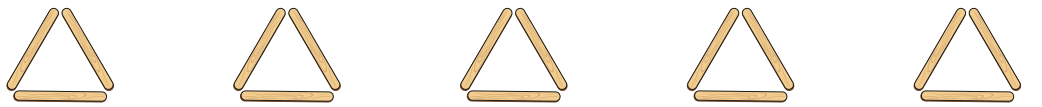


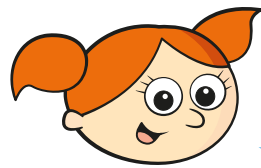
Find a rule – one step

- 1 Whitney makes a pattern of triangles using sticks. Complete the table below.



Number of triangles	1	2	3	4	5	10	
Number of sticks							90

- 2 Complete the tables.



To find the number of wheels, you multiply the number of bicycles by 2

a)

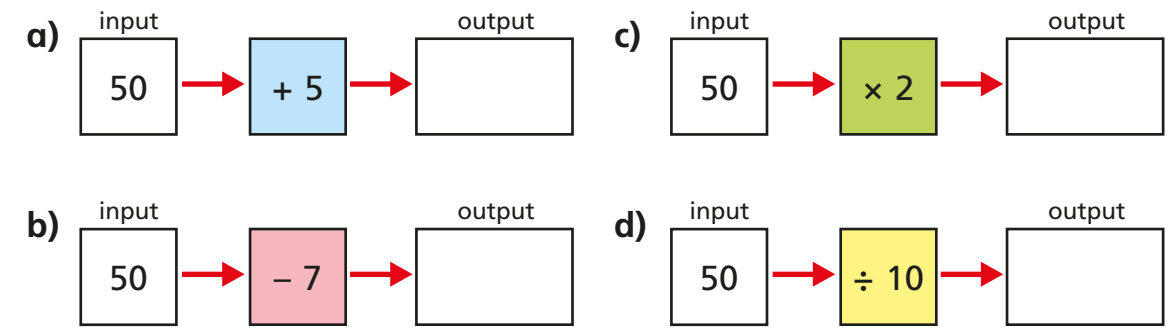
Number of bicycles	1	2	5			16
Number of wheels	2			18	24	

b)

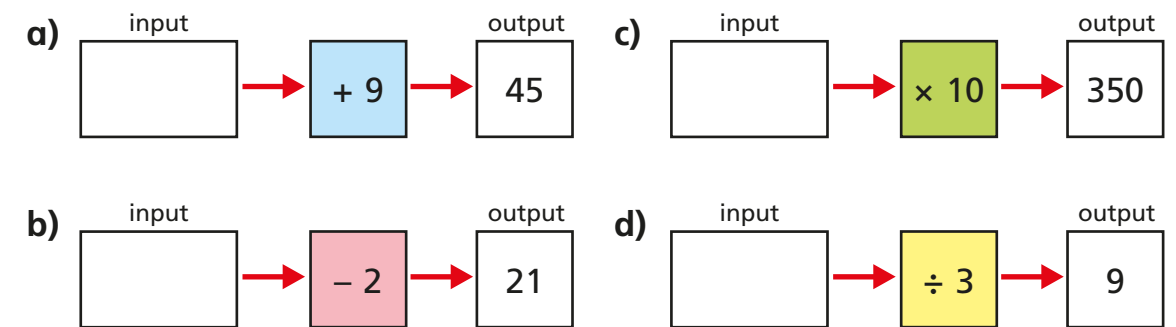
Number of ants	1	2	5			16
Number of legs		12		18	24	

Explain how to find the number of legs.

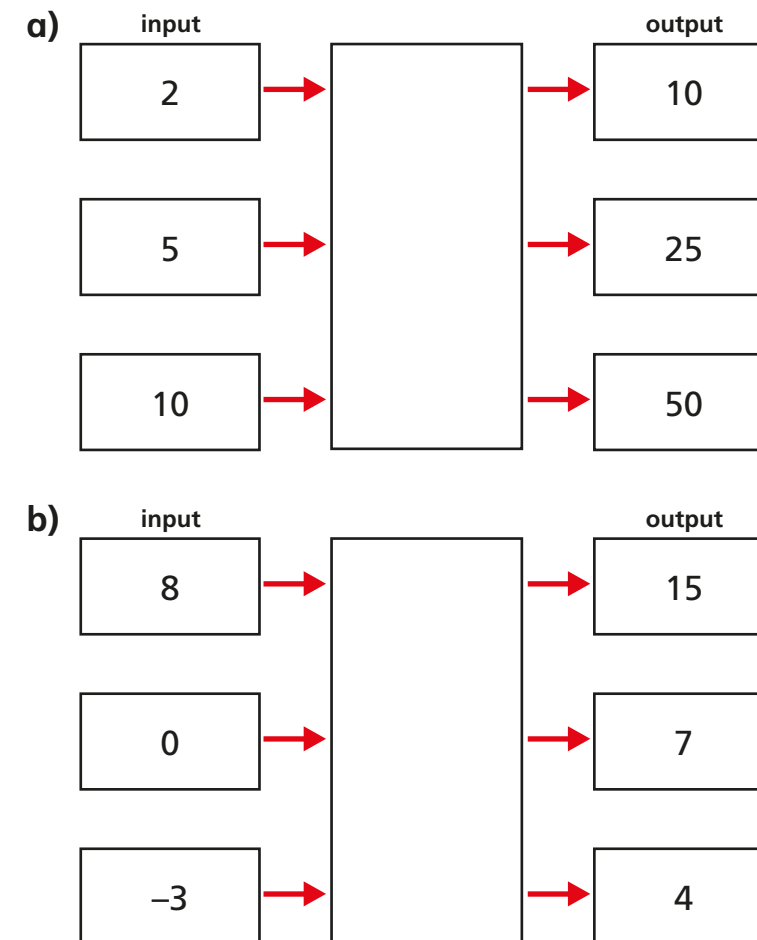
- 3 Calculate the outputs for the function machines below.



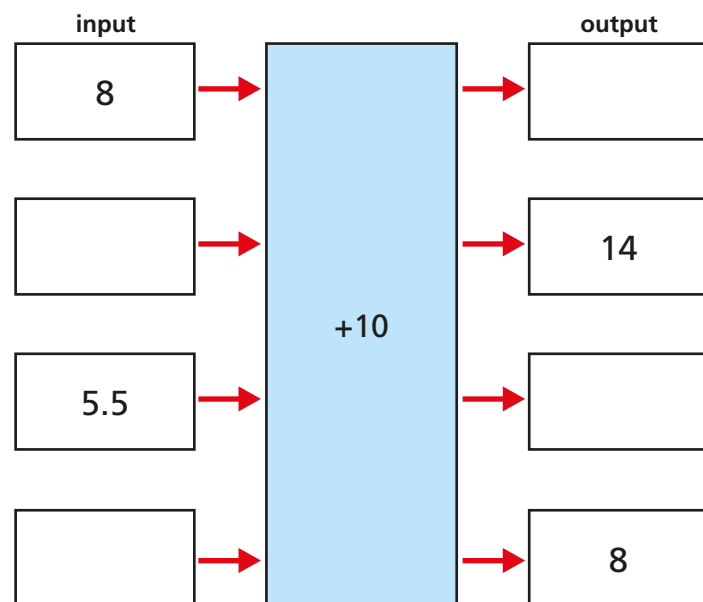
- 4 Calculate the inputs for the function machines.



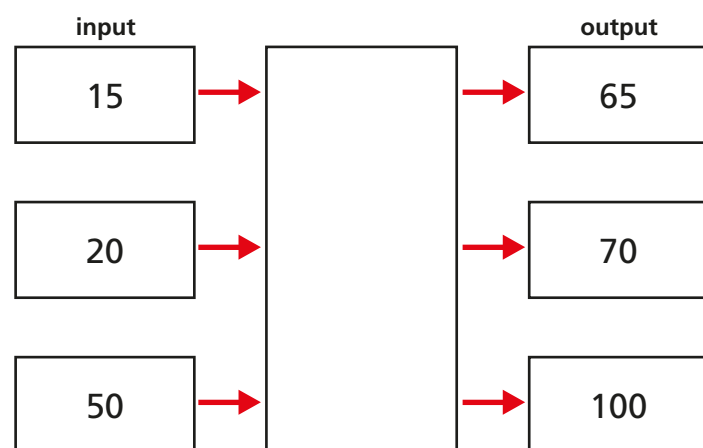
- 5 Write the missing functions in the function machines.



6 Calculate the missing inputs and outputs for the function machine.



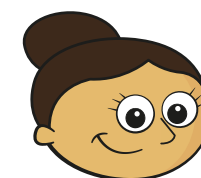
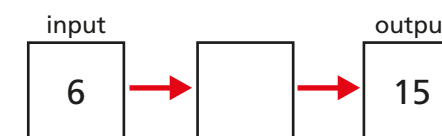
7 Look at the function machine.



a) What is the output, if the input is zero?

b) What is the input, if the output is zero?

8 Here is a function machine.



Dora

The rule is add 9



Dexter

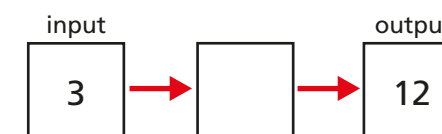
The rule is multiply by 2.5

Who do you agree with? _____

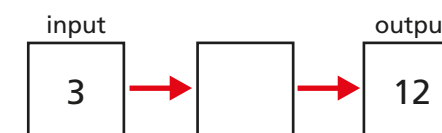
Explain your answer.

9 In a function machine, if the input is 3 and the output is 12, what could the function be?

Write two different functions and complete the table of outputs for each function.



Input	3	4	5	10	20	100
Output	12					



Input	3	4	5	10	20	100
Output	12					

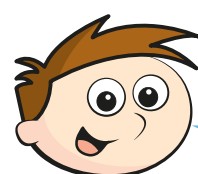
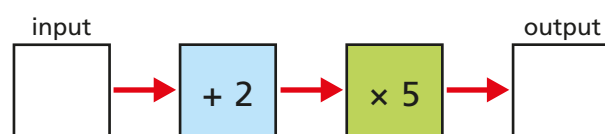
Find a rule – two step

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.



Teddy

The outputs will be the same.



Jack

The outputs will be different.

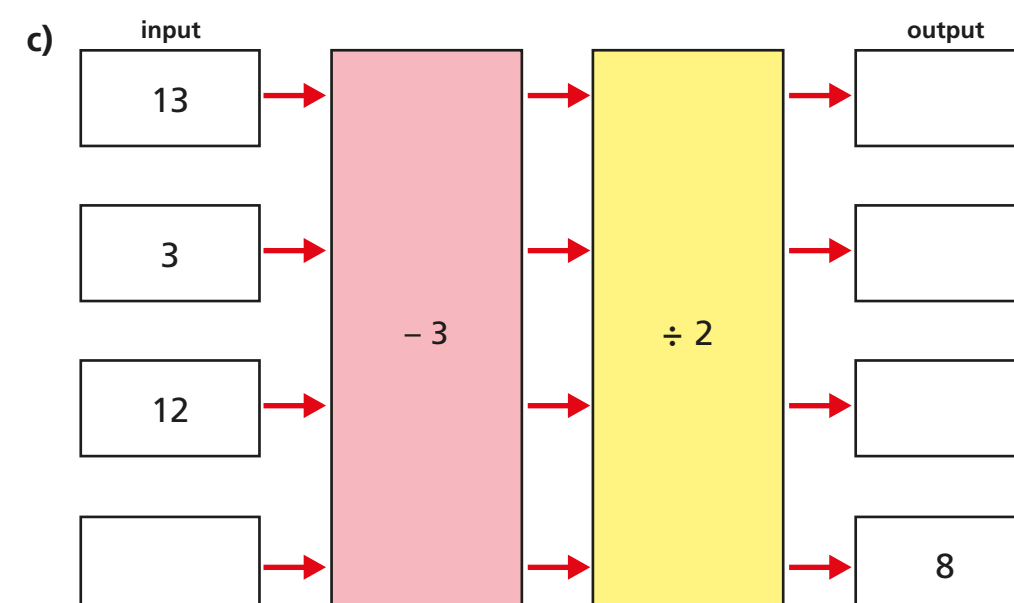
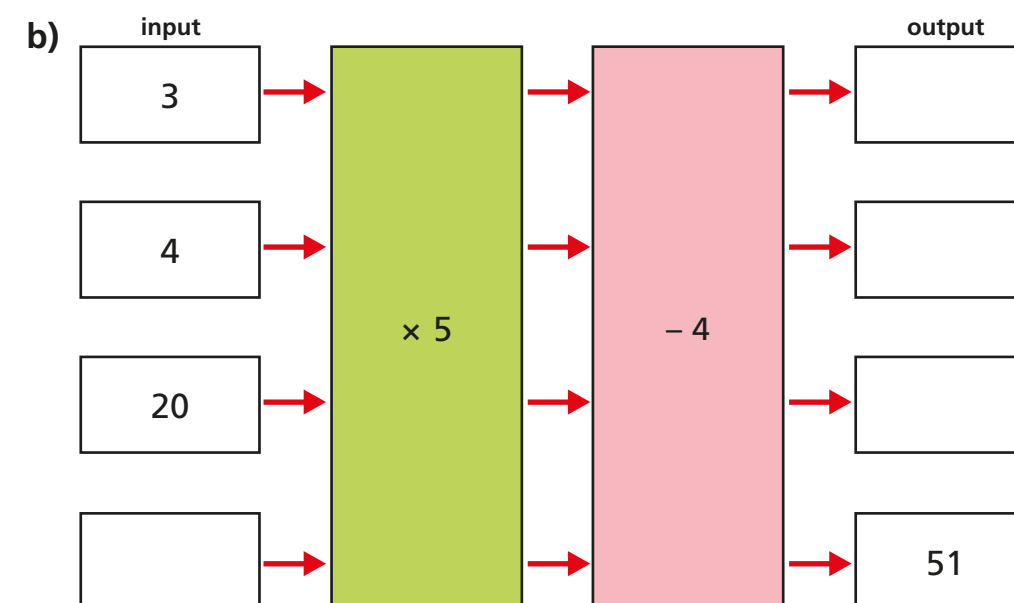
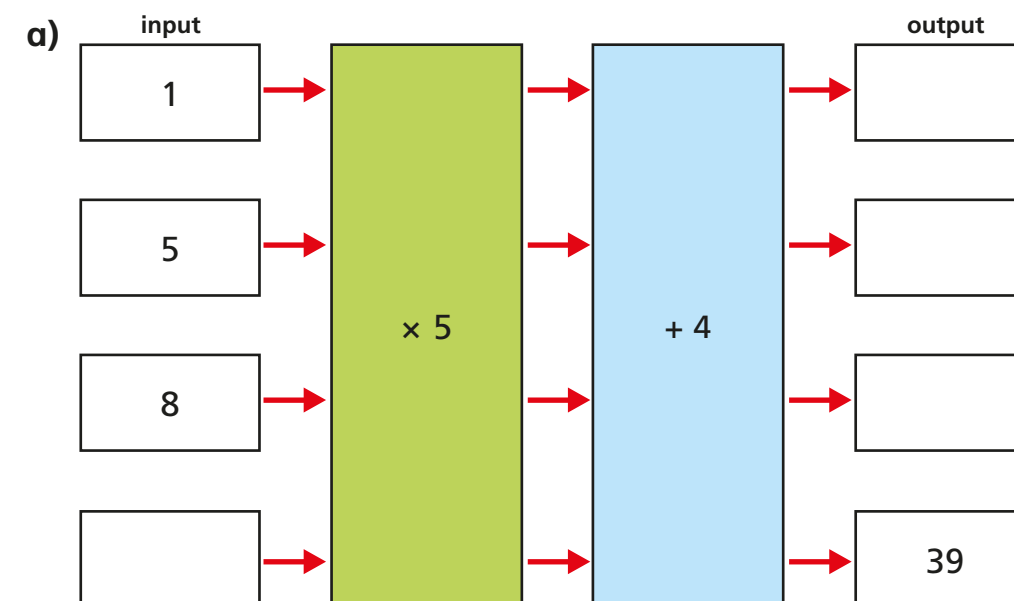
Explain to a partner who you think is correct.

Use the function machine to complete the table.

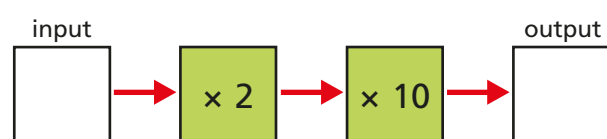
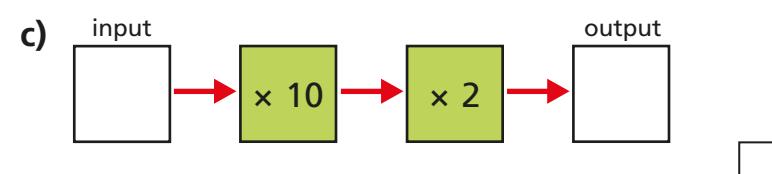
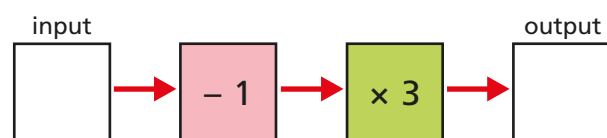
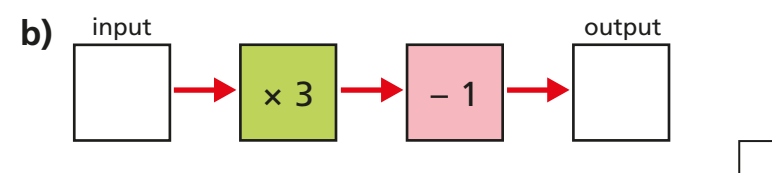
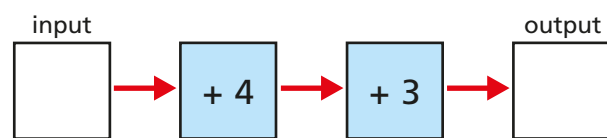
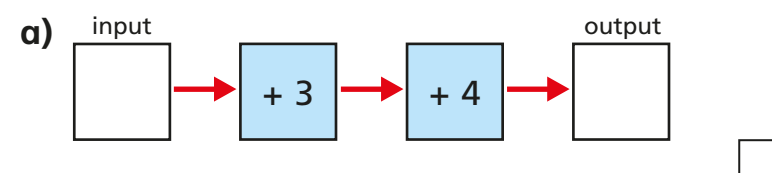
Input	1	2	3	5	10	50
Output						

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.

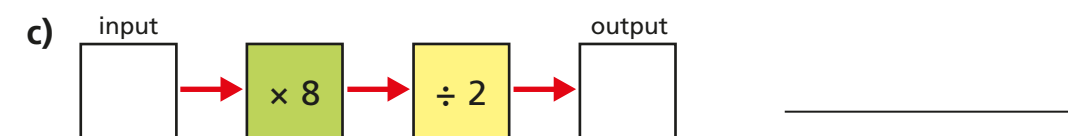
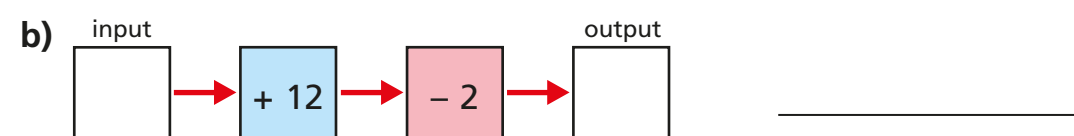
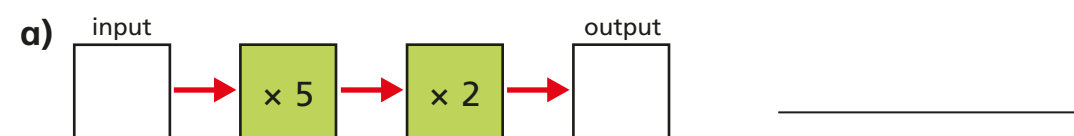


Explain your reasoning to a partner.



- 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.

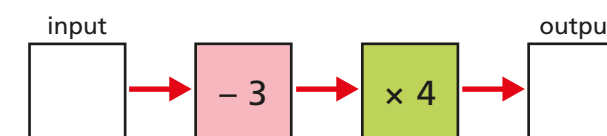


Can all 2-step function machines be written as a 1-step function machine?

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.

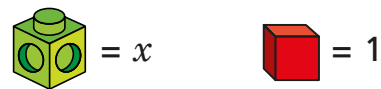
- a) Mr Hall orders 16 photos.
How much does he pay?



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

Forming expressions

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

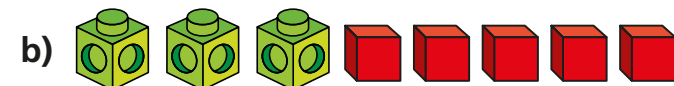


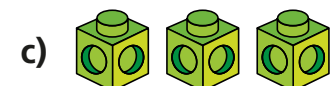
Write algebraic expressions to describe the sets of cubes.

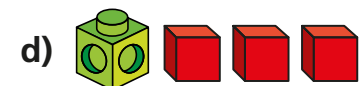
The first one has been done for you.

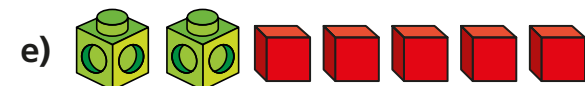


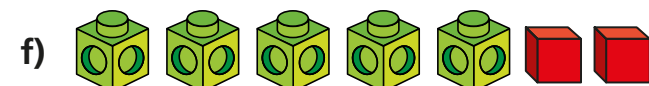
2x + 3

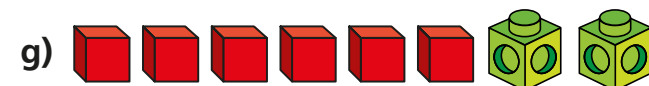


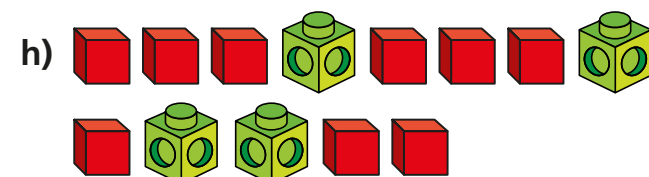














- 2 Use Tommy's method to represent these expressions.

a) $x + 2$

c) $3x + 1$

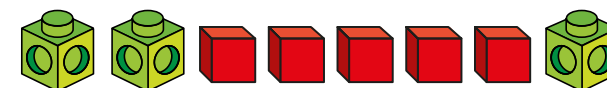
b) $2x$

d) $x + 6$

Compare answers with a partner.

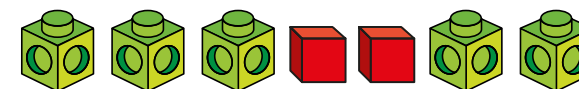
- 3 Use cubes to help you simplify the following expressions.
The first one has been done for you.

a) $2y + 5 + y$



3y + 5

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

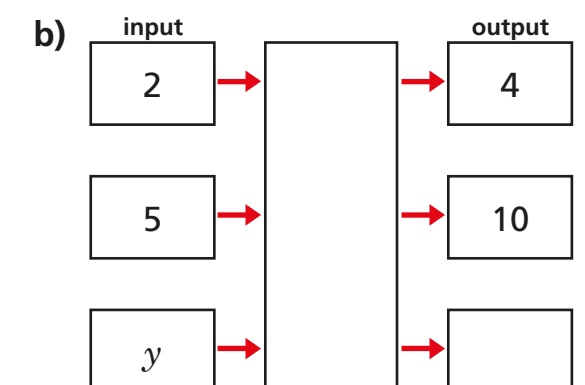
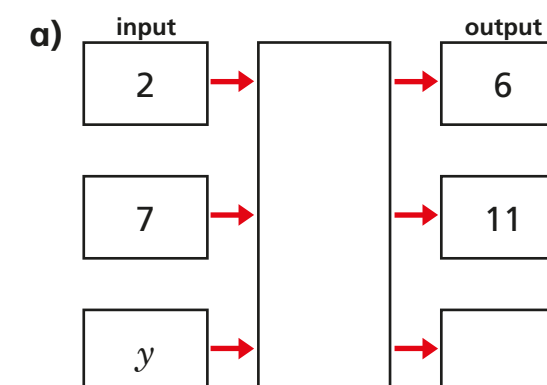


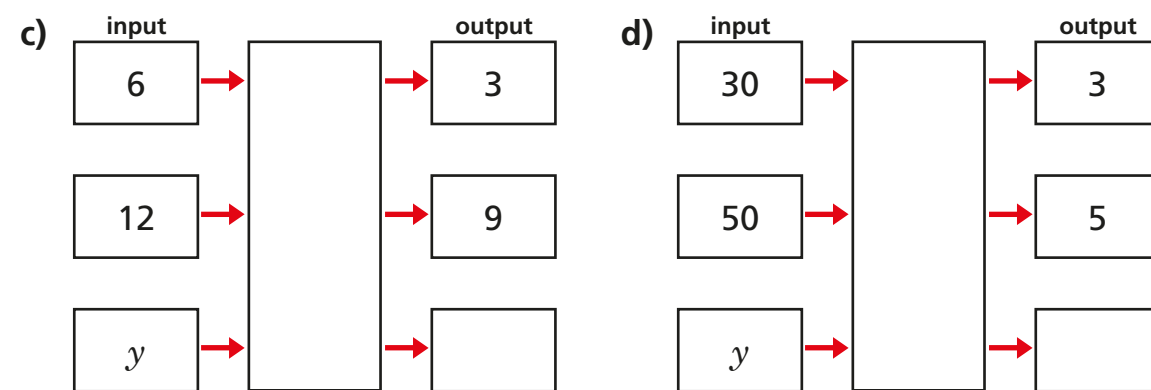
c) $6p + 2 - 2p$



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

- 4 Complete the function machines.

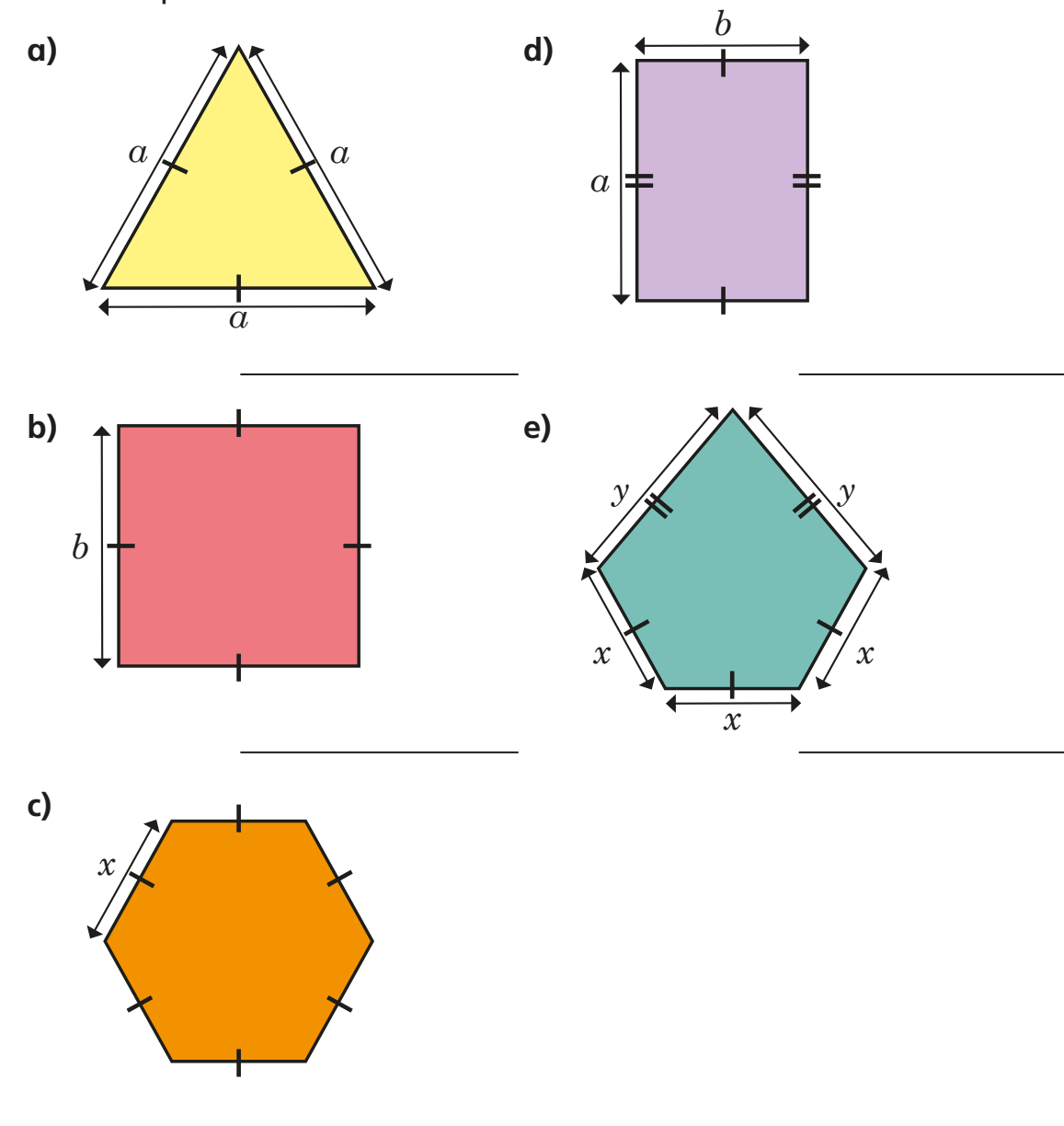




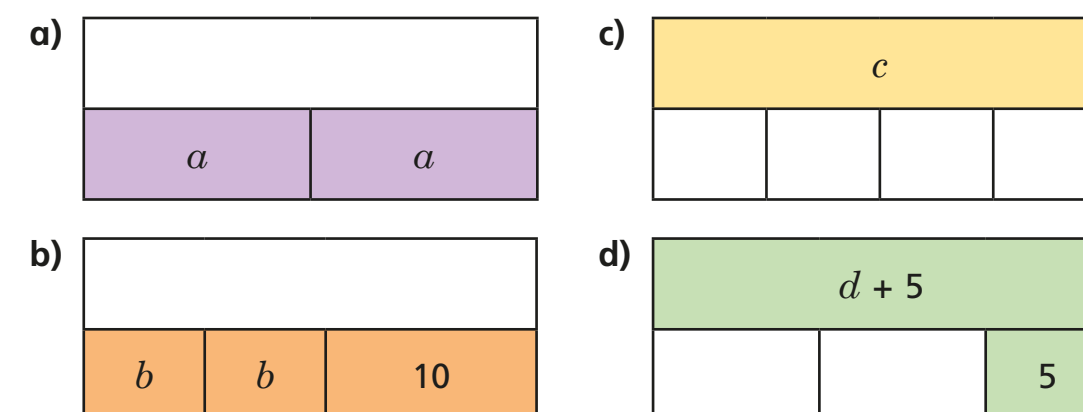
- 5 Match each statement to the equivalent algebraic expression.
Write the missing statements.

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) $2a =$

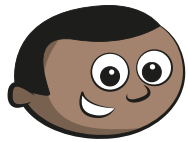
f) $2(a - b) =$

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

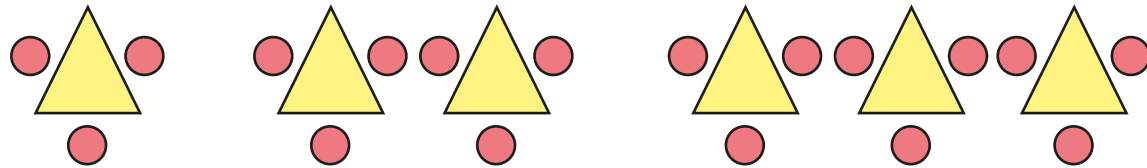
Complete the table.

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



Formulae

- 1 Scott builds a pattern using triangles and circles.



- a) Draw the next diagram in the pattern.

- b) Scott records the number of triangles and circles in a table.

Complete the table.

Number of triangles	1	2	3	4	5
Number of circles	3				

- c) c = number of circles and t = number of triangles

Circle the formula that describes the pattern.

$c = t + 3$

$c = 3t$

$t = 3c$

$t = 3 + c$

- d) How many circles will there be with 10 triangles?

Show your working.

- 2 a) Complete the table.

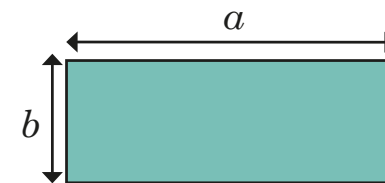
Number of weeks	1	2	3	5	10
Number of days	7				

- b) Complete the formula to show the relationship between days (d) and weeks (w).

$$d = \boxed{} w$$

- c) How many days are there in 32 weeks?

- 3 a) Write a formula for the area and perimeter of the rectangle.



area = _____

perimeter = _____

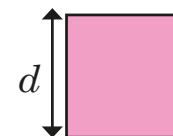
- b) Work out the area and perimeter of the rectangle if

$a = 17$ cm and $b = 8$ cm

Show your workings.

area = perimeter =

- 4 a) Write a formula for the area and perimeter of the square.



area = _____

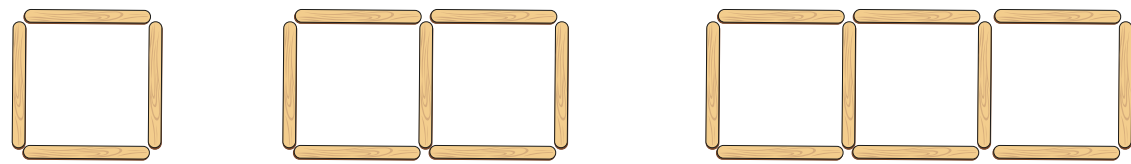
perimeter = _____

- b) Work out the area and perimeter of the square if $d = 8.5$ cm

Show your workings.

area = perimeter =

- 5 Dora makes a square pattern using lolly sticks.

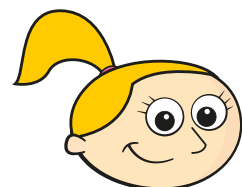


She records the number of squares and sticks in a table.

- a) Continue the pattern and complete the table.

Number of squares, s	1	2	3	4	5
Number of lolly sticks, l	4	7			

- b)



Eva

You need 35 lolly sticks to make 10 squares. I multiplied the number needed for 2 squares by 5

Show that Eva is wrong.

How many sticks are needed to make 10 squares?

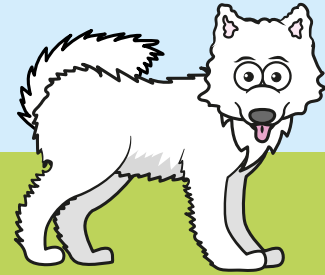
- c) Circle the formula that describes the pattern.

$$l = 3s + 1$$

$$l = 4s + 1$$

$$l = 3(s + 1)$$

- 6 Here are a dog walker's prices.



Walkies

Dog Walker

£12 per hour
plus £5 travel

- a) How much does the dog walker charge for a 2-hour job?

- b) Write a formula to show the cost (c) for (h) hours.

- 7 The Wooden Letter Company sells wooden letters for £2 each, plus £1.50 for delivery of each order.



- a) Whitney places an order for the letters to spell out her name.

How much does it cost?

£

- b) Write a formula to show the cost (c) for the number of letters (n).

English

Free Verse Poetry

Monday – Identify the features of free verse poetry

Tuesday – Using synonyms and antonyms

Wednesday – using personification and metaphors.

Thursday – planning a piece of free verse poetry.

Friday – writing the first stanza of my free verse poetry.

Monday

At the beginning of the lesson, write down what you think the feature of free verse poetry are.

Look at the examples of free verse poetry. What do you notice about this type of poetry? What features can they recognise in this type of poetry?

Have you ever heard the name Benjamin Zephaniah? Have you heard of his poetry?

Watch this video – what type of poems does he write?

<https://www.bbc.co.uk/newsround/54360858> -

In this video below, Benjamin Zephaniah reads two poems in this video about racism. Show the children these poems – what do they notice about these poems?

Go through the features of free verse poetry and then find the features in the poems independently.

<https://www.bbc.co.uk/bitesize/clips/zgwjtf>

Tuesday

What is the difference between a synonym and an antonym? Write down a definition for each of them.

How many synonyms and antonyms can you think for the word wonderful?

Synonyms for wonderful	Antonyms of wonderful
Amazing	Awful

Pick one of these words and pick a synonym for that word:

1. Poor
2. Cold
3. Naughty
4. Soft
5. Calm

Pick one of these words and pick an antonym for the word:

1. Bent
2. Plain
3. Scary
4. Clever
5. Noisy

Once you have a synonym and an antonym, write a descriptive sentence using these words.

Use the pictures that have been loaded onto the website to create a list of synonyms and antonyms for these words.

Wednesday

What is figurative language?

It means using words to compare something else – beyond a literal meaning. It is used to emphasis and impact the reader.

Why might figurative language make our writing more interesting?

We are focusing on using personification and metaphors. What are metaphors and personification?

Metaphors – compare one thing to another without using ‘like’ or ‘as’. A metaphor will use is.

Personification – gives human qualities to animals, non-living objects and ideas.

Can you identify whether these sentences are using metaphors or personification?

1. The spicy food danced around my taste buds.
2. The floorboards moaned as I tiptoed across the room.
3. The fabric cascaded out of the cupboard in a rainbow of colours
4. The model's beautiful teeth were pearls in his smile.
5. The electric car hummed to itself at the traffic lights.
6. You are the sunshine of my life.
7. The wind sighed through the field of wheat.
8. Finally, my temper exploded.
9. Tyler's room is a tip.
10. The single chair sat miserably in the corner of the room.
11. The TV beckoned to me as I struggled through my homework.

Now try write writing your own examples of personification and metaphors that could be used in your poetry. Think about discrimination and racism and how it could be described.

E.g. Racism rages around people's minds.

Discrimination is ugly.

Thursday

Planning your free verse poetry.

What is the focus of your poetry going to be? Racism, discrimination or both? Will it focus on incidents? Will it talk about how it is unfair? How will you capture the emotion that is caused?

Look back at the poems by Benjamin Zephaniah from Monday. How did he theme his paragraphs?

Decide how you are going to structure your poem and if you are going to add the features of your poetry. Will there be repetition? What synonyms will you plan? Where will you add metaphors?

Look through Year 5/6 spelling list to find words to add into your writing.

Friday

Writing the first stanza of your free verse poem.

Think about a title for your poem.

Look back at your plan for your poetry. What was the theme for your first stanza?

Remember to add emotion to your writing as well as the features.

Look at the example below to give you some ideas.

Stop! Listen!

You cannot ignore it;

racism raging around the world;

clinging onto people like an angry storm.

Damage, destruction and devastation.

You can make a difference.

Features of Free Verse Poetry

- No rhyming structure and often doesn't have a particular rhythm or syllable pattern
- Sentence length
- Line breaks
- Alliteration
- Repetition
- Description – adjectives and adverbs
- Similes
- Personification
- Metaphors
-

Benjamin Zephaniah

It would not be very good if we all had the same colour.

It would not be very good if we had the same mother.

It would not be very good if we were from the same place.

It would not be very good if we had the same face.

It would not be very good if we had the same clothes
It would not be very good and every smart kid knows,

You're not even the same as your sister or brother,
So it would not be very good if we were copies of each other.

I don't want to get personal, excuse me if I'm rude,
It would not be very good if we all ate the same food.

It would not be very good if we all had the same grin,

And it would not be very good if we all liked the same thing.

In my humble opinion we have to learn to share,
Because life would be quite strange if we all had the same hair.

We should celebrate our differences, the world's full of different people,
But even though we're different, we are equal.

Racism does not have a smell

But it stinks.

Racism is done by people who just don't think.

Racism where do I begin.

Racism is all about the colour of your skin.

A racist out to cause you pain

I believe that a racist have a twisted brain.

I think if racist had more sense then each human
person has

The sea lays big glass hands on the sand,
spreading its fingers out as if new
to the shore. It can't quite believe in it.
It wants to hold on before the glass breaks.

And it does break, giggling with froth,
lets go and slips back as it always knew
it would and the waves clap their hands
erupting broad cream flakes

of pleasure into the air which is moving
and will move for ever, through
any fingers. And the sea doesn't mind.
It is the glass not the heart that breaks.

Forest could keep secrets
Forest could keep secrets

Forest tune in every day
to watersound and birdsound
Forest letting her hair down
to the teeming creeping of her forest-ground

But Forest don't broadcast her business
no Forest cover her business down
from sky and fast-eye sun
and when night come
and darkness wrap her like a gown
Forest is a bad dream woman

Forest dreaming about mountain
and when earth was young
Forest dreaming of the caress of gold
Forest roosting with mysterious eldorado

and when howler monkey
wake her up with howl
Forest just stretch and stir
to a new day of sound

but coming back to secrets
Forest could keep secrets
Forest could keep secrets
And we must keep Forest

Standing by the river, my face grew
into a flat fish and floated off
to a lily pad, and I was lonely
without myself, without my twin.

The river kept going on and on,
talking to itself dark thoughts,
and the rain started pattering on my face,
so that I looked like a spotted leaf.

And my eyes searched the river for my past
that might lie thick and slow underneath –
until somebody called my name,
and I walked home, turning my back on myself.

Here now skyline assembles fire.
The sun collects up to leave.
Its bright following paled,
suddenly all goes. Dusk rushes
in, like door closed on windowless room.
Children go a little sad.

Fowls come in ones and groups
and fly up with a cry
and settle, in warm air branches.
Tethered pigs are lounging
in dugout ground.

Muzzled goat kids make muffled
cries. Cows call calves locked away.
Last donkey-riders come homeward
calling 'Good night!'
Children go a little sad.

Knives-making from flattened
big nails must stop. Kite ribs
of tied sticks must not develop.
Half shapes growing into bats
and balls, into wheels and tops
must cease by night's veto.

And alone on shelves, in clusters
on the ground in corners, on
underhouse ledges, these
lovable embryos
don't grow in sleeptime.
Children go a little sad.

Bats come out in swarms.
Oil lamps come up glowing
all through a palmtree village.
Everybody'll be indoors
like logs locked up.
Children go a little sad.





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Figurative Language

Metaphor

She is a ray of sunshine.
Heart of stone.
He is the light of my life.
A rollercoaster of emotions.

Personification

The snow speaks.
The grass tickled my feet.
The leaves danced on the trees.
The husky corn spoke.

Onomatopoeia

Crash! Splash! Boom!
Pop! Bam! Snap!
Honk! Buzz! Drip!
Swish! Ring! Crackle!

Alliteration

Evil eagles eat eels.
Dreary, dismal darkness.
Pretty purple purses.
Adjectives and adverbs.

Simile

Pure as snow.
Quiet as a mouse.
Busy as a bee.
Cute as a kitten.

Idiom

Time flies.
Cat got your tongue.
Broken heart.
Face the music.

Hyperbole

For the millionth time, be quiet!
He's got a brain the size of a pea.
These shoes are killing me.
Speed up- a snail can go faster than you!



Mister Holland

Gregory Porter

Hello, Mister Holland
And Rosie may come out and play
She's a good girl now
Won't be no trouble, no how

By the way, Mister Holland
I like the way you make no trouble of my skin
It's not a problem
Nor has it ever been

You invited me into your home
Treated me like I was grown
I was only 18
And Rosie was a beauty queen

Hello, Mister Holland
And Rosie may come out and play
I'm a good boy now
Won't be no trouble, no how

By the way, Mister Holland
Like the way you treat me like a regular Joe
I wanted a soda
And you said Rosie could go

Anyway, I like your style
Seemed like I'll be around for a while
We can talk about a country mile
And listen to a blues record, check it out, oh

Hello, Mister Holland
And Rosie may come out and play
It's a good world now
Won't be no trouble, no how

And by the way, Mister Holland
I liked the way you treat me like a regular being
My name is not a problem
And oh, it never will

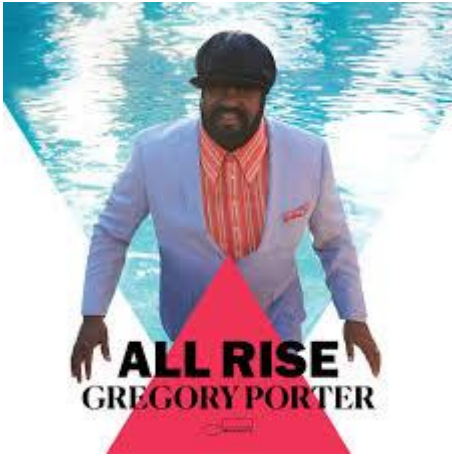
Anyway, I like your way
People ought to be able to play
And keep your soul as black as the night
When you walk in straight into the light
Oh now

Anyhow, I like your way
People ought to be able to play
Keep your soul as black as the night
As you walk into the brighter light

Mama used to fear for me
When you walk out in the world, you see
Some people will fear your face and name
But Mister Holland, don't play that game

Oh, Mister Hollandx3
Oh, always treat me right

Mister Holland
Hey, Mister Holland
Thank you, Mister Holland
You sure 'nuff treat me right...



With race relations tense across the U.S., it seems that now more than ever this country needs some healing. Singer **Gregory Porter** attempts to bridge that gap with his latest single, "Mister Holland," from his upcoming album, *All Rise*.

In the song, Porter lays it all on the line in the name of love as he addresses the white father of a girl he is attracted to. Written from the viewpoint of a teenaged Porter, he thanks the father for not judging him based on his skin colour. The slight ironic undertone of his lyrics suggests that the father was anything but accepting with him, which is exactly what Porter intended. "That suggests that maybe I liked a girl when I was 15 and I came to a door and

somebody said, '(Racist term), if you don't get away from this house....,'" Porter explains in a statement. "That type of energy is being resurrected and made to feel okay these days. I think about things like that for my son."

As in previous songs, Porter utilizes his music to shine a light on inequality in a way that is distinctly his own while also displaying influences by legendary artists like **Stevie Wonder** and **Marvin Gaye**.

"Ultimately, 'Mister Holland' is a song about equality. It's about the desire for mutual respect and the desire for a young man to be treated like an average teenager," he continues. "A song of thank you for being treated normal. The implied unspoken experience is the subtle protest of this song. Stevie and Marvin taught us how to groove with a social song, so, thank you Mister Holland."

Vital Vocabulary: Mister Holland



1. This song is set in America. Find three clues (in the song!) to support that statement.
2. Look up the word, 'ironic' (irony) in the dictionary and write its definition.
3. Find an example of irony within the song.
4. Which of the following words is closest in meaning to the word, 'resurrected'?
5. What does the phrase 'mutual respect' mean?
6. Find and copy one word from the news article that means the same as, 'difficult to detect or find.'

Retrieval: Mister Holland



1. Summarise what the song is about.
2. What does the singer like about Mister Holland (Find 3 examples).
3. In the 6th verse, what does the singer suggest they do together?
4. What did the singer's mum think about her son's situation?
5. What is the name of the album you can find this song on?
6. Who influenced Porter's music?

Thinking Caps: Mister Holland



1. Is the singer actually trying to say thank-you to Mister Holland? How do you know?
2. How do you think young Gregory Porter was actually treated? (Use the text)
3. What does the line, 'My name is not a problem,' suggest?
4. Why do you think Gregory Porter wrote this song? Use evidence from the text to support your answer.
5. How does this song make you feel? Why?

Science

LO: Identify the different types of teeth.



Try eating an apple. Take one bite and eat it. Which teeth did you use and why? Did you use all of them? Why do we have different ones?

How many teeth do you have? How many do you think you should have?

What are the difference between milk teeth and adult teeth? How many teeth should adults have?

Task: Find out the names of the different teeth and what their functions are. Complete the sheet by labelling and teeth and writing an explanation of what they are used for.

Additional task: Eggs can be used in an experiment to replicate the enamel that is on your teeth. If you placed an egg into water, vinegar, coffee and fizzy drinks and left them there for a 2/3 days, what do you think the affect would be on the egg?

PSHE

LO: To learn about gender discrimination and its impact.



Think about your dream job or something that you would like to do in the future. What skills will you need to learn and achieve in order to be successful?

How would you feel, despite all your relevant learning and achievement, if you couldn't get a job because you were the wrong gender.

On the silhouette outlines of a man and a woman, write down the jobs they would be most suited to and the skills that each gender has.

Research the word – stereotypes. How does the task you've just completed link to the word of stereotype?

History



Listen to Martin Luther King's iconic speech.

<https://www.youtube.com/watch?v=vP4iY1TtS3s&feature=youtu.be>

After the video, think about what are the key points that you took from this speech?

Try to write your own 'I have a dream' speech about tolerance of others, link to one of the below discussion topics. Pupils should then deliver their speeches to the rest of the class, encouraging others to take actions against intolerance.

Topics for discussion

- How white supremacy and the belief that white people (especially men) were more important than black people led to the oppression and discrimination of black and coloured people. How does this make you feel?
- How religious beliefs, thinking that one religion is better than the other can lead to war/invasion of other countries. How does this make you feel?
- How lack of tolerance and understanding of cultures and beliefs can lead to stereotyping and hate crime. E.g. extremism. Thinking that all Muslims are terrorists. How does this make you feel?
- How bullying in school can come from someone thinking they are better than others. How does this make you feel?



Types and Functions of Teeth

I can identify the types and functions of teeth.

I can identify similarities and differences related to scientific ideas.



Name of tooth:

Canine

Function:

Name of tooth:

Premolar

Function:

Name of tooth:

Wisdom Tooth

Function:

Name of tooth:

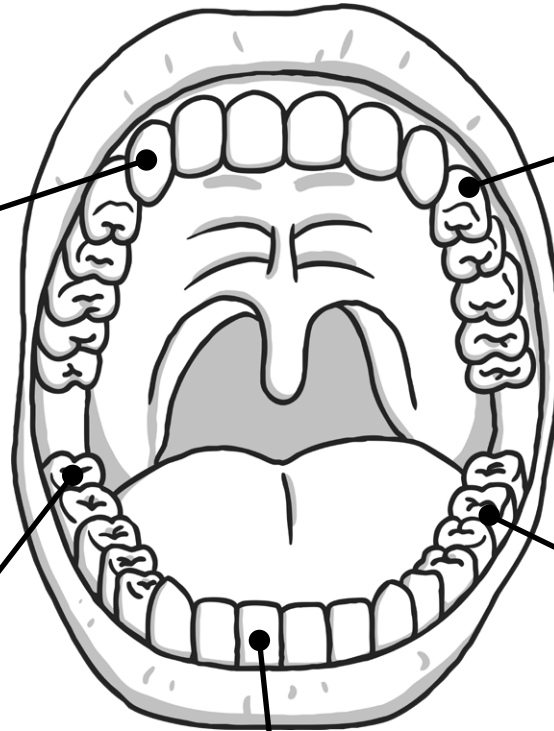
Molar

Function:

Name of tooth:

Incisor

Function:



Key:

	Canines
	Molars
	Premolars
	Incisors
	Wisdom Teeth

The boxes below explain the function of the types of teeth.
Cut out the boxes and stick them next to the correct arrow.

Holding and crushing food	Biting and cutting food	Grinding food
No function anymore	Tearing and ripping food	



Types and Functions of Teeth

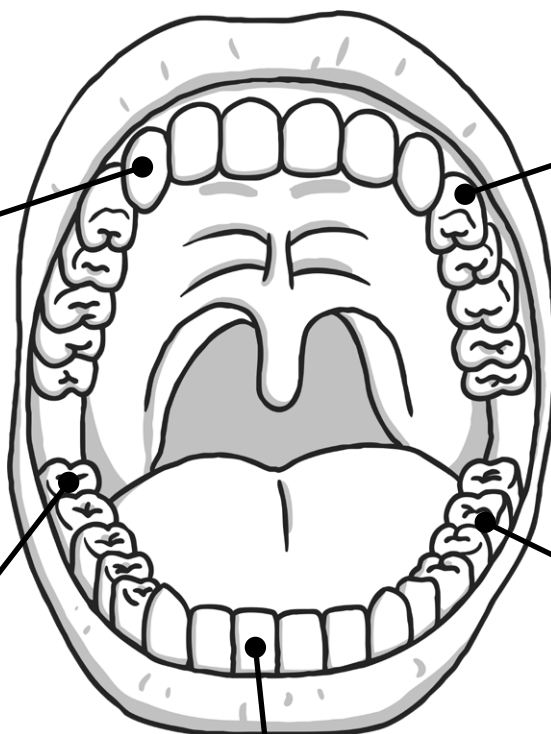
I can identify the types and functions of teeth.

I can identify similarities and differences related to scientific ideas.



Name of tooth:
[]

Function:
[]



Name of tooth:
[]

Function:
[]

Name of tooth:
[]

Function:
[]

Name of tooth:
[]

Function:
[]

Name of tooth:
[]

Function:
[]

Key:

[]	Canines
[]	Molars
[]	Premolars
[]	Incisors
[]	Wisdom Teeth

The boxes below explain the names and function of the types of teeth.

Cut out the boxes and stick them next to the correct arrow.

Incisor	Molar	Biting and cutting food	Grinding food
Wisdom Tooth	Canine	Tearing and ripping food	No function anymore
Premolar	Holding and crushing food		



Types and Functions of Teeth

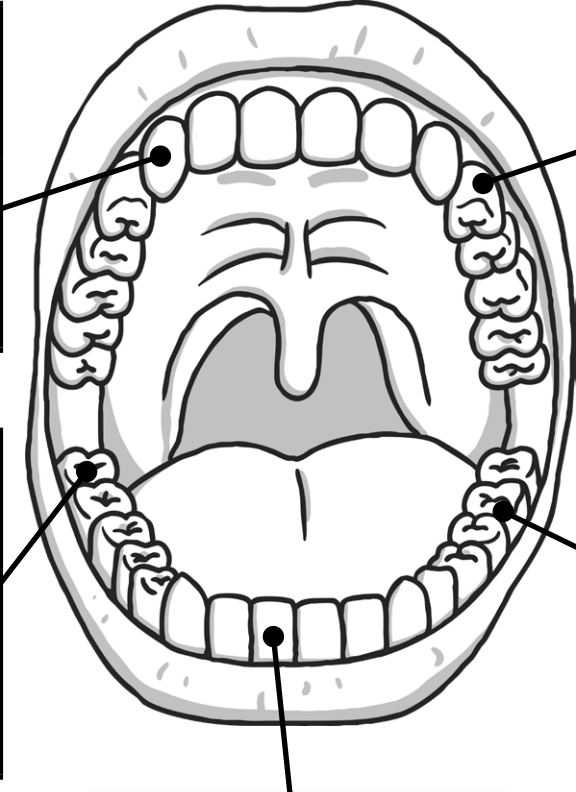
I can identify the types and functions of teeth.

I can identify similarities and differences related to scientific ideas.



Look at the picture and complete the key below. Then label the types of teeth and write their function underneath.

Name of tooth:
Function:



Name of tooth:
Function:

Name of tooth:
Function:

Name of tooth:
Function:

Name of tooth:
Function:

Key:
☐
☐
☐
☐
☐

Types and Functions of Teeth **Answers**

I can identify the types and functions of teeth.

I can identify similarities and differences related to scientific ideas.



Top Left Box:
Name of tooth:
Canine
Function:
Tearing and ripping food

Top Right Box:
Name of tooth:
Premolar
Function:
Holding and crushing food

Bottom Left Box:
Name of tooth:
Wisdom Tooth
Function:
No function anymore

Bottom Center Box:
Name of tooth:
Incisor
Function:
Biting and cutting food

Bottom Right Box:
Name of tooth:
Molar
Function:
Grinding food

Key:
☐ Canines
☐ Molars
☐ Premolars
☐ Incisors
☐ Wisdom Teeth