)

$$1\frac{1}{2} - \frac{3}{8} = \boxed{}$$

2 Dexter and Whitney are using number lines to work out $1\frac{5}{6} - \frac{1}{3}$

Dexter's method

$$\boxed{\frac{1}{3} = \frac{2}{6}}$$

$+1$ $+\frac{3}{6}$

$\frac{2}{6}$ $1\frac{2}{6}$ $1\frac{5}{6}$

$$1 + \frac{3}{6} = 1\frac{1}{2}$$

Whitney's method

$+\frac{2}{3}$ $+\frac{5}{6}$

$\frac{1}{3}$ 1 $1\frac{5}{6}$

$$\boxed{\frac{2}{3} = \frac{4}{6}}$$

$$\frac{4}{6} + \frac{5}{6} = \frac{9}{6} = 1\frac{1}{2}$$

What is the same and what is different about these methods?

Use one of the methods to work out $1\frac{5}{8} - \frac{3}{16}$

$\frac{3}{16}$ $1\frac{5}{8}$

$$1\frac{5}{8} - \frac{3}{16} = \boxed{}$$

3 Complete the subtractions.

a) $3\frac{1}{4} - \frac{5}{24} = \boxed{}$

b) $3\frac{3}{16} - \frac{1}{8} = \boxed{}$

c) $2\frac{5}{6} - \frac{2}{3} = \boxed{}$

d) $7\frac{5}{6} - \frac{13}{24} = \boxed{}$

e) $4\frac{4}{9} - \frac{4}{27} = \boxed{}$

f) $6\frac{11}{12} - \frac{3}{4} = \boxed{}$

4 A jug contains $1\frac{3}{5}$ litres of orange juice.

Eva pours $\frac{4}{15}$ litres into a glass.

How much orange juice is left in the jug?

There are $\boxed{}$ litres of orange juice left in the jug.

5 Find three different ways to complete the calculation.

$3\frac{\boxed{}}{5} - \frac{\boxed{}}{20} = 3\frac{1}{20}$

$3\frac{\boxed{}}{5} - \frac{\boxed{}}{20} = 3\frac{1}{20}$

$3\frac{\boxed{}}{5} - \frac{\boxed{}}{20} = 3\frac{1}{20}$

Are there any other ways to complete this calculation?

6 Three children take part in throwing competitions.

Here is the table of results.

	Javelin	Shot Put	Discus
Dexter	$15\frac{1}{4}$ m	$7\frac{5}{12}$ m	
Amir	$13\frac{3}{8}$ m		$12\frac{7}{8}$ m
Annie		9 m	$11\frac{5}{12}$ m

Use the clues to complete the table.
- Annie's javelin throw is $\frac{11}{12}$ m less than Dexter's.
- Amir's shot put throw is $\frac{3}{4}$ m less than Annie's.
- Dexter's discus throw is $\frac{1}{2}$ m less than Amir's

Multiply unit fractions by an integer

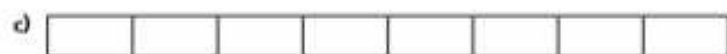Rose Maths

1 Complete the calculations.
Use the bar models to help you.

a)

$\frac{1}{5} + \frac{1}{5} + \frac{1}{5} = \boxed{}$

$3 \times \frac{1}{5} = \boxed{}$

b)

$\frac{1}{7} + \frac{1}{7} + \frac{1}{7} + \frac{1}{7} = \boxed{}$

$4 \times \frac{1}{7} = \boxed{}$

c)

$\frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} + \frac{1}{8} = \boxed{}$

$5 \times \frac{1}{8} = \boxed{}$

d)

$\frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} + \frac{1}{10} = \boxed{}$

$7 \times \frac{1}{10} = \boxed{}$

2 Complete the multiplications.

a) $3 \times \frac{1}{8} = \boxed{}$

b) $3 \times \frac{1}{10} = \boxed{}$

c) $\frac{1}{8} \times 5 = \boxed{}$

d) $9 \times \frac{1}{10} = \boxed{}$

e) $\frac{1}{5} \times 4 = \boxed{}$

f) $\frac{1}{9} \times 8 = \boxed{}$

g) $8 \times \frac{1}{11} = \boxed{}$

h) $\frac{1}{11} \times 10 = \boxed{}$

3 Match the addition to the equivalent multiplication.

$\frac{1}{3} + \frac{1}{3}$		$2 \times \frac{1}{5}$
$\frac{1}{5} + \frac{1}{5} + \frac{1}{5}$		$\frac{1}{4} \times 3$
$\frac{1}{5} + \frac{1}{5}$		$3 \times \frac{1}{5}$
$\frac{1}{4} + \frac{1}{4} + \frac{1}{4}$		$2 \times \frac{1}{3}$

Multiply non-unit fractions by an integer

1 Complete the calculations.

Use the bar models to help you.

a)

$\frac{2}{7} + \frac{2}{7} + \frac{2}{7} = \boxed{}$

$3 \times \frac{2}{7} = \boxed{}$

b)

$\frac{3}{10} + \frac{3}{10} + \frac{3}{10} = \boxed{}$

$3 \times \frac{3}{10} = \boxed{}$

c)

$\frac{2}{9} + \frac{2}{9} + \frac{2}{9} + \frac{2}{9} = \boxed{}$

$4 \times \frac{2}{9} = \boxed{}$

d)

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

$2 \times \frac{4}{9} = \boxed{}$

What do you notice about parts c) and d)? Talk to a partner.

2 Complete the multiplications.

a) $2 \times \frac{3}{7} = \boxed{}$

b) $3 \times \frac{3}{11} = \boxed{}$

c) $\frac{2}{11} \times 4 = \boxed{}$

d) $5 \times \frac{2}{11} = \boxed{}$

e) $\frac{2}{15} \times 7 = \boxed{}$

f) $\frac{7}{15} \times 2 = \boxed{}$

3

$\frac{4}{11} \times 2 = \frac{8}{22}$
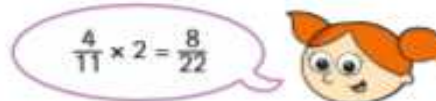
Explain the mistake that Alex has made.

_____

_____

_____

4 A cat eats $\frac{2}{15}$ of a bag of biscuits a day.

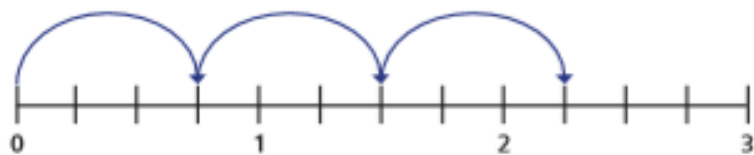What fraction of the bag does the cat eat in 4 days?

The cat eats $\boxed{}$ of the bag in 4 days.

5 Complete the multiplications.
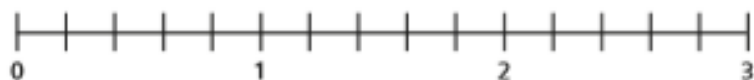
Use the number lines to help you.

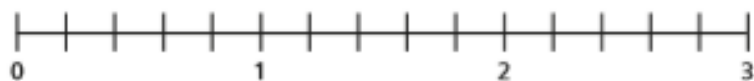Give each answer as an improper fraction and as a mixed number.

a)

$3 \times \frac{3}{4} = \boxed{} = \boxed{}$

b)

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

c)

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

6 Complete the multiplications.

a) $5 \times \frac{2}{3} = \boxed{} = \boxed{}$

b) $4 \times \frac{4}{5} = \boxed{} = \boxed{}$

c) $\frac{2}{7} \times 11 = \boxed{} = \boxed{}$

d) $4 \times \frac{7}{9} = \boxed{} = \boxed{}$

e) $17 \times \frac{2}{11} = \boxed{} = \boxed{}$

f) Describe the pattern you can see in the answers.

g) What could the next multiplication in the pattern be?

Write two possible options.

_____

_____

7 Here are some digit cards.

$\boxed{1}$ $\boxed{3}$ $\boxed{5}$ $\boxed{7}$

Use the digit cards to complete the multiplication.

$\boxed{} \times \frac{\boxed{}}{8} = \frac{15}{8} = \boxed{}\frac{\boxed{}}{8}$