Year 4
Home Learning Pack- 4

Dear Year 4,

Goodness me all this is still very surreal. Things are starting to change slowly, but it doesn't look like we will get much if any time back together again in year 4. I'm missing you all so much, and think about what you're up to often- whether you're completing every task set or whether you are taking time to reflect and just cope with what's going on. around you. It's such a big change! The most important thing is to keep looking after yourselves and your families, play games together, laugh, sing dance, go for walks, learn to get on with your siblings, making the most of the situation we have found ourselves in.

My girls are finding this situation tough too, but it's been nice spending time with them. Phoebe has become an artist and draws on our walls whenever we are not looking and Emily is loving lockdown life as she has become a television (Youtube) addict. She's decided to become a 'Youtuber' so I have to record her creating science experiments. These tend to be just her squirting toothpaste and soap onto a piece of paper!

Like last time please choose from some or all of the ideas below and complete them for homework. Don't forget that you can come up with other ideas too…you could do a PowerPoint, take some photographs, film play using your lego figures, construct a model, do a diagram, write a rap or song…think about how you are going to record your work in your books. Please make sure that all the work you do is neat, tidy and your best. If you have created electronic work, please email to our school address with your child's name in the subject box to : a3357@telford.gov.uk

Take Care

Miss Williams
Xxx

Reading

The Chocolate Factory

"How lucky are we?" asked Tom as he and Leah entered the chocolate factory. "I know!" replied Leah. "I can't wait to get to the tasting part!"
Tom and Leah had won a prize in their school fair raffle, which was to visit the local chocolate factory. After putting on hairnets, to keep the chocolate hygienic, they were shown how the chocolate starts as cacao beans. The beans were roasted in ovens to bring out the flavour and the colour. Then the beans were processed to remove the shell and make the cocoa powder and the cocoa butter.
Leah and Tom watched in amazement as these were mixed together with the sugar, vanilla and milk. The melted chocolate was then put into moulds, to solidify into bars and chocolates.
Then the tasting began. "Hmm, delicious!" said Leah happily. "Definitely worth the wait!"

Product Code: LIT0018 - 08 - 19 Made in UK

The Chocolate Factory Questions

1. How did Leah and Tom feel as they entered the chocolate factory? How do you know?
2. Why were they visiting the factory?
3. Find the word '*hygienic*' in the text. What does this mean and why is it important to making chocolate?
4. What is the first stage in the chocolate process?
5. What else is added to the mixture?
6. Which scientific process is mentioned in the text?

Product Code: LIT0018 - 08 - 19 Made in UK

1 .....
2 .....
3 .....
4 .....
5 .....
6 .....

Draw your ideal chocolate and label with ingredients

The Burning of the Rice Fields

Once there was an old man who lived high up on a mountain far away in Japan. All around his little house the ground was flat and the soil was good. Here were the rice fields belonging to all the people who lived in the village at the foot of the mountain. Beyond the village was the blue sea, so close that there was no room for anything but houses.

The old man lived with his grandson, Yone. The child loved the rice fields and he often helped his grandfather to watch over them because he knew that all the good food for the villagers came from there.

One day, the grandfather was standing on his own looking down at the village and the people going about their business. He was thinking how beautiful the scene was when something caught his eye far out to sea. It was as though a huge cloud was rising and as if the sea itself was lifting into the sky. The old man put his hands to his eyes and looked again as hard as he could. Then he turned and ran to the house shouting, "Grandson, grandson! Come quickly! Bring a burning stick from the fireplace!"

Yone could not imagine why his Grandfather wanted the fire, but he always did as he was told without question, so he quickly and carefully got the burning wood.

The old man grabbed the fiery wand and ran to the rice fields. Yone ran after him and was horrified to see his grandfather setting light to the dry rice in the fields. He thrust the torch in again and again as the stalks turned red, orange and yellow.

"Grandfather! What are you doing?" screamed Yone, thinking his grandfather must have lost his mind.

Very soon, the field was completely ablaze; the fire spread quickly and black smoke began to creep up the mountain side. It rose thick and dark and in no time the people in the village below saw it and knew that their precious rice fields were on fire. As quickly as their legs could carry them, they ran. Not one person stayed behind.

When they came closer, and could see that they were too late to save any of it, they cried and wailed, "Who could have done this? How could it happen?"

"I did it," said the old man.

"It's true," sobbed his grandson, "My grandfather started the fire."

The villagers gathered angrily around the old man, "Why?" they screamed, "Why?"

He turned and pointed to the sea. "Look."

They all turned to look. There, where the sea had been so beautiful, still and calm, a gigantic wall of water as tall as the sky was rolling in. The people were so aghast at the terrifying sight they could not even scream.

The wall of water fell on the village and destroyed every hose and building. The sound was awful. Wave after wave battered and covered the place where the village had been until it was all under the sea.

Disastrous as this was, every last person was safe.

When they realised what the old man had done, they thanked him and honoured him for his quick thinking which had saved them all from the tidal wave.

Answer the following questions:

1. Where is this story set?
2. Why did Yone not ask his Grandfather why he wanted a burning stick?
3. What was the danger coming from the sea?
4. Does the story have a message? What do you think it is?
5. The Burning of the Rice Fields is a re-telling of a traditional tale. Name 3 other traditional tales.

1 .....

2 .....

3 .....

4 .....

5 .....

Where Does Our Food Come From?

A survey by the British Nutrition Foundation questioned children about where our food comes from.

"Cheese comes from plants, tomatoes grow underground and fish fingers are made of chicken," according to many young children quizzed on where our food comes from.

Where does cheese come from?

Some of the children thought that cheese came from a plant. Cheese is a food commonly made from cow's milk.
But, did you know it's not just cow's milk that can make cheese? Milk from buffalo, goats or sheep can be used too. Mozzarella cheese (often used on pizzas) is made from the milk of buffalos.

Where does pasta come from?

When questioned, some children thought pasta comes from animals. Pasta is made from flour mixed with water or eggs. It is kneaded into a dough (a bit like bread) and then made into sheets, twists, tubes or other shapes. It is cooked by either boiling or baking.

Where do tomatoes come from?

Some children thought that tomatoes grow underground – a bit like carrots. They do, in fact, grow above the ground on a plant. The tomato plant can grow to be very tall. When they first grow, they are green but as they ripen, they turn red.

Where do fish fingers come from?

The clue for the ingredients of a fish finger is in the title. No, it doesn't mean they are made from fingers! They are made from fish. Shockingly though, some children thought they were made from chicken. Fish fingers are usually made from haddock or cod, which are types of fish.

Where does milk come from?

Do you ever stop to think where your food and drink comes from? Some children have no idea that milk comes from cows, research has revealed. Lots of children live in cities and so have never seen a cow, or even heard one 'moo'. Some children said they thought milk comes straight from the fridge or supermarket, but how did it get there? The research also revealed that some city-living children believe that a cow is the size of a double decker bus, and some think they're as small as cats.

What counts as one of your five-a-day?

Some children thought that Fruit Pastilles and strawberry jam counted as part of their daily fruit and veg. There are lots of health benefits to getting five portions of fruit and vegetables every day.

Many children say they know lots about healthy eating, but do not follow it. Why do you think that is?

Roy Ballam, Managing Director of British Nutrition Foundation, believes schools and families should work together to educate children and motivate them to make healthier choices.

Next time you're in the supermarket, stop and think about where your food and drinks have come from.

The survey by the British Nutrition Foundation questioned 5,040 UK children.

Where Does Our Food Come From? – Challenge Activity

Section A

Use the information from the text to determine whether the statement is true or false.

	True	False
The survey was carried out by the British Nutrition Foundation.	☐	☐
Cheese comes from a plant	☐	☐
Pasta is made from dough, a bit like bread.	☐	☐
Tomatoes grow on a plant.	☐	☐
Fish fingers are usually made from trout or swordfish.	☐	☐
Some city-living children believe that a cow is the size of a double decker bus.	☐	☐
Many children say they don't know very much about healthy eating.	☐	☐

Where Does Our Food Come From? – Challenge Activity

Section B

Use the information from the text to answer the questions.

1. Who did the British Nutrition Foundation question about where our food comes from?

2. What is the cheese made from buffalo's milk called?

3. What did some of the children that were questioned think pasta was made from?

4. Tomatoes grow above the ground, on a plant. Name a vegetable that grows under the ground.

5. What are the two most common fish that are used in fish fingers?

6. Why haven't some children ever seen a cow?

7. Many children say they know lots about healthy eating but do not follow it. Why do you think that is?

English

Writing check list D
CAPITAL letters
. ,,, ? ! ,
Inverted commas "Speech!"
Subordinating conjunction When If before after while that because
Coordinating conjunction FANBOYS ,and ,but ,or ,so
Subordinating clauses
Prepositions before, after, next to, during,
Vocabulary for effect
Noun phrases to modify the noun small, fluffy, adorable cat
Pronoun for cohesion I you he she they it this
paragraphs
Apostrophe for possession and plural possession girl's girls'
Fronted adverbial phrases with a comma Later that day ,
Determiners modify a noun Open window
Present perfect He has gone/He went

For all of these activities, please use the year 4 marking ladder and complete to the best of your ability.

You are going on an adventure deep into the jungle. In addition to your food and drink, you can only take five items. Describe what these items would be and why you would take them.

'Spy Fox' is a Bond type character, who goes on missions around the world. Design a 'Bond-like' gadget that fox could use in his missions. Draw a picture of it with labels. Write an explanation of how it works.

Watch High Diving Giraffes. https://www.youtube.com/watch?v=nPrWo5pEvyk Write a news report of the event. You might find these links helpful: What are the features of a newspaper? How to write a news article.

Watch this short video of a boy recounting how he learned to fly. https://www.literacyshed.com/flight.html

Imagine you can fly. Describe a flight you go on. What does it feel like? What do you see? What dangers do you come across? Where do you go?

Have a look through these story starters. Chose one and write a story. https://www.literacyshed.com/the-story-starter-shed.html

Use this story starter and the other writing supports available to write a story based on The Blacksmith https://www.pobble365.com/the-blacksmith/

1a. Change the sentence below so that the adverbial becomes a fronted adverbial.

He hesitantly made his confession with the light shining in his face, all the while he was under intense pressure from the police.

A

1b. Change the sentence below so that the adverbial becomes a fronted adverbial.

The brave knights fought in the castle grounds, they jousted ferociously against the enemy, the king watched from afar.

A

2a. Using the picture below, write a sentence with two fronted adverbials.

Remember to use the correct punctuation.

A

2b. Using the picture below, write a sentence with two fronted adverbials.

Remember to use the correct punctuation.

A

3a. Which fronted adverbial has been used correctly? Explain your answer.

A. Long ago, when the world was full of mythical creatures, there stood an old cottage beside a trickling stream.

B. Positioned perfectly on the horizon with the sun glinting all around there stood an old cottage beside a trickling stream.

C. In a land faraway on a distant hillside there stood an old cottage beside a trickling stream.

3b. Which fronted adverbial has been used correctly? Explain your answer.

A. Reaching the safety of home just before dawn the boy unlocked the door tiptoed upstairs and climbed back into bed.

B. The boy unlocked the door, tiptoed upstairs and climbed back into bed exhausted by his efforts and his heart beating like a drum.

C. Before anyone could realise, with only seconds to spare, the boy unlocked the door, tiptoed upstairs and climbed back into bed.

1a. Match two suitable adverbials to each main clause to make sentences.

A.	At the crack of dawn,	D.	determined and full of hope,	1.	the scientist mixed his potions.
B.	Although exhausted,	E.	deep within his secret laboratory,	2.	the hungry monster emerged.
C.	As the clock struck midnight,	F.	from out of the shadows,	3.	the boy crept on.

VF

1b. Match two suitable adverbials to each main clause to make sentences.

A.	As the seconds ticked by,	D.	among a blanket of stars,	1.	Tia turned the handle.
B.	On the horizon,	E.	desperate for his autograph,	2.	Rex reached his idol.
C.	Pushing through the crowds,	F.	with great trepidation,	3.	the moon shone brilliantly.

VF

2a. Fill in the gaps with two fronted adverbials that show where and when the main clause happened.

_____, the hideous beast roared.

_____, he drank the poisonous mixture.

VF

2b. Fill in the gaps with two fronted adverbials that show where and how the main clause happened.

_____, the musicians played and the choir sang.

_____, the eagle soared through the evening sky.

VF

3a. Choose two adverbials which are most appropriate to use at the start of the sentence below.

...the young boy tiptoed forward.

A. In the dead of night,
B. In the blink of an eye,
C. Not wanting to wake his grandma,

VF

3b. Choose the most appropriate fronted adverbial to complete the sentence below.

...the knight guarded the enormous castle.

A. Standing nobly like a statue,
B. With tremendous courage,
C. Right at that very second,

VF

4a. Write an extended main clause that could follow each of the fronted adverbials below.

As the clock struck midnight, glancing anxiously at the door...

Unfazed by the danger ahead, valiantly and purposefully...

4b. Write an extended main clause that could follow each of the fronted adverbials below.

Disobeying his mother and deciding not to wait any longer...

In the ancient city on the horizon, beyond the mysterious pyramids...

1a. Change the sentence below so that the adverbial becomes a fronted adverbial.

The machine would not work once again.

A

1b. Change the sentence below so that the adverbial becomes a fronted adverbial.

I went on a nature walk yesterday.

2a. Using the word bank below, write a sentence with a fronted adverbial.

the	later	tired
returned	bear	on

Remember to use the correct punctuation.

A

2b. Using the word bank below, write a sentence with a fronted adverbial.

we	supper	have
before	usually	bedtime

Remember to use the correct punctuation.

3a. Which fronted adverbial has been used correctly? Explain your answer.

A. Sadly we won the trophy.

B. Often, we won the trophy.

C. Last weekend, we won the trophy.

3b. Which fronted adverbial has been used correctly? Explain your answer.

A. Echoing loudly, the bell rang out.

B. Next week, the bell rang out.

C. Joyfully the bell rang out.

1a. Match the adverbials to the most suitable main clause.

A.	Just then,	1.	we went home.
B.	Finally,	2.	I will be eight years old.
C.	Next year,	3.	there was a knock at the door.

VF

1b. Match the adverbials to the most suitable main clause.

A.	Outside,	1.	the siren sounded.
B.	Upstairs,	2.	the children played on the swing.
C.	Far away,	3.	mum was running a bath.

VF

2a. Fill in the gaps with a fronted adverbial that shows where the main clause happened.

_____,
the creature slept.

_____,
the chef cooked.

VF

2b. Fill in the gaps with a fronted adverbial that shows how the main clause happened.

_____,
the man ran.

_____,
they all cheered.

VF

3a. Choose the most appropriate fronted adverbial to complete the sentence below.

...I pushed the secret door.

A. Sadly,
B. Tomorrow,
C. Carefully,

VF

3b. Choose the most appropriate fronted adverbial to complete the sentence below.

...Jay packed his bag and ran.

A. Usually,
B. Frantically,
C. Soon,

VF

4a. Write a main clause that could follow each of the fronted adverbials.

Silently, _____
_____

Mysteriously, _____
_____

VF

4b. Write a main clause that could follow each of the fronted adverbials.

Sometimes, _____
_____

Gently, _____
_____

VF

1a. Change the indirect speech in the sentence below into direct speech.

The old lady asked the shopkeeper for two scones and a loaf of bread.

1b. Change the indirect speech in the sentence below into direct speech.

Samuel whispered to Florence that she was his best friend.

2a. Carl is playing his drums very loudly in his bedroom.

Use direct speech to write what Carl's mum might say to Carl.

2b. Joe and Laurel are running. Joe boasts that he is the fastest runner.

Use direct speech to write what Joe might say to Laurel.

3a. Dennis has punctuated the direct speech in the sentence below.

Coach Carter bellowed at the basketball team, "get in line quickly!" and so they all jumped to attention.

Is he correct? Explain your answer.

3b. Fiona has punctuated the direct speech in the sentence below.

"Are we nearly there yet?" Emma moaned impatiently in the back seat of the car.

Is she correct? Explain your answer.

Direct Speech

1a. Change the indirect speech in the sentence below into direct speech.

Daniel told Jacob that he could be the goalkeeper first but Jacob said that he would rather not.

2a. Mr and Mrs Hill are decorating. Mr Hill wants to paint the walls red but Mrs Hill would prefer white.

Use direct speech to write a short conversation between Mr and Mrs Hill.

3a. Hamid has punctuated the direct speech in the sentences below.

Simon called out of the window "Don't forget to take your coat with you."
"I already have it," his sister called back.

Is he correct? Explain your answer.

Direct Speech

1b. Change the indirect speech in the sentences below into direct speech.

Samira asked her grandma if she would like a cup of tea. Her grandma replied that she would and asked for a biscuit too.

2b. Tom, Lewis and Becky are playing hide and seek.

Use direct speech to write a short conversation between the children.

3b. Louisa has punctuated the direct speech in the sentences below.

"Shall we go to the park to feed the ducks"? asked Krystle.
"Yes, but let's take our bikes too," replied Kat.

Is she correct? Explain your answer.

Mathematics

Practice your times tables you should know up to your 12x tables by the end of year 4.

Bus Timetable Trail Chaser

Start at any shape. Calculate how long that particular journey takes. Find the answer and join them together with a line. Continue doing this until you have connected all of the journeys and times together.

Destination	Bus A	Bus B	Bus C
Newtown	12:05		15:25
Oldtown	12:23	13:50	15:43
Oakley	12:56	14:09	
Parkside	13:04		16:02
Puddleton		14:38	16:23
Whitecross	13:48	14:42	
Creswell	14:12	15:09	17:11
Hilltop	14:36	15:36	17:34
Riverway	15:09	16:14	18:12

Oldtown to Whitecross (Bus A)

2,640 seconds

Newtown to Riverway (Bus A)

1,860 seconds

Creswell to Hilltop (Bus A)

2 hours 24 minutes

1,260 seconds

Oldtown to Riverway (Bus B)

Parkside to Whitecross (Bus A)

2 hours 47 minutes

Oakley to Whitecross (Bus B)

1 hour 25 minutes

33 minutes

Parkside to Puddleton (Bus C)

Puddleton to Creswell (Bus B)

2 hours 7 minutes

Oldtown to Oakley (Bus B)

184 minutes

Newtown to Riverway (Bus C)

1,140 seconds

Newtown to Creswell (Bus A)

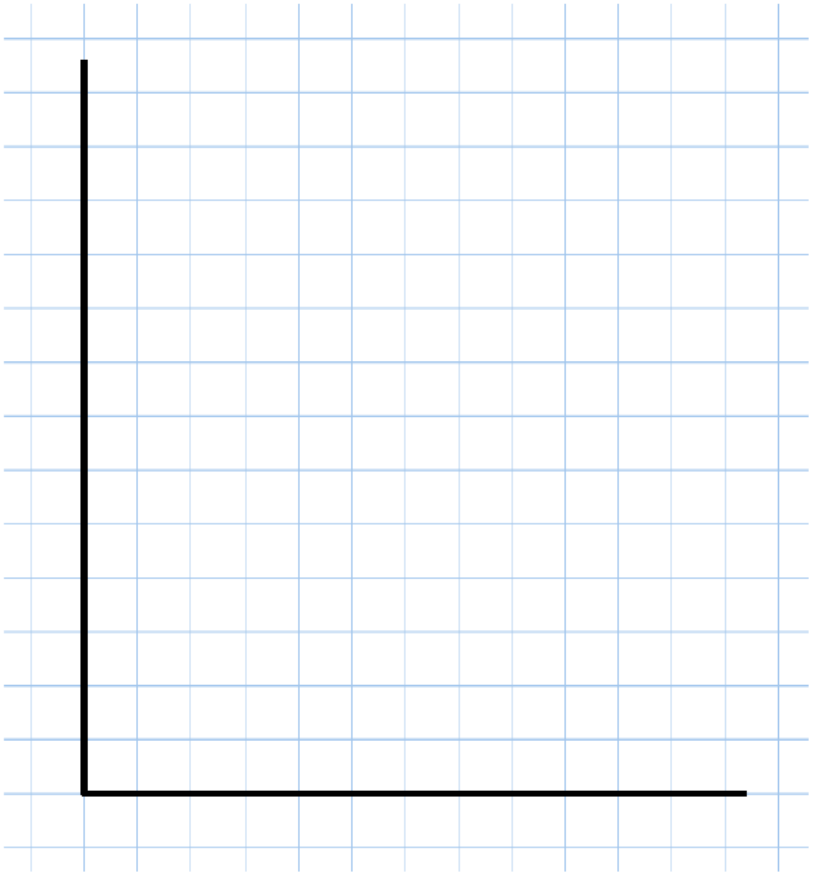
1 hour 51 minutes

Oldtown to Hilltop (Bus C)

1,440 seconds

Coordinates Picture

Number each axis before following the instructions to make a picture.



Coordinates Picture Instructions

Follow the instructions carefully to discover the hidden pictures.

Remember, when plotting coordinates, go along first and then up.

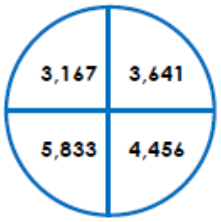
When drawing lines, use a ruler.

1. Write numbers 0 to 13 on the axis going up, starting from the bottom.
2. Write numbers 0 to 12 on the axis going across, starting from the left.
3. Plot the coordinate (1, 1) and label it A.
4. Plot the coordinate (1, 3) and label it B.
5. Plot the coordinate (3, 3) and label it C.
6. Plot the coordinate (3, 1) and label it D.
7. Draw a straight line between A and B.
8. Draw a straight line between B and C.
9. Draw a straight line between C and D.
10. Draw a straight line between D and A.
11. Plot the coordinate (2, 4) and label it E.
12. Plot the coordinate (4, 4) and label it F.
13. Plot the coordinate (4, 2) and label it G.
14. Draw a straight line between B and E.
15. Draw a straight line between C and F.
16. Draw a straight line between D and G.
17. Draw a straight line between E and F.
18. Draw a straight line between F and G.

19. Plot the coordinate (6, 4) and label it H.
20. Plot the coordinate (6, 3) and label it I.
21. Plot the coordinate (8, 3) and label it J.
22. Plot the coordinate (8, 4) and label it K.
23. Draw a straight line between H and I.
24. Draw a straight line between I and J.
25. Draw a straight line between J and K.
26. Draw a straight line between K and H.
27. Plot the coordinate (10, 6) and label it L.
28. Plot the coordinate (12, 6) and label it M.
29. Plot the coordinate (12, 5) and label it N.
30. Draw a straight line between L and M.
31. Draw a straight line between M and N.
32. Draw a straight line between H and L.
33. Draw a straight line between K and M.
34. Draw a straight line between J and N.

Add Two 4-Digit Numbers 2

1a. Which two numbers add together to make the answer 8,097?



PS

2a. Eva is adding two 4-digit numbers together.

The answer has a five in the tens column where an exchange has taken place.

What digits could be in the tens column of the two numbers being added together?

PS

3a. Meg thinks that an exchange takes place from the tens column in the calculation below.

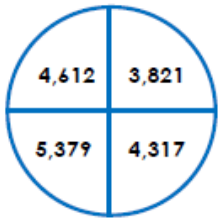
1,732 + 7,353

Is she correct?
Prove it.

R

Add Two 4-Digit Numbers 2

1b. Which two numbers add together to make the answer 8,433?



PS

2b. Laura is adding two 4-digit numbers together.

The answer has a seven in the hundreds column and an exchange has taken place from the tens to the hundreds.

What digits could be in the hundreds column of the two numbers being added together?

PS

3b. Jack thinks that an exchange takes place from the hundreds column in the calculation below.

6,744 + 2,165

Is he correct?
Prove it.

R

Add Two 4-Digit Numbers 2

1a. Match the calculation to the correct answer.

6,961 add one thousand, two hundred and twenty-five

A — Eight thousand; 100; LXXXVI

B — Eight thousand; 100 100; 86

C — 100; 8,000; seventy-six

VF

2a. What number is missing from the calculation?

9,☐67 + 381 = 9948

VF

3a. Complete the calculation.

9,369 + 425 =

VF

4a. Complete the calculations with the same number so that the missing digit leads to an exchange.

A — 2,3☐5 + 1,454 =

B — 3,926 + 2,☐43 =

VF

Add Two 4-Digit Numbers 2

1b. Match the calculation to the correct answer.

Five thousand, four hundred and eighty-two add 3,497

A — 9,000; 100; nine

B — Eight thousand 900 LXXIX

C — 9,000; Seventy-nine

VF

2b. What number is missing from the calculation?

4,258 + 5,5☐1 = 9,839

VF

3b. Complete the calculation.

6,366 + 2,273 =

VF

4b. Complete the calculations with the same number so that the missing digit leads to an exchange.

A — 4,628 + 2,1☐1 =

B — 6,3☐5 + 3,413 =

VF

Add Two 4-Digit Numbers 2

1a. Which two numbers add together to make the answer 4,031?

A 

B 

C 

D 

PS

2a. Frankie is adding two 4-digit numbers together.

	4	□	3	4
+	3	□	8	1
		5		

What digits could be in the hundreds column so that no exchange takes place?

PS

3a. Terri thinks that an exchange takes place from the tens column in the calculation below.

	8	3	2	1
+	1	3	5	9

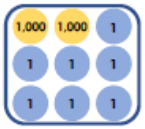
Is she correct?
Prove it.

R

Add Two 4-Digit Numbers 2

1b. Which two numbers add together to make the answer 5,220?

A 

B 

C 

D 

PS

2b. Ashante is adding two 4-digit numbers together.

	3	4	□	7
+	2	3	□	1
			4	

What digits could be in the tens column so that an exchange takes place?

PS

3b. Delilah thinks that an exchange takes place from the hundreds column in the calculation below.

	5	3	1	1
+	3	8	1	2

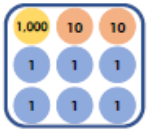
Is she correct?
Prove it.

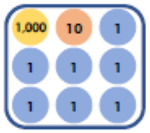
R

Add Two 4-Digit Numbers 2

1a. Which two numbers add together to make the answer 3,150?

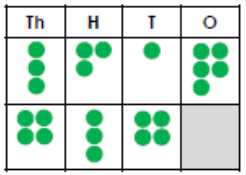
A 

B 

C 

PS

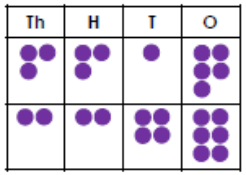
2a. Louise is adding two 4-digit numbers together.



What digit could be in the ones column so that an exchange takes place?

PS

3a. Josh thinks that an exchange takes place from the ones column in the calculation below.

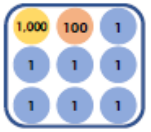


Is he correct?
Prove it.

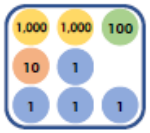
R

Add Two 4-Digit Numbers 2

1b. Which two numbers add together to make the answer 3,221?

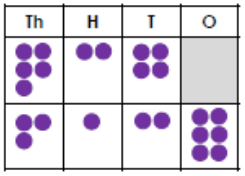
A 

B 

C 

PS

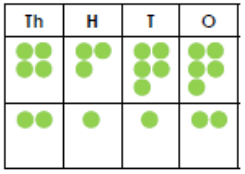
2b. Cassie is adding two 4-digit numbers together.



What digits could be in the ones column so that an exchange takes place?

PS

3b. David thinks that an exchange takes place from the ones column in the calculation below.



Is he correct?
Prove it.

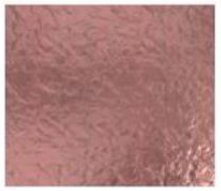
R

Science

Materials

The items in our house are made from different materials! Can you go on a material hunt around your house? Tally up in the boxes below the amount of items made of each material:

No. of wooden items:



No. of metal items:

No. of cardboard items:

No. of fabric items:

No. of glass items:

No. of plastic items:

Title of your graph:

Wooden | Metal | Cardboard | Fabric | Glass | Plastic

Which material is there most of in your home?

Plot your findings on the graph – remember to label your Y axis and add a title.

How could you plot your results if your tally exceeds ten per material?

CREST AWARDS | SUPERSTAR

Bridge Blunder

Organiser's Card

About the activity

This activity is designed to get children thinking about weights, forces and measures.

Children are set the challenge of helping Star Spans, a design company, fix their bridge and stop it swaying.

Through this activity you will support your group to:

- Build different models of bridges.
- Test their different models to see which can hold the most weight and why.
- Record and share their results.

Kit list

- A4 paper – 12 sheets per team (2 for initial exploration, 5 for their first trial, 5 for the final bridge). Have a few pieces in reserve. Scrap paper is fine.
- Sellotape – you should restrict this to a short strip per group. Sellotape is only for securing things, not for wrapping round the paper.
- 10 and 100 gram masses, coins, blocks or other equipment to act as 'weights' – bridges can support a surprisingly large mass.
- Play blocks or similar to create the 20 cm gap for the bridge – or gap between chair and tables.
- Pictures of bridges (optional)

What to do

1. Introduce the activity using the story of Star Spans. You may want to show the children some pictures of different shaped bridges.
2. Give out activity cards and equipment to the children.
3. Explain that they will be using the equipment provided to test the best design for a bridge. Give the children a little time to talk together and to try making strong shapes using single sheets of paper. They can fold or cut the paper if they wish.
4. Encourage children to discuss their ideas and how to carry out their investigations.
   Prompt questions:
   - How many different kinds of bridge do you know?
   - Are some shapes stronger than others?
   - How will they make sure their test is fair?
   - How will they record their results?
5. Now give each group 5 sheets of paper and a small amount of tape. Tell them they have 10 minutes to try out ideas for how they might make their bridge. This will not be the final bridge. Let each group test their bridge with weights as they go along. You will need to decide together where to put the weights on the bridges to test them.
6. Encourage children to evaluate the design. What do they need to change to make the bridge stronger? Now they will make their final bridge. They will need more paper. Warn them that they are not allowed to use any of the old paper but can use their earlier ideas to help them.
7. Support children to conduct their tests and make their own records of their results. They could also take photographs or make drawings. After children have tested their bridges, provide time for them to talk through what was successful and what didn't work.
8. Ask the children to present their bridge to the rest of the group and test it.

Things to think about

Make sure the weights are placed, not dropped, on the bridges.

You can decide to spread weights evenly across the bridge (like the children in the story) or focus them in the centre. To make fair comparisons between the bridges the same test should be carried out on each one.

Do not fasten the ends of the bridge to the supports. This does strengthen the bridge but if well fastened it can require large weights to make even a single piece of paper collapse.

There are many solutions to this problem. The shape is all important.

The weakest bridge is often a flat sheet of paper. It can be made stronger by flat folding, creating a triangular prism shape or rolling the paper along its length. Walls can add strength as can pillars or arches. Suspending the bridge can also help.

We have used the term 'weights', rather than the more scientifically accurate 'masses', since this is the term that young children are more likely to know.

Keywords

- Construction
- Weights
- Masses
- Suspension
- Support

Take it further

Children could act out a design award to showcase the bridge or bridges that were the strongest.

Children could sketch their bridge and make notes about how it worked.

Watch out!

Avoid weights falling from a height.

If bridges are high, you will need a bucket of sand or cardboard box filled with crumpled paper underneath to catch falling weights.

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BRITISH SCIENCE ASSOCIATION

CREST AWARDS | SUPERSTAR

Bridge Blunder

Activity Card

A sparkling new footbridge has been built in Startown. Class 4 of Startown Primary School were invited to the grand opening. All the children stood on the bridge as their classmate Anil (aged 8) cut the official tape.

Even before the cheers had died down the bridge began to sway and bend. All the children were hastily rushed to one end and the bridge was closed.

Star Spans, the designers of the bridge, looked very red faced.

"We're not sure what went wrong. The bridge was such a beautiful shape. What do we do now? Can anyone help us?"

Your challenge

Can you help Star Spans design a bridge that can be used safely?

When people design bridges they build models. This is what you will need to do.

Discuss

- How many different kinds of bridge do you know?
- Are some shapes stronger than others?

Getting started

Your bridge needs to span 20 cm. Think about which shapes are the strongest.

Try exploring bridge shapes with single pieces of paper. You can cut the paper if you wish.

Why not try rolling, curving and folding the paper.

Test your ideas

Test it with weights.

Does it matter where you put the weights?

Remember the children were standing across the whole length of the bridge when it started to wobble.

Now make one final model.

You might like to record your results in a table like this:

Bridge	Maximum weight bridge could hold
Bridge #1	
Bridge #2	
Bridge #3	

Share your ideas

Show your bridge to the rest of the class.

You could take pictures and add notes about what you think might make your bridge stronger and more stable.

Extra things to do

Can you find out about the highest and longest bridges in the world?

What did people in ancient times use to build bridges? How does this compare to bridges built today?

You could find out about different bridges and make models of them to show how they work.

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CREST AWARDS | SUPERSTAR

Cheesy Challenge

Organiser's Card

About the activity

This activity is designed to get children thinking about how milk is changed into cheese.

Cosmic and Gem are confused about how milk turns into cheese. Can the children make their own cheese?

Through this activity you will support your group to:

- Think about what they already know about cheese
- Make their own cheese
- Research other milk products

Kit list

- A cup of semi skimmed or skimmed milk each
- Lemon juice (or vinegar)
- A spoon, a bowl (for heating in the microwave) or a small pan (for heating on the cooker)
- A sieve, a bowl and a piece of very clean, thin cloth to strain the milk
- Salt
- Other flavourings (optional)

What to do

1. Introduce the activity using the story.
2. Give out activity cards and equipment to the children.
3. Explain that they will be making their own cheese today.
4. Encourage children to discuss their ideas and how cheese is made.
5. Support children to follow the cheese recipe on the activity card and make their own records of their results.
6. Ask the children to present their findings to the rest of the group, they can be as creative in their presentation as they want.

Things to think about

Skimmed milk works well for this activity. The fat, which is used to make other milk products such as cream, is not needed to make cheese.

If you leave the cheese for a while to let more of the liquid drain out you will get a slightly firmer cheese.

The liquid (whey), which is left over after making the cheese, can be used in recipes to make food such as bread, soup and cakes.

Lots of children may be dairy or lactose intolerant. As with previous activities, you could encourage them to find out what happens if they use alternative.

Keywords

- Milk
- Curdling
- Cheese
- State
- Reversible changes
- Irreversible changes

Watch out!

The milk needs to be heated. This must be done with adult supervision. Cover tables with clean paper cloths. The cheese can be eaten if everything has been kept clean. Do not eat the cheese unless it is fresh.

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CREST AWARDS | SUPERSTAR

Cheesy Challenge

Activity Card

Cosmic and Gem are having a picnic. They are tucking into glasses of cool milk and tasty cheese sandwiches.

"Isn't it amazing that they can turn a white runny liquid into cheese?" Cosmic wonders out loud.

Gem stops chewing and looks at the cheese and then at the milk. She has a puzzled look on her face.

"How do they do that?" Gem asks.

"It's fascinating! We need to do some investigating. I think a little bit of chemistry might help."

Your challenge

Can you help Cosmic and Gem find out how milk is turned into cheese?

Discuss

Take a look at some cheese and milk. Talk about what you already know about it.

Getting started

Cheese Recipe

Ingredients

- A cup of semi skimmed or skimmed milk
- Lemon juice
- A spoon, a bowl (for heating in the microwave) or a small pan (for heating on the cooker)
- A sieve, a bowl and a piece of very clean, thin cloth to strain the milk
- Salt and other flavourings (optional)
- Clean hands, equipment and table

Method

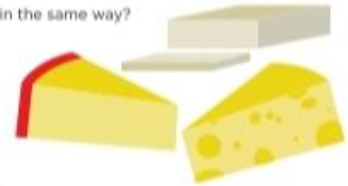
1. Pour 1 cup of milk into a bowl or small pan. Heat it in the microwave or on the cooker until the milk just begins to boil. If it is on the cooker, keep stirring to stop it burning.
2. Remove from the heat. Add lemon juice a few drops at a time and keep stirring gently.
3. Keeping adding lemon juice until the milk starts to go very lumpy (curdle). Let it cool.
4. Put a sieve on top of a bowl and put a cloth in the sieve.
5. Pour the milk into the sieve and let all the liquid (the whey) run through into the bowl. The lumps (called curds) will stay in the cloth.
6. Lift up the cloth and gently squeeze out more of the liquid.

You have now made some cheese!

Add a little salt and any other flavours that you like.

Test your ideas

Is cheese only made from cow's milk?
What different types of cheese are there? Are they all made in the same way?
Do people eat cheese everywhere around the world?
When was cheese first made?
Can the whey be used for anything?



Share your ideas

What kind of cheese have you made?
Does it look like any of the cheese that you buy in the shops?
What does it taste like?
Make a poster showing how a little chemistry helps to turn milk into cheese. Put it on display.

Extra things to do

Here are some other milk products. Can you find out how they are made and what they are used for?
Not all milk comes from animals. Can you spot which ones do not and find out more about them?

Yoghurt	**Sour cream**
Lassi	**Ghee**
Cream	**Smetana**
Butter	**Clotted cream**
Condensed milk	**Creme fraiche**
Kaymak	**Buttermilk**

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History

Artefacts

We can learn a lot about the past by looking at artefacts. Historians look closely at artefacts and ask and answer questions to try and discover what it tells us about the past.

Become a Historian and look at these artefacts. Answer the questions and see what you discover about the past.

What do you think it is and why?

Who might have used it? Why do you think this?

What do you this is and why?

What do you think these artefacts are and why?

Who might have used them? Why do you think this?

Geography

World – Continents

A continent is a huge expanse of land. The world is divided up into seven continents. Continents are divided up into countries.

Questions

1. Which continent do we live on?
2. What would happen if the world didn't have any borders?

Challenges

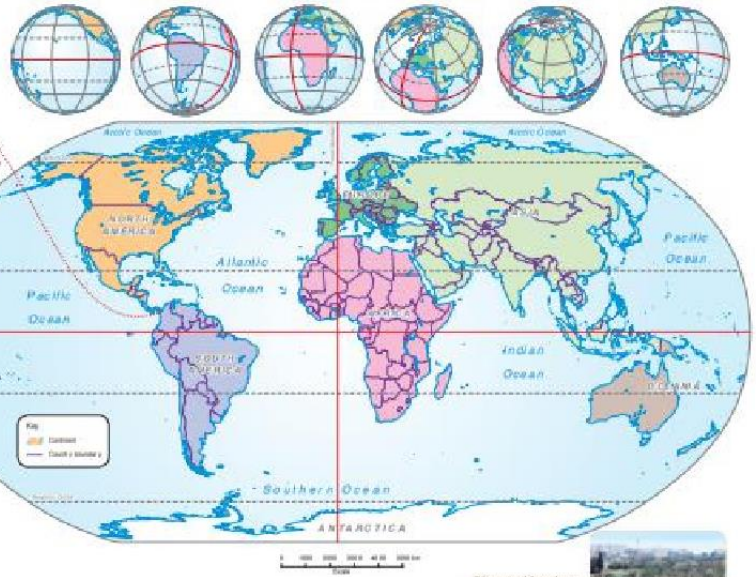
1. Match each continent shown on a globe with those shown on the map and say what you can see.
2. Design a passport and have a section for each continent, where you can add some important facts.
3. A new island has appeared that you can call your own! Give this new country a name, design a flag and draw a map of it to show its places and features.

Key words

- Continent
- Country
- Border
- International

The Darién Gap

With no road, only forest and marshland, the 100 kilometres of the Darién Gap, between the countries of Panama and Colombia, makes travel hard for people and goods.



Border control UK

A border control is where the movement of people, animals and goods in and out of a country can be monitored. People arriving from another country usually have to show their passport to get in or out.

Disputed borders

Some borders are agreed with everyone in the international community. Some borders, like that between Israel and Palestine, are argued over for many years.

Continents, Countries and Oceans

Work through the questions and challenges.

1. Find and list the 5 oceans:

- .....
- .....
- .....
- .....
- .....

2. Find the equator. List the countries that sit on the equator:

.....

.....

.....

3. Find the country that you live in. Which countries and oceans border your country?

.....

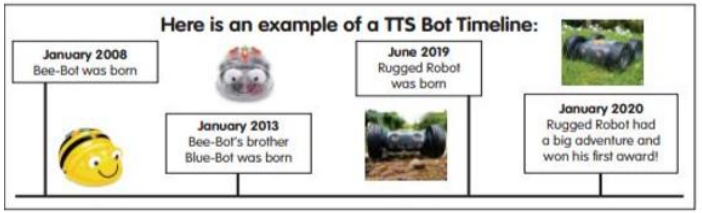
.....

.....

My Family Timeline

A timeline is a listing of events in **chronological order.** This means that the events are shown in the order that they happened.

Here is an example of a TTS Bot Timeline:



Interview family members to find out key events that have happened in your family, for example births, marriages or first days at school. Write down all of these events and don't forget to record the date!

What a Wonderful World

Create an A to Z of words all linked to our wonderful world!
Why not illustrate your A to Z too!

A

B

C

D

E

F

G

H

I

J

K

L

M

N

O

P

Q

R

S

T

U

V

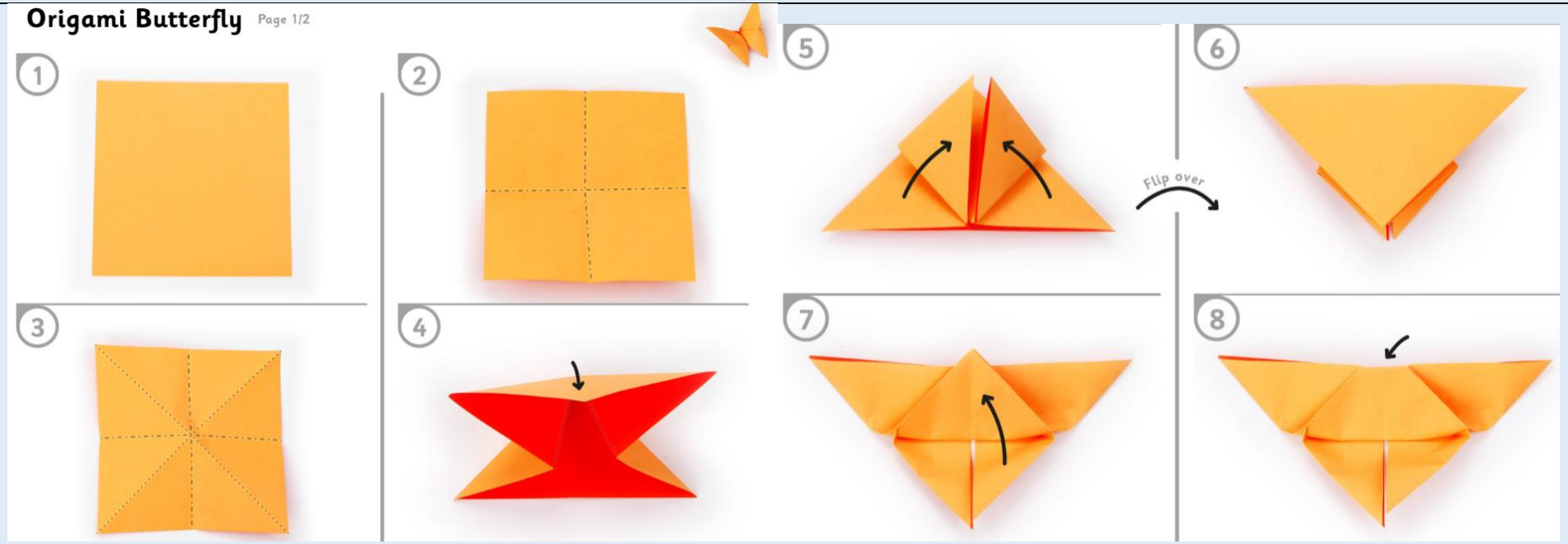
W

X

Y

Z

RE	Use these I can statements and explain what you know/understand about each of them. You might wish to do this through retelling a story, creating a comic strip or through art, prayer, song or dance. **I can explain** • that the Church is a family; • that the Sacraments help us on our journey of life; • about the Liturgical Year; • about the Communion of Saints and the Holy Souls; • about the mission of the Church; • about Mary, Mother of the Church. **I can explain** • **that Jesus made Peter head of the Church;** • **that the Church began at Pentecost;** • **what happened to Stephen;** • **about Saul's experience on the road to Damascus;** • **about Paul and Silas in prison;** • **about the challenge of being a disciple;** • **about some of the teaching of the Apostles.**
Other	Design a three course meal: starter, main, dessert and produce a menu card. Cook one of the courses and serve to your family Make the perfect pancake! Count how many windows are n your house. Find the area of the smallest window and the perimeter of the largest window. Design a new kitchen for your house! Make a chart of everything your family throws away in a day. Multiply by 365 to come up with an estimate for the year. Think what you could do to reduce this amount of waste Find an old sock and create sock puppet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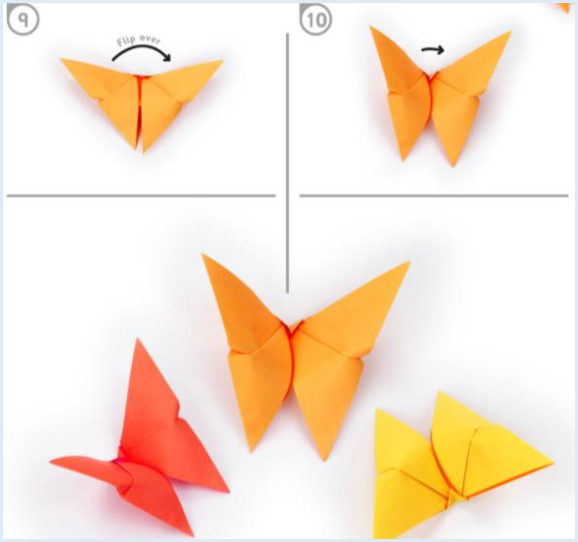
9
Flip over
10

How do I think I have done?	How much effort have I put in? (Tick one)	I have tried my hardest	I have put some effort into my work	This is not my best work
Teacher comment				Teacher signature: E.Williams