

Home Learning: Year 6 Maths wk/c 8th June

We have set out each week's learning as a series of suggested daily activities. However, the time may look very different for each family. Building in time to look after each other, be physical, creative and relax is as important as completing the set activities. You need to decide what works for you and your family. You could do more of the activities on one day and fewer on another, or you may find it helpful to have a more structured approach. It may help to give clear times for doing activities and clear times for breaks. You will also notice that some of the science, history and DT activities are the same and therefore can be done as a family.

Year 6	Day 1	Day 2	Day 3	Day 4	Day 5
Factual Fluency	Practise solving multi-step problems https://uk.ixl.com/math/year-6/multi-step-word-problems	Practise solving missing information problems https://uk.ixl.com/math/year-6/word-problems-with-extra-or-missing-information	Practise a trial and error approach https://uk.ixl.com/math/year-6/guess-and-check-problems	Practise finding the order https://uk.ixl.com/math/year-6/find-the-order	Solve problems with Venn diagrams https://uk.ixl.com/math/year-6/use-venn-diagrams-to-solve-problems
Four Days of Reasoning (Monday-Thursday)	<p>Summer Term Week 7 (w/c 8th June) https://whiterosemaths.com/homelearning/year-6/</p> <p>Extension Tasks are below for pupils who normally work with Mrs T OR who have completed the daily task and feel like a challenge</p>	<p>Click onto the link each day. There is a video to watch for each day and then activities to complete. White Rose is an excellent resource and one often used by teachers in our schools. As you support your child, you will see that it presents concepts clearly and incrementally. The lessons will start very simply – however, we do not recommend that you race ahead; spend time on the straightforward before moving onto more complex, abstract ideas.</p> <p>If your child struggles with maths, they could work on the learning set for year groups lower down the school.</p> <p style="text-align: center;">Worksheets and answers can be found below.</p>			
Friday	Revise aspects of this week's learning that you are not sure of sure of. You can simply repeat a lesson or revisit questions and redo.				

Home Learning: Year 6 English

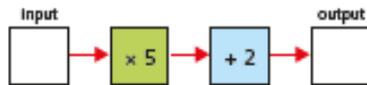
Year Six	Day 1	Day 2	Day 3	Day 4	Day 5
Reading	Make sure you have some quiet time for daily reading of your own book. Record your reading in your Reading Record as you normally do. Check out https://www.ccht.rbkc.sch.uk/learning-at-home/story-time/ for some on-line stories and some good book recommendations.				
Writing	<p>LO: revise understanding of simile and metaphor (see resource below)</p>	<p>LO: Infer meaning from a text Re read the extract from the your copy of Wonder (pp250-267)) and answer the questions (see resource below.</p>	<p>LO: Plan and Write a letter Writing Task. Imagine you are Jack – you decide to write a letter to your Gran, giving an account of the fight with the seventh grade boys. Things to remember:</p> <ul style="list-style-type: none"> • Jack has a close relationship with his Gran. • Try to take every opportunity to ‘show not tell’ how you (as Jack) and August felt throughout the episode. <p>There are some resources below to help you with this. Before you start planning your letter, give some thought to WHY Jack has decided to share this incident with his Grandma. Has he been upset by Eddie’s unkindness? Inspired by August’s bravery? Was he frightened by the ‘big boys’ – has it made him worry for his future and about going to high school? Resource 1: This table gives the sequence of events in detail: choose adjectives and descriptive phrases to show how Jack would have been feeling at each point. Remember to refer to physical responses (heart pounding, panting, trembling etc) Resource 2: You can further enhance your descriptions by including simile and metaphor. You looked at metaphor and simile on Monday. This resource gives you an opportunity to think of some examples you might include in your letter. Resource 3 Remember how to set out a letter – this resource gives you some pointers. Jack’s grandma will not know the sequence of events and so you will need to give a brief outline of these; the resource given below (see day one) will help you with this.</p>	<p>LO: Edit and improve writing. Read through your letter. The aim of your English session today is to further improve your writing.</p> <p>Write a set of success criteria for yourself. What makes a good letter? Does your letter ‘show’ your feelings about August and the events at the camp? Do you think Gran will understand? Is the letter clearly written? Is your punctuation present and correct (grandmas are fussy about this).</p> <p>When you have written you success criteria, make your improvements. If you are at school, you may get an opportunity to read your letter out loud. If you are home learning please upload to Class Dojo. Your teacher will read it as soon as she gets time.</p>	

Home Learning: Year 6 Curriculum

Day 1	Day 2	Day 3	Day 4	Day 5
Geography	Science	History	RE	Spanish
<p>LO: Research Biome</p> <ul style="list-style-type: none"> You are going to find out more about a biome of your choice. Use these websites to research your chosen biome. Website 1 Berkeley biomes Website 2: Britannica biomes Website 2 Website 3: Kiddiscover biomes Website 3 Website 4: BBC Bitesize biomes articles Website 4 See the questions and vocabulary in resources below to help guide your research. Try to answer all these questions for your chosen biome. 	<p>LO Use Classification Trees</p> <p>Watch a video to see how to categorise, using sweets. See guidance below.</p> <ul style="list-style-type: none"> Create your own classification tree for sweets or any other objects you can find at home. Create a classification tree for one of the groups of animals in the resources below. Challenge: do this for an animal species of your choice. 	<p>LO: Examine changes from the Stone Age to the Iron Age</p> <p>Click on Skara Brae and on Maiden Castle , read and write some facts about these two settlements.</p> <ul style="list-style-type: none"> Create posters, fact sheets or visitor guides about Skara Brae and Maiden Castle. Show how life could have been like in these settlements. 	<p>Baptism</p> <p>Many Christians believe that it is important to welcome a new baby into the Christian faith by baptising them. Watch these two clips about a baptism. Make some notes about the things that happened during the baptism ceremony.</p> <p>https://www.bbc.co.uk/bitesize/clips/zxd2hyc https://www.bbc.co.uk/bitesize/clips/zcb9jxs</p> <p>Design an invitation to a baby's baptism. Decorate it to show the symbols used in a baptism. Include a sentence or two about what the baptism will be like and why it is important to the baby and his or her family.</p>	<p>Watch the following videos showing what a Spanish kid does at school</p> <p>https://www.bbc.co.uk/bitesize/clips/zm3hfg8</p> <p>https://www.youtube.com/watch?v=nnR3tJiCgyQ&t=118s</p> <p>-Is it similar to what you do at our school? Does it look the same?</p> <p>-Can you say your favourite subject in Spanish?</p> <p>Extra challenge: Make a list of words and sentences that you have learned from the video!</p>
Everything is Interesting – are you ready for a challenge?				

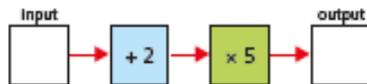
Find a rule – two step

1 Use the function machine to complete the table.



Input	1	2	3	5	10	50
Output						

2 Here is the same function machine with the steps in the reverse order.



The outputs will be the same.

Teddy



The outputs will be different.

Jack

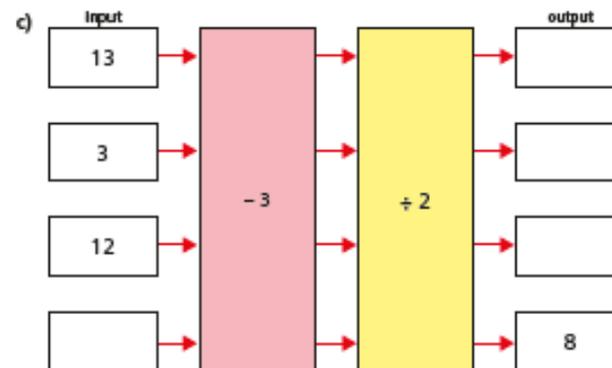
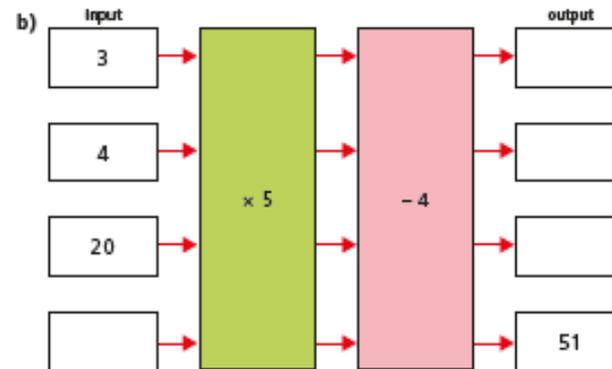
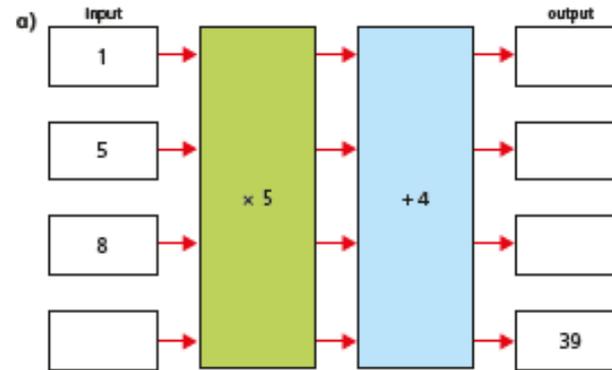
Explain to a partner who you think is correct.

Use the function machine to complete the table.

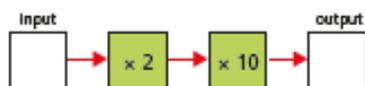
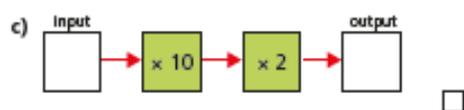
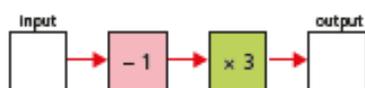
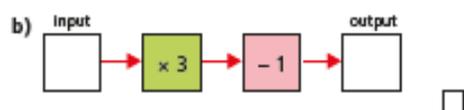
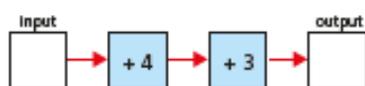
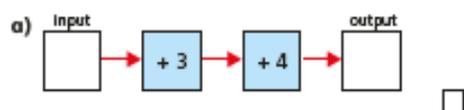
Input	1	2	3	5	10	50
Output						

Who is correct? _____

3 Work out the missing outputs and inputs.



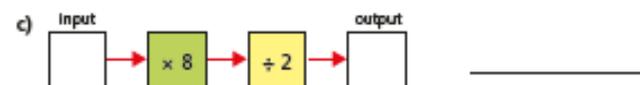
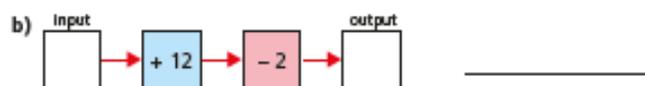
- 4 Tick the pairs of function machines that will give the same outputs for a given input.



Explain your reasoning to a partner.

- 5 Here are some 2-step function machines. For each machine, write a single step that would give the same output.

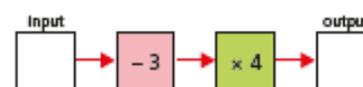
Check your answers by inputting values.



Can all 2-step function machines be written as a 1-step function machine?

Talk about it with a partner.

- 6 Here is a function machine.



- a) Complete the table.

Input	10	3		
Output			40	280

- b) Rosie puts a number into the machine and she gets out the same number.

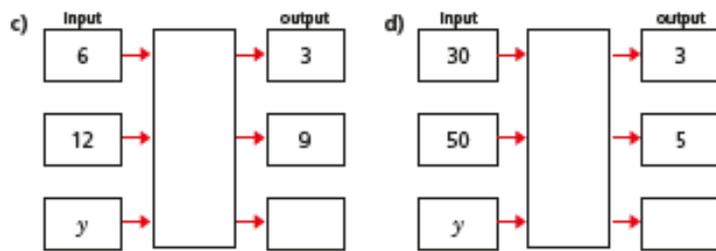
Work out Rosie's number.

- 7 Mr Hall and Mrs Rose order some photos online.

- a) Mr Hall orders 16 photos. How much does he pay?



- b) Mrs Rose pays £6.05. How many photos did she order?

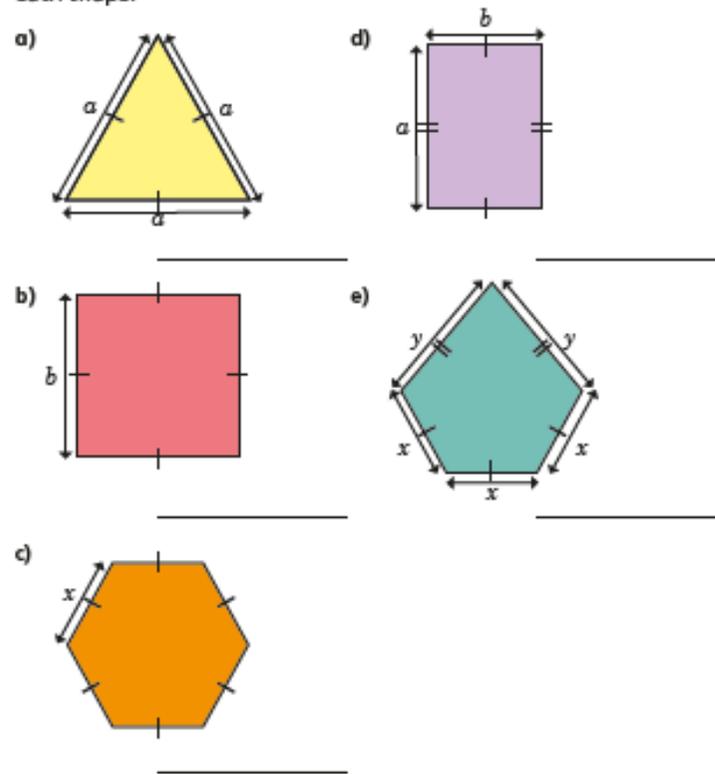


5 Match each statement to the equivalent algebraic expression.

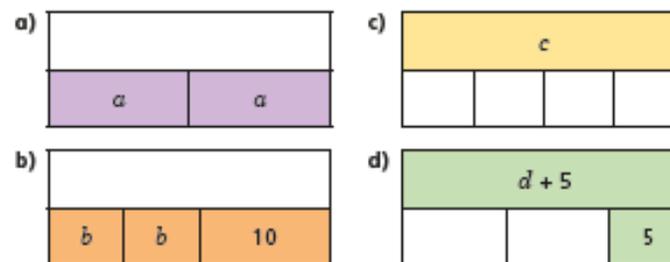
Write the missing statements.

5 more than y	$2y$
y less than 5	$y - 5$
y multiplied by 5	$5 - y$
y divided by 5	$y + 5$
double y	$5y$
	y^2
	$\frac{y}{5}$

6 Write an algebraic expression to represent the perimeter of each shape.



7 Complete the bar models.



Substitution

1

 = 4	 = 5
---	---

Use the given facts to work out the calculations.

a)  +  + 

b)  +  - 

c)  +  +  +  + 

2

 = 12	 = 5
---	--

Use the given facts to work out the calculations.

a)  - 

b)  × 

c) Create your own calculation that will be equal to 22

3

If $x = 5$, write the values of the expressions in the corresponding grid.

The first one has been done for you.

$3x$	x^2	$2x - 5$
$4x + 2$	$\frac{x}{2}$	$2(x + 1)$
$7x$	$x + 9$	$x - 7$

15		

4

If $a = 10$ and $b = 6$, work out the values of the expressions.

a) $a + b =$

d) $2a + b =$

b) $a - b =$

e) $3a - 17 =$

c) $2a =$

f) $2(a - b) =$

5

If $m = \frac{4}{5}$ and $k = 0.1$, work out the value of $m + 2k$



6



Mo

It does not matter what p and q are, $p + q$ and $q + p$ will always give the same answer.

Do you agree with Mo? _____

Explain your answer.

7

$$m = 7 \quad n = 5$$

Write $>$, $<$ or $=$ to compare the expressions.

a) $2m$ ○ 10

b) $n - 1$ ○ 5

c) $2n + m$ ○ $2m + n$

d) $7n$ ○ $5m$

8

$$a = 10$$

Write the expressions in order, starting with the smallest value.

$5a$

$a + 5$

$\frac{a}{5}$

a^2

--	--	--	--

9

$$a = 15$$

Write three different algebraic expressions that give a value of 40

10

Complete the table.

x	$5x$	$5x - 1$
2		
10		
12		
	25	
		34
		99

Solve simple one-step equations

- 1 Write an equation for each part-whole model.

Work out the value of the multilink cube in each equation.

a)

=

b)

=

- 2 There are some counters under the cup.



There are 10 counters in total.

- a) If c is the number of counters under the cup, explain why $c + 6 = 10$

- b) Work out the value of c .

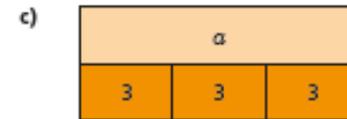
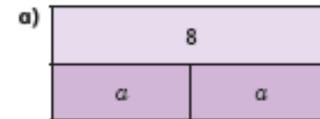
$c =$

- c) How many counters are under the cup?



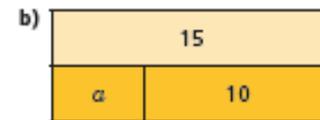
- 3 Write algebraic equations to represent the bar models.

Find the value of a in each one.



$a =$

$a =$



$a =$

$a =$

- 4 Nijah is solving the equation $x - 8 = 20$

$x - 8 = 20$ $x = 20 - 8$ $x = 12$

What mistake has Nijah made?



5 Solve the equations.

a) $x + 7 = 20$

$x =$

b) $10y = 80$

$y =$

c) $4m = 22$

$m =$

d) $g - 3 = 15$

$g =$

e) $32 = t - 5$

$t =$

f) $\frac{u}{6} = 3$

$u =$

6 Filip thinks of a number.

He subtracts 5 from his number.

He ends up with 10

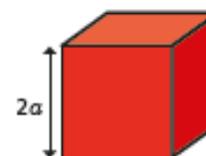
Write an algebraic equation to represent Filip's problem.

Solve the equation to work out his number.

7 Dexter builds a tower.

Each block is $2a$ high.

He uses 7 blocks.



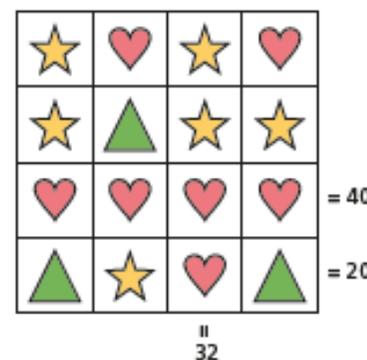
The total height of his tower is 42 cm.

Write an equation to represent the height of Dexter's tower and find the value of a .

$a =$ cm

8 Work out the value of each shape.

Write the equations that you solved to find the value of each shape.



♥ =

★ =

▲ =

Work out the missing total of each row and column.

Compare answers with a partner.



Find a rule – two step

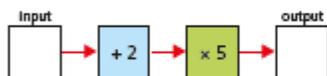
A

1 Use the function machine to complete the table.



Input	1	2	3	5	10	50
Output	7	12	17	27	52	252

2 Here is the same function machine with the steps in the reverse order.



Teddy

The outputs will be the same.



Jack

The outputs will be different.

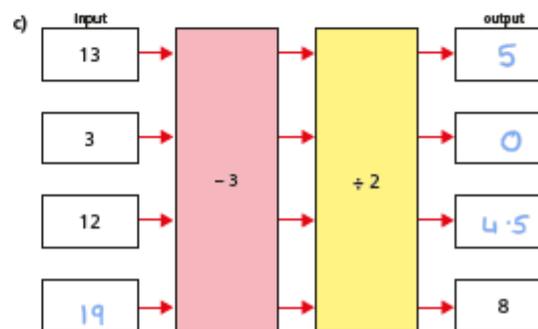
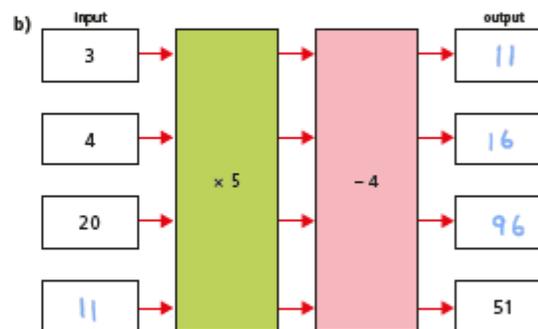
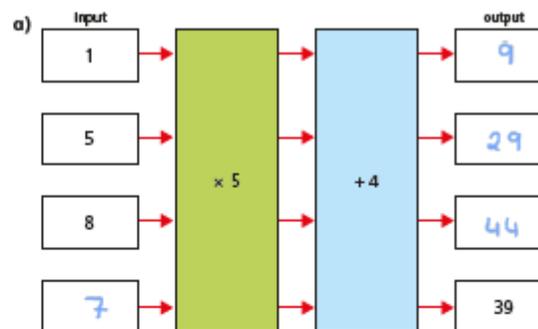
Explain to a partner who you think is correct.

Use the function machine to complete the table.

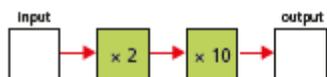
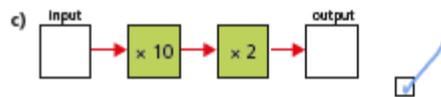
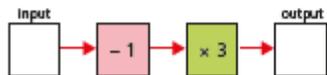
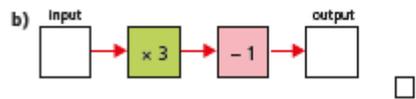
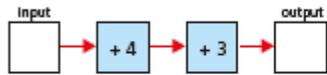
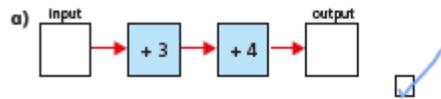
Input	1	2	3	5	10	50
Output	15	20	25	35	60	260

Who is correct? Jack

3 Work out the missing outputs and inputs.



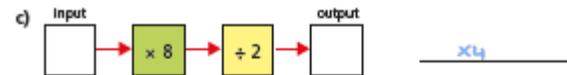
- 4 Tick the pairs of function machines that will give the same outputs for a given input.



Explain your reasoning to a partner.

- 5 Here are some 2-step function machines. For each machine, write a single step that would give the same output.

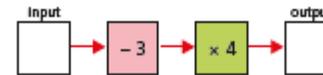
Check your answers by inputting values.



Can all 2-step function machines be written as a 1-step function machine?

Talk about it with a partner.

- 6 Here is a function machine.



- a) Complete the table.

Input	10	3	13	73
Output	28	0	40	280

- b) Rosie puts a number into the machine and she gets out the same number.

Work out Rosie's number.

 4

- 7 Mr Hall and Mrs Rose order some photos online.

- a) Mr Hall orders 16 photos.

How much does he pay?



 £4.45

- b) Mrs Rose pays £6.05

How many photos did she order?

 24

2)

Forming expressions



- 1 Tommy uses multilink cubes to represent an unknown number and base ten ones to represent 1

= x = 1

Write algebraic expressions to describe the sets of cubes.
The first one has been done for you.

- a) $2x + 3$
- b) $3x + 5$
- c) $3x$
- d) $x + 3$
- e) $2x + 5$
- f) $5x + 2$
- g) $2x + 6$
- h) $4x + 9$



- 2 Use Tommy's method to represent these expressions.

- a) $x + 2$ c) $3x + 1$
b) $2x$ d) $x + 6$

Compare answers with a partner.

- 3 Use cubes to help you simplify the following expressions.

The first one has been done for you.

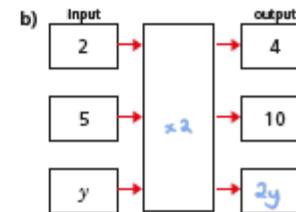
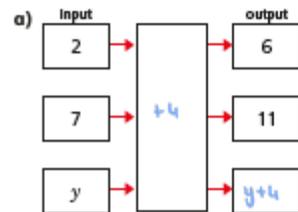
a) $2y + 5 + y$
 $3y + 5$

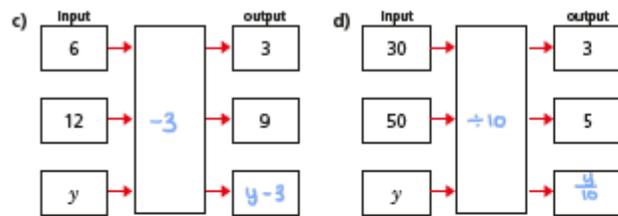
b) $3a + 2 + a + a$
 $5a + 2$

c) $6p + 2 - 2p$
 $4p + 2$

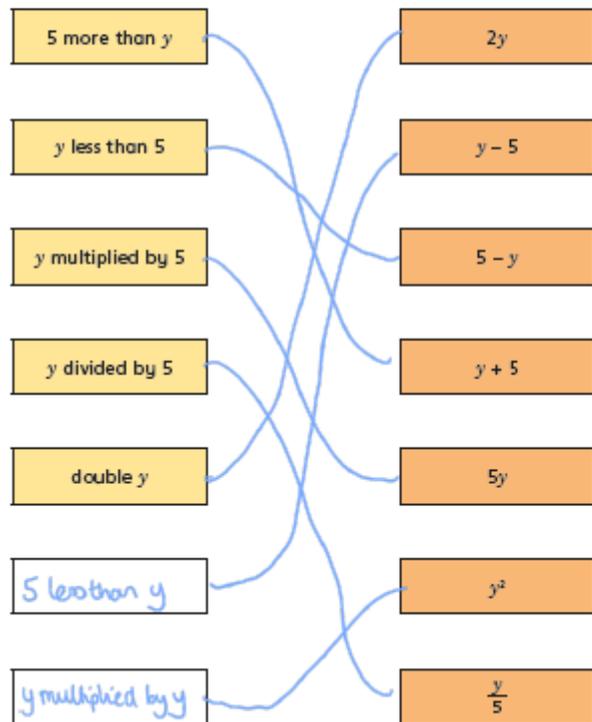
d) $m + 4 + 3m - 3$
 $4m + 1$

- 4 Complete the function machines.

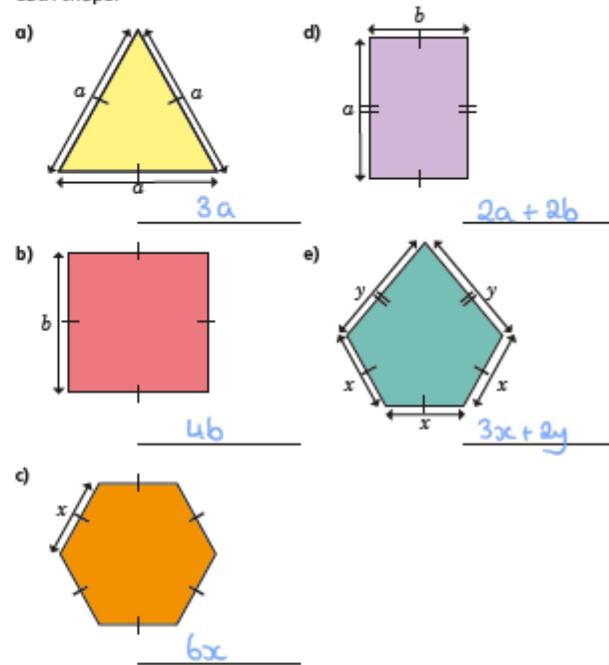




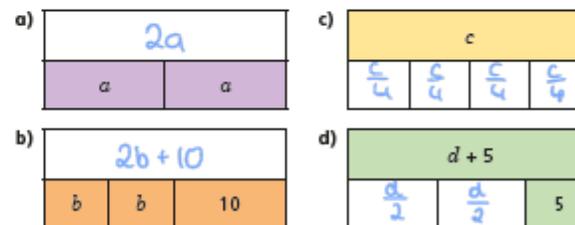
5 Match each statement to the equivalent algebraic expression.
Write the missing statements.



6 Write an algebraic expression to represent the perimeter of each shape.



7 Complete the bar models.



3)

Substitution

1

 = 4  = 5

Use the given facts to work out the calculations.

a)  +  + 

13

b)  +  - 

3

c)  +  +  +  + 

23

2

 = 12  = 5

Use the given facts to work out the calculations.

a)  - 

7

b)  × 

60

c) Create your own calculation that will be equal to 22

e.g. $\triangle + \square + \square$

3

If $x = 5$, write the values of the expressions in the corresponding grid.

The first one has been done for you.

$3x$	x^2	$2x - 5$
$4x + 2$	$\frac{x}{2}$	$2(x + 1)$
$7x$	$x + 9$	$x - 7$

15	25	5
22	2.5	12
35	14	-2

4

If $a = 10$ and $b = 6$, work out the values of the expressions.

a) $a + b = 16$

d) $2a + b = 26$

b) $a - b = 4$

e) $3a - 17 = 13$

c) $2a = 20$

f) $2(a - b) = 8$

5

If $m = \frac{4}{5}$ and $k = 0.1$, work out the value of $m + 2k$

1



6



Mo

It does not matter what p and q are, $p + q$ and $q + p$ will always give the same answer.

Do you agree with Mo? Yes

Explain your answer.

Addition is commutative.

7

$$m = 7 \quad n = 5$$

Write $>$, $<$ or $=$ to compare the expressions.

a) $2m$ $>$ 10

b) $n - 1$ $<$ 5

c) $2n + m$ $<$ $2m + n$

d) $7n$ $=$ $5m$

8

$$a = 10$$

Write the expressions in order, starting with the smallest value.

$$5a$$

$$a + 5$$

$$\frac{a}{5}$$

$$a^2$$

$$\frac{a}{5}$$

$$a + 5$$

$$5a$$

$$a^2$$

9

$$a = 15$$

Write three different algebraic expressions that give a value of 40

e.g.

$$2a + 10$$

$$3a - 5$$

$$\frac{8a}{3}$$

10

Complete the table.

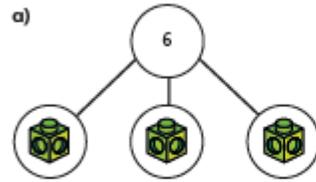
x	$5x$	$5x - 1$
2	10	9
10	50	49
12	60	59
5	25	24
7	35	34
20	100	99

4)

Solve simple one-step equations

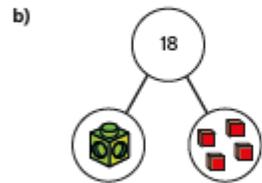
1 Write an equation for each part-whole model.

Work out the value of the multilink cube in each equation.



$$3x = 6$$

$$\text{cube} = 2$$



$$x + 4 = 18$$

$$\text{cube} = 14$$

2 There are some counters under the cup.



There are 10 counters in total.

a) If c is the number of counters under the cup, explain why $c + 6 = 10$

b) Work out the value of c .

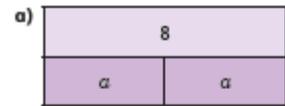
$$c = 4$$

c) How many counters are under the cup?

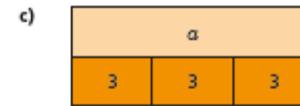
$$4$$

3 Write algebraic equations to represent the bar models.

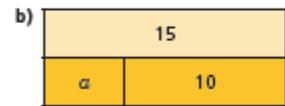
Find the value of a in each one.



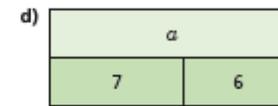
$$a = 4$$



$$a = 9$$



$$a = 5$$



$$a = 13$$

4 Nijah is solving the equation $x - 8 = 20$

$$x - 8 = 20$$

$$x = 20 - 8$$

$$x = 12$$

What mistake has Nijah made?

She should have added 8 to 20

$$x = 28$$

5 Solve the equations.

a) $x + 7 = 20$

$x = 13$

b) $10y = 80$

$y = 8$

c) $4m = 22$

$m = 5.5$

d) $g - 3 = 15$

$g = 18$

e) $32 = t - 5$

$t = 37$

f) $\frac{u}{6} = 3$

$u = 18$

6 Filip thinks of a number.

He subtracts 5 from his number.

He ends up with 10

Write an algebraic equation to represent Filip's problem.

$x - 5 = 10$

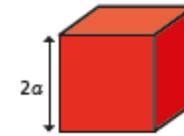
Solve the equation to work out his number.

15

7 Dexter builds a tower.

Each block is $2a$ high.

He uses 7 blocks.



The total height of his tower is 42 cm.

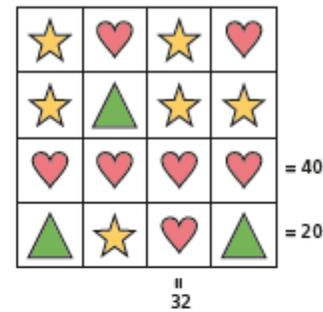
Write an equation to represent the height of Dexter's tower and find the value of a .

$14a = 42$

$a = 3$ cm

8 Work out the value of each shape.

Write the equations that you solved to find the value of each shape.



♥ = 10

★ = 6

▲ = 2

Work out the missing total of each row and column.

Compare answers with a partner.

English Day One - Similes and Metaphors

L.O. To be able to identify similes and metaphors.

Task 1. Definitions

Look in a dictionary and write down definitions for Simile and Metaphor.

Task 2. Simile or metaphor.

Make a table in your book with two headings – similes and metaphors. Write the following under the correct heading. (clue – **like or as** means a simile)

The moon **is a** balloon in the night sky.

The moon is **like a** balloon in the night sky.

Metaphor

Simile (includes
like or as)

1. I wandered as lonely as a cloud.
2. His eyes shone like diamonds.
3. The sea is a mirror to the clouds.
4. My brother eats like a pig.
5. My puppy runs as fast as a cheetah.
6. Darkness is like a painted day.
7. The wind was a whip lashing my cheeks.
8. The truck flew down the highway.
9. His ears popped like champagne corks.
10. Peter is an angel.
11. The stars are diamonds in the sky.
12. The car moved at a snail's pace in the traffic jam.
13. Her heart was as big as the ocean.

Task3 Explaining similes and metaphors

Explain clearly what the following sentences are saying.

1. I paced my room like a caged animal.
2. As Amos grabbed August's hood, there was anger thundered in my ears.
3. The test was a breeze.
4. Education is your passport to a good job.
5. The house was a zoo.

English Day 2 Comprehension Questions.

Read Alien p250-267 and answer the questions below

1. Give three reasons August mentions on **p 250-251** why he might be afraid of going to the school retreat.
2. **p. 251.** Give three reasons from your own ideas why August might be excited to go to the retreat.
3. **p. 252.** August says that Star Wars is 'special' to the doctor who put his hearing aids in, earlier in the book. Do you think the doctor likes it as much as August?
4. **On p. 253,** why does August correct Mom – “Three days and two nights”?
5. **p. 257.** Why hasn't Julian come on the trip?
6. **p. 258,** August mentions that he's seen the sky look like this in Montauk. When has he been to Montauk and who lived there? You'll need to scan through the book for earlier mentions of 'Montauk'.
7. Why are the events on **p. 265** such a shock? Think about what has happened to August between **p. 249** and **p. 264.**

English - Day Two Comprehension - Answers

1. Give three reasons August mentions on pages 250-251 why he might be afraid of going to the school retreat.

Answers from: He's never slept away from home before. There might be medical problems. His mum and dad might have to come and pick him up like they did from Christopher's. He might get panicky in the middle of the night like he did at Christopher's. It's a long way away (4 hours). Most others have already had sleepovers, so they know what it's about but he doesn't.

2. p. 251. Give three reasons from your own ideas why he might be excited to go to the retreat.

Various answers from own experience or empathising with August's feelings. For example: The campfire atmosphere. Sleeping in a cabin on bunk beds with his friends. Walking through the woods – being out in nature. Being with his friends 24/7. Being grown-up and away from home.

3. p. 252. August says that Star Wars is 'special' to the doctor who put his hearing aids in, earlier in the book. Do you think the doctor likes it as much as August?

Example answer. It may be that Star Wars is special to the doctor – he did know a bit about the characters after all. But it's likely that the doctor was just picking up on what August was interested in so that he'd accept the hearing aid. August doesn't know that the doctor was 'playing' him, but we as readers do, if we infer correctly.

4. On p. 253, why does August correct Mom – "Three days and two nights"?

Various answers. For example: He's afraid of how long he's going to be away and it's preying on his mind. Ten-year olds can be a bit like that – contrary to their parents.

5. p. 257. Why hasn't Julian come on the trip?

Example answer. Julian says it's because the trip is 'dorky' but he's probably losing his popularity and power with the other kids because of his behaviour to Jack Will and August. He doesn't want to be confronted by the fact and lose face in front of everyone. Julian's a bit of a snob anyway – he's always talking about the amazing places he's visited, so he wouldn't be impressed or excited by the retreat like August is.

6. p. 258. August mentions that he's seen the sky look like this in Montauk. When has he been to Montauk and who lived there? You'll need to scan through the book for earlier mentions of 'Montauk'.

Example answer. Grans lived in Montauk. It's mentioned on p. 85. August will have been there as a child visiting his grandmother.

- . p. 265. Why are the events on p. 265 such a shock? Think about what has happened to August between p. 249 and p. 264.

Example answer. In the earlier pages, August has been having a great time. Everyone in school has accepted him and his face isn't an issue – it's hardly mentioned. Then suddenly there's a terrible reaction to August's face, like a magnification of the reactions we've seen before.

English Day Three - Resource 1

Events	Adjective/descriptive phrase describing how Jack was feeling
One of the girls sees August's face and starts screaming.	
A boy starts shouting that he can't believe what he's seen.	
Jack tries to pull August away but he's stopped by the boy with a torch.	
The boys call August names, likening him to the monster in the film.	
The boys throw a firecracker at Jack and August. Jack is shoved to the ground by Eddie.	
August points out to the boys that they are much bigger than they are.	
Amos arrives with Miles and Harry and tells Eddie to leave August and Jack alone.	
Eddie grabs August's hood and pulls it and makes him fall over.	
Amos rams Eddie and they both fall over.	
August is pulled away from the boy who is holding him and his attackers run back to the movie.	

English Day Three – Resource 2

Match the statement (A) to the appropriate simile or metaphor in column B. To make the sentence work you may have to remove words from statement A in order to make your new sentence work. You may choose to use these sentences in your letter. Rewrite the last two sentences to include a simile or metaphor.

A	B
As I listened to them taunting August, my anger grew	...like a leopard pouncing on its prey.
My fists clenched	...pierced my ears like a thousand sharp knives.
I leapt onto Eddie	...a recipe for disaster.
The girl's scream was loud.	...was a smouldering volcano waiting to erupt.
I should've know that wandering into the wood at dusk was a bad idea.	...like a coiled spring.
Finally free of our predators, we did a victory dance, jumping up and down.	
August stood by the lake, tears running down his cheeks.	

English Day Three and Four Planning Resources

Planning

Paragraph 1	
Paragraph 2	
Paragraph 3	
Paragraph 4	
Paragraph 5	

Think about which of the events in your sequence could fit together in a paragraph.



Sign off

You choose how you'll end your letter to Gran. It needs to be an informal sign off:

- ❖ Love,
- ❖ Best wishes,
- ❖ Thinking of you,
- ❖ Write soon,
- ❖ Miss you,
- ❖ Bye.

See you soon!!!!



Letter Layout

Cabin 5,
Broarwood Nature Reserve,
Pennsylvania.
15767
20th June, 2013



Dear Gran,

I've had a great time at school camp.

All new paragraphs will begin under this comma.

Geography

Use these questions to help guide your research about 2 chosen biomes.

1. Where does the biome exist?
Vocab to use: Northern / Southern hemisphere, East / West of UK
2. What plants and animals live in the biome?
3. What is the climate like in the biome?
Vocab to use: warm, wet, cold, dry, high temperatures, low temperatures, rainfall.
4. What landforms exist in the biome?
Vocab to use: mountains, volcanoes, valleys, glaciers, rivers
5. What makes this biome interesting to visit?
6. How is this biome similar and different to the UK? (If investigating Temperate Deciduous Forest then compare to another biome of choice).
7. What are the threats to this biome?
8. How can we reduce threats and risks to this biome?

Science

Sweet classification guidance

You have a bowl of sweets which need to be sorted and classified (try not to cause any extinctions by eating the specimens!).

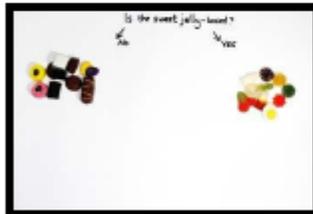
You will need to sort the sweets according to clear characteristics that can split the specimens into two new groups.

Think of some questions that may help you to sort and split the sweets. Think about the following characteristics or features:

- Main ingredient
- Structure (layered, encased in a shell)
- Shape
- Size
- Colour

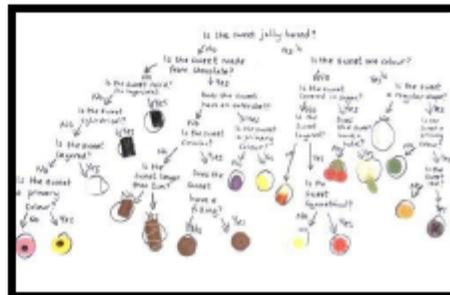
Make your questions interesting and ensure that they always need a 'yes'/'no' answer, for example, 'Is the sweet a primary colour?'

Use your large sheet of paper to organise your sweets and to record your classification system a bit like this:



As you sort your sweets add in 'branches' that are labelled to show each feature and put a question in where the sweets have just been (e.g. your question might be, 'Is the sweet jelly based?' with a 'yes' and 'no' branch off).

Once your sweets have been fully sorted your sheet should look something like this:

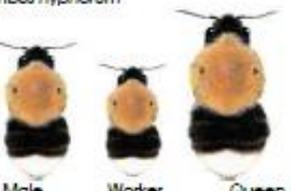
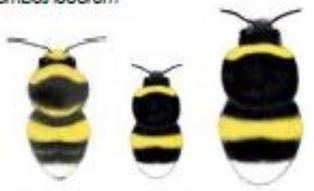


Resource - Science

Birds to classify

	
Blackbird	Chaffinch
	
Great tit	Blue tit
	
Grey Heron	Puffin
	
Magpie	Yellowhammer
	
Bullfinch	Woodpigeon

Bees to Classify

<p>Buff-tailed bumblebee <i>Bombus terrestris</i></p>  <p>Male Worker Queen</p>	<p>Common carder bee <i>Bombus pasouorum</i></p>  <p>Male Worker Queen</p>
<p>Early bumblebee <i>Bombus pratorum</i></p>  <p>Male Worker Queen</p>	<p>Garden bumblebee <i>Bombus hortorum</i></p>  <p>Male Worker Queen Face</p>
<p>Heath bumblebee <i>Bombus jonellus</i></p>  <p>Male Worker Queen Face</p>	<p>Red-tailed bumblebee <i>Bombus lapidarius</i></p>  <p>Male Worker Queen</p>
<p>Tree bumblebee <i>Bombus hypnorum</i></p>  <p>Male Worker Queen</p>	<p>White-tailed bumblebee <i>Bombus lucorum</i></p>  <p>Male Worker Queen</p>

Butterflies to classify

 <p>b</p> <p>Small blue</p>	 <p>Large white</p>
 <p>d yellow</p>	 <p>Orange tip</p>
 <p>Swallowtail</p>	 <p>Peacock</p>
 <p>Marbled white</p>	 <p>Red admiral</p>

Extension Maths

85

THESE ANGLES ARE NOT DRAWN TO SCALE. YOUR ANSWERS SHOULD BE CALCULATED, NOT MEASURED WITH A PROTRACTOR

a Find the size of each angle, a, b, c, d, e

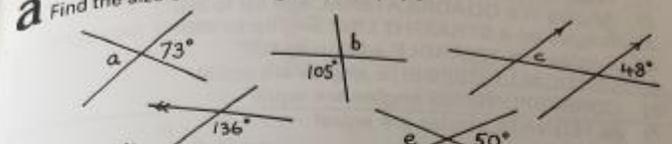


Diagram description: The diagram shows five pairs of intersecting lines.
 1. A pair of intersecting lines with an angle of 73° and an adjacent angle labeled 'a'.
 2. A pair of intersecting lines with an angle of 105° and an adjacent angle labeled 'b'.
 3. A pair of intersecting lines with an angle of 48° and an adjacent angle labeled 'c'.
 4. A pair of intersecting lines with an angle of 136° and an adjacent angle labeled 'd'.
 5. A pair of intersecting lines with an angle of 50° and an adjacent angle labeled 'e'.

COPY THE DIAGRAMS ROUGHLY AND FILL IN ON YOUR COPY THE ANGLE SIZES AS YOU FIND THEM

a Find the sizes of angles \widehat{BDC} , \widehat{ABC} and \widehat{BCD}

Write your answer $\widehat{BDC} =$
 $\widehat{ABC} =$
 $\widehat{BCD} =$

b Find the sizes of \widehat{KML} , \widehat{KLM} , \widehat{KLR} , \widehat{SMN} , \widehat{LRM} and \widehat{PKM}

c Calculate the sizes of \widehat{CBD} , \widehat{CDB} , \widehat{WDB} , \widehat{DWX} and \widehat{CBE} .

How do you know that lines CW and XW are equal?

d Calculate the sizes of \widehat{HFG} , \widehat{FGH} , \widehat{JAF} , \widehat{JAP} , \widehat{KHG} , \widehat{KAF} and \widehat{PAG} .

e $PQ = RQ$

Calculate the sizes of \widehat{APB} , $\widehat{P\hat{R}Q}$, $\widehat{G\hat{R}P}$, $\widehat{R\hat{P}C}$, $\widehat{Q\hat{P}C}$, $\widehat{P\hat{Q}R}$, $\widehat{R\hat{Q}E}$, $\widehat{H\hat{P}R}$, $\widehat{H\hat{P}Q}$ and $\widehat{C\hat{P}A}$

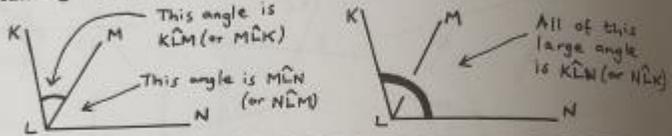
ANGLES (6) - 'ANGLE CHASING'

A SEVEN RULES TO REMEMBER (see pages 60, 62 and 64)

- 1) Angles in a REVOLUTION add up to 360°
- 2) Angles in a QUADRILATERAL add up to 360°
- 3) Angles on a STRAIGHT LINE add up to 180°
- 4) Angles in a TRIANGLE add up to 180°
- 5) VERTICALLY OPPOSITE angles are equal
- 6) CORRESPONDING angles are equal
- 7) ALTERNATE angles are equal

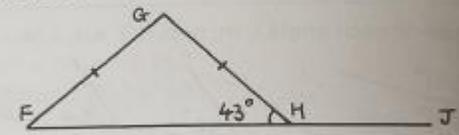
It is also useful to remember that an ISOSCELES TRIANGLE has TWO equal sides and TWO equal angles. Note carefully which two angles are equal

B Naming an angle



C Angle chasing

e.g. Find the sizes of angles (i) \widehat{GHJ} , (ii) \widehat{GFH} and (iii) \widehat{FGH} .



- (i) $\widehat{GHF} = 43^\circ$
 $\widehat{GHJ} + \widehat{GHF} = 180^\circ$ (angles on the straight line FHJ)
 so $\widehat{GHJ} = 180 - 43 = 137^\circ$ $\widehat{GHJ} = 137^\circ$
- (ii) $\widehat{GFH} = \widehat{GHF}$ (GF is the same length as GH, and triangle GFH is isosceles) $\widehat{GFH} = 43^\circ$
- (iii) $\widehat{FGH} + \widehat{GFH} + \widehat{GHF} = 180^\circ$ (angles in triangle GFH add up to 180°)
 $\widehat{FGH} = 180 - 43 - 43 = 94^\circ$ $\widehat{FGH} = 94^\circ$

IF IN DIFFICULTY fill in ANY angles which you can work out. This may help you to find the one you want.

Answers

