



## Year 6: Remote Learning Schedule

| <b>W/C 8<sup>th</sup> February</b>                                                                                                                                                                                                                                                                                                                                               | <b>Monday</b>                                                                                                                                                                                                                                                  | <b>Tuesday</b>                                                                                             | <b>Wednesday</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>Thursday</b>                                                                                  | <b>Friday</b>                                                                                                           |      |        |      |      |           |           |         |      |  |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------|------|--------|------|------|-----------|-----------|---------|------|--|--|
| <p><b>Maths</b><br/>(approx. 45 mins per lesson)<br/><b>This week our focus is:</b><br/><b>Algebra</b></p>                                                                                                                                                                                                                                                                       | <p><b>Lesson 1:</b><br/><i>Find a rule – one step</i><br/><br/>Click on the link <a href="#">here</a>.</p>                                                                                                                                                     | <p><b>Lesson 2:</b><br/><i>Find a rule – two step</i><br/><br/>Click on the link <a href="#">here</a>.</p> | <p><b>Lesson 3:</b><br/><i>Forming expressions</i><br/><br/>Click on the link <a href="#">here</a>.</p>                                                                                                                                                                                                                                                                                                                                                                                                       | <p><b>Lesson 4:</b><br/><i>Substitution</i><br/><br/>Click on the link <a href="#">here</a>.</p> | <p><b>Lesson 5:</b><br/><b>Arithmetic Skills</b><br/><i>Challenge yourself with our weekly number skills check.</i></p> |      |        |      |      |           |           |         |      |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>You will find links to videos produced by White Rose Maths above. The questions and resources can be found below; if you didn't get a particular question correct (and you're not quite sure why) then drop your teacher a message on ClassDojo!</b></p> |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <div style="display: flex; justify-content: space-between; align-items: center;"> <p style="font-weight: bold; font-size: 1.2em;">Remember to log in to <a href="#">TT Rockstars</a> each week to practise your times tables!</p> </div> <p style="text-align: center; font-style: italic;">Message your teacher on <b>ClassDojo</b> if you've forgotten your login details.</p> |                                                                                                                                                                                                                                                                |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <p style="font-weight: bold; font-size: 1.2em;">Remember to share your learning on ClassDojo!</p> <p style="text-align: center; font-style: italic;">Take a photo of your work and upload it to your Dojo Portfolio or Messaging section for your teacher to see.</p>                                                                                                            |                                                                                                                                                                                                                                                                |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <p><b>English</b><br/>(approx. 45 mins per lesson)<br/><b>This week our focus is:</b><br/><b>Letter Writing</b></p>                                                                                                                                                                                                                                                              | <p><b>Lesson 1:</b><br/><i>Narrative: The Lanterns</i></p>                                                                                                                                                                                                     | <p><b>Lesson 2:</b><br/><i>To fix comma splicing errors in sentences</i></p>                               | <p><b>Lesson 3:</b><br/><i>To plan a letter from an evacuee's host parent</i></p>                                                                                                                                                                                                                                                                                                                                                                                                                             | <p><b>Lesson 4:</b><br/><i>To write a letter</i></p>                                             | <p><b>Lesson 5:</b><br/><i>To edit and improve a letter</i></p>                                                         |      |        |      |      |           |           |         |      |  |  |
|                                                                                                                                                                                                                                                                                                                                                                                  | <p><b>The questions and resources can be found below; if you didn't get a particular question correct (and you're not quite sure why) then drop your teacher a message on ClassDojo!</b></p>                                                                   |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <p><b>This week's spellings are: accommodate, accompany, according, aggressive, apparent (Remember to test yourself on Friday!)</b></p>                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <p><b>Reading for Pleasure</b> is such an important part of our curriculum and you should be reading every day. On Wednesday afternoon this week, your class teacher will upload a video onto ClassDojo of them reading a poem or an extract from a book.</p>                                                                                                                    |                                                                                                                                                                                                                                                                |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <p><b>Reading for Productivity</b> is a fantastic way for us to expand our knowledge and understanding of our wider curriculum lessons. Read the texts and answer the attached questions.</p>                                                                                                                                                                                    |                                                                                                                                                                                                                                                                |                                                                                                            | <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 15%;">Mon:</th> <th style="width: 15%;">Tues:</th> <th style="width: 15%;">Wed:</th> <th style="width: 15%;">Thurs:</th> <th style="width: 15%;">Fri:</th> </tr> <tr> <td style="text-align: center;">PSHE</td> <td style="text-align: center;">Computing</td> <td style="text-align: center;">Geography</td> <td style="text-align: center;">Science</td> <td style="text-align: center;">PSHE</td> </tr> </table> | Mon:                                                                                             | Tues:                                                                                                                   | Wed: | Thurs: | Fri: | PSHE | Computing | Geography | Science | PSHE |  |  |
| Mon:                                                                                                                                                                                                                                                                                                                                                                             | Tues:                                                                                                                                                                                                                                                          | Wed:                                                                                                       | Thurs:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Fri:                                                                                             |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| PSHE                                                                                                                                                                                                                                                                                                                                                                             | Computing                                                                                                                                                                                                                                                      | Geography                                                                                                  | Science                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | PSHE                                                                                             |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |
| <p><b>Extended Curricular Learning</b> provides a great opportunity to exercise skills in foundation subjects and science. At the end of this pack, you will find 5 activities that link to our topic: one for each day. Please continue to upload your work to ClassDojo for your teacher to see!</p>                                                                           |                                                                                                                                                                                                                                                                |                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                  |                                                                                                                         |      |        |      |      |           |           |         |      |  |  |



## Year 6 Knowledge Organiser: Algebra

### Fat Questions:

- The word "Algebra" comes from the Arabic word "al jabr," which translates to "reunion of broken parts". Explain why you think this is.
- How do we use algebra in every day life?
- Consider the reason why people set an alarm on their phone to wake up at a certain time. Describe how this is an example of algebra. (Think about calculations involving time, money and distance.)

### Key vocabulary

term rule  
variable  
unknown  
expression  
equation  
formula  
formulae  
one-step equation  
two-step equation  
substitution  
pairs of unknowns  
enumerate  
possibilities  
linear number sequence  
balance

### Intent

We aim to develop and progress our skills in algebra in order to equip us with the ability to solve real world problems that require a mathematical solution. With these skills, we can help to improve the world in which we live.

An **expression** is a group of numbers, letters and operation symbols.

Multiply e by 3 and subtract 5  
Add 12 to f and then multiply by 2

Add 14 to a  
Subtract 20 from b  
Multiply c by 4  
12 more than d

$$\begin{aligned} a + 14 \\ b - 20 \\ 4c \\ d + 12 \\ 3e - 5 \\ 2(f + 12) \end{aligned}$$

### VIPs:

In algebra we don't use blank boxes, we use a letter (usually an x or y). So we write:  $x - 9 = 7$   
The letter (in this case an x) just means "we don't know this yet" and is often called the **unknown** or the **variable**. When we solve it we write:  $x = 16$

Here is a step-by-step approach to solving algebraic equations:

- Work out **what to remove** to get "x = ..."
- Remove it by **doing the opposite** (e.g. adding is the opposite of subtracting)
- Do that to **both sides**

We want to remove the "-9"  
 $x - 9 = 7$

To remove it, **do the opposite**, in this case add 9  
 $x - 9 = 7$   
 $\quad +9$   
 $\quad \quad 0$

Do it to **both sides**  
 $x - 9 = 7$   
 $\quad +9 \quad +9$   
 $\quad \quad 0 \quad 16$

**SOLVED!**  
 $x = 16$

We must do the same to "both sides" to keep the balance; balance is very important in algebra.

To keep the balance, what we do to one side of the = we should also do to the other side.



**Enumerating** means making a complete list of answers to a problem.

- Use a system for finding the possibilities
- Organise your findings in an ordered list or table
- Have a way of deciding when all the possibilities have been found.

There are four donut flavours:



You choose 2 donuts to take home; this gives six possible combinations.

- blueberry and strawberry
- blueberry and custard
- blueberry and chocolate
- strawberry and custard
- strawberry and chocolate
- custard and chocolate

How could you write this using letters?

A **linear number sequence** is a sequence where each value increases or decreases by the same amount each time. To find the "rule" of the **linear number sequence**, find the difference between each adjacent number.



An **equation** is a number statement with an equal sign (=).

Expressions on either side of the equal sign are of **equal value**.

$$\begin{aligned} a + 14 &= 20 \\ b - 20 &= 15 \\ 4c &= 28 \\ d + 12 &= 30 \\ 3e - 5 &= 10 \\ 2(f + 12) &= 44 \end{aligned}$$





# Maths lesson 1: Find a rule – one step (Main Task - Blue)

## Find a rule – one step



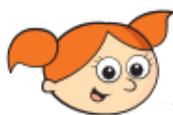
1 Whitney makes a pattern of triangles using sticks.

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)

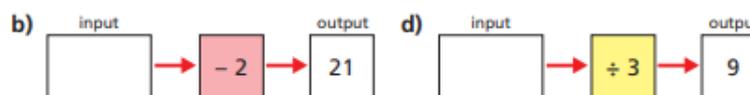
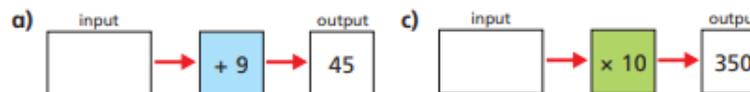
|                |   |    |   |    |    |    |
|----------------|---|----|---|----|----|----|
| Number of ants | 1 | 2  | 5 |    |    | 16 |
| Number of legs |   | 12 |   | 18 | 24 |    |

Explain how to find the number of legs.

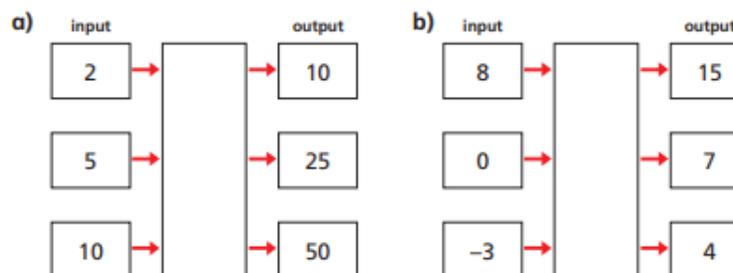
3 Calculate the outputs for the function machines below.



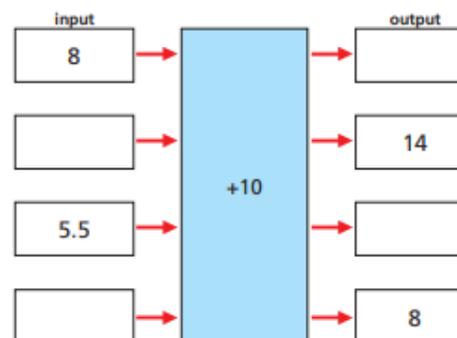
4 Calculate the inputs for the function machines.



5 Write the missing functions in the function machines.



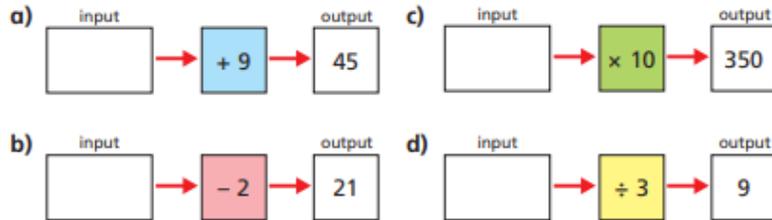
6 Calculate the missing inputs and outputs for the function machine.



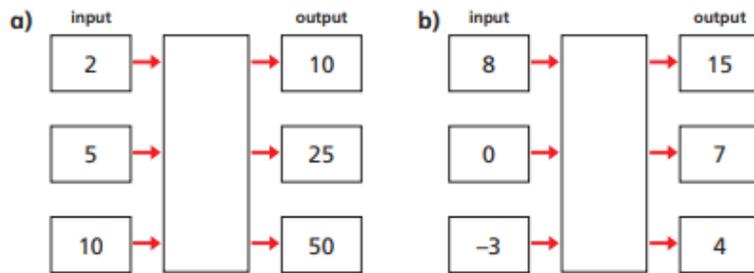


## Find a rule – one step

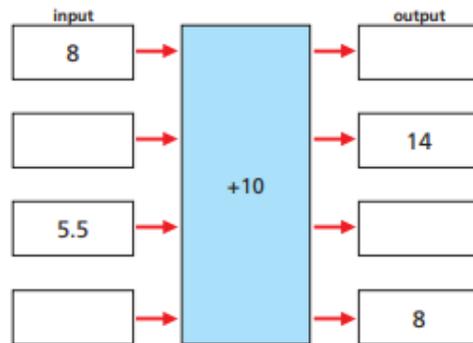
4 Calculate the inputs for the function machines.



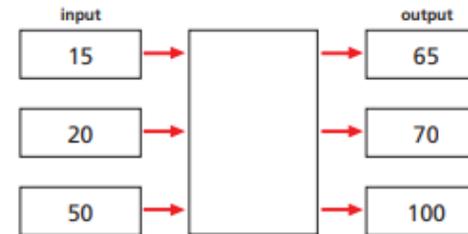
5 Write the missing functions in the function machines.



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 |   |   |    |    |     |



# Maths Lesson 1: Red Tasks

If you find the main activity a bit too tricky, try these questions instead...

## Varied Fluency

1a. Using the function below, match the inputs to the correct outputs.

Function:  $+ 21$

| Inputs: | Outputs: |
|---------|----------|
| 97      | 73       |
| 112     | 133      |
| 52      | 118      |

☆ VF

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2a. Circle the function being used in the function machine below.

| Inputs: | Function: | Outputs: |
|---------|-----------|----------|
| 11      | ?         | 24       |
| 25      |           | 38       |

$- 9$        $+ 17$        $+ 13$

☆ VF

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3a. Work out the missing inputs and outputs for the function machine below.

| Inputs: | Function:  | Outputs: |
|---------|------------|----------|
|         | $\times 4$ | 44       |
| 17      |            |          |

☆ VF

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4a. Tick the incorrect outputs below.

| Inputs: | Function: | Outputs: |
|---------|-----------|----------|
| 52      | $- 49$    | 3        |
| 101     |           | 51       |
| 91      |           | 43       |

☆ VF

## RAPs

1a. If Jill has 32 stickers and Lark has more than 17, but fewer than Jill, how many stickers could he have?

What function could be used to show this?

| Input: | Function: | Output: |
|--------|-----------|---------|
| 32     | ?         | ?       |

Find 3 possible solutions.

☆ PS

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2a. If the function for the number of horses is the number of Spartans  $+ 13$ , how many horses are there?

Explain your reasoning.

☆ R

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3a. Four of the cards are inputs or outputs of the function machine below.

Circle the odd one out.

|   |    |   |   |    |
|---|----|---|---|----|
| 6 | 16 | 5 | 8 | 14 |
|---|----|---|---|----|

| Input: | Function: | Output: |
|--------|-----------|---------|
| ?      | $+ 8$     | ?       |

Explain your reasoning.

☆ R



# Maths Lesson 1: Gold Tasks

If you whizz through the main activity or feel confident and want to challenge yourself further, try these questions...

## Varied Fluency

9a. Using the function below, match the inputs to the correct outputs.

Function:  $\div 7$

|         |  |          |
|---------|--|----------|
| Inputs: |  | Outputs: |
| 98      |  | 12       |
| 168     |  | 24       |
| 84      |  | 14       |



VF

10a. Circle the function being used in the function machine below.

|         |           |          |
|---------|-----------|----------|
| Inputs: |           | Outputs: |
| 18.7    | Function: | 9.6      |
| 14.2    | ?         | 5.1      |
|         |           |          |
| - 5.7   | $\div 3$  | - 9.1    |



VF

11a. Work out the missing inputs and outputs for the function machine below.

|         |           |          |
|---------|-----------|----------|
| Inputs: |           | Outputs: |
|         | Function: | -13      |
| 57      | - 73      |          |



VF

12a. Tick the incorrect outputs below.

|         |           |          |
|---------|-----------|----------|
| Inputs: |           | Outputs: |
| 3.2     | Function: | 2.5      |
| -6.7    | - 0.9     | -5.8     |
| 4.4     |           | 3.5      |



VF

## RAPs

7a. If Mika has -£6.70 in his account, and Yasmin has more than -£17.50, but less than Mika, how much money could she have in her account?

What function could be used to show this?

|        |           |         |
|--------|-----------|---------|
| Input: | Function: | Output: |
| -£6.70 | ?         | ?       |

Find 3 possible solutions.



PS

8a. If a 2.8L bottle of pop is shared between 20 cups, what would the output per cup be?



Explain your reasoning.



R

9a. Four of the cards are inputs or outputs of the function machine below.

Circle the odd one out.

|        |               |         |    |    |
|--------|---------------|---------|----|----|
| 21     | 48            | 12      | 28 | 36 |
| Input: | Function:     | Output: |    |    |
| ?      | $\times 0.75$ | ?       |    |    |

Explain your reasoning.

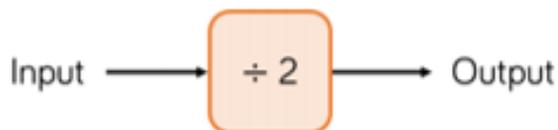


R



### Deepen the moment...

Dora puts a number into the function machine.



Dora's number is:

- A factor of 32
- A multiple of 8
- A square number

What is Dora's input? What is her output?

Create your own clues for the numbers you put into a function machine for a partner to solve.



# Maths lesson 2: Find a rule – two step (Main Task - Blue)

## Find a rule – two step

White  
Rose  
Maths

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.

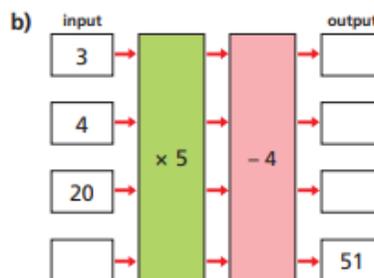
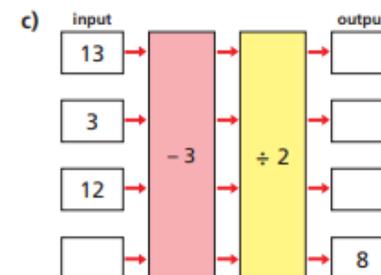
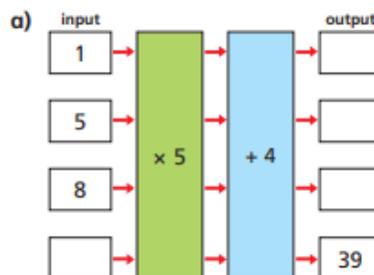
Explain to a partner who you think is correct.

Use the function machine to complete the table.

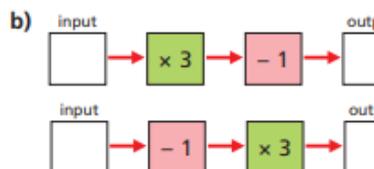
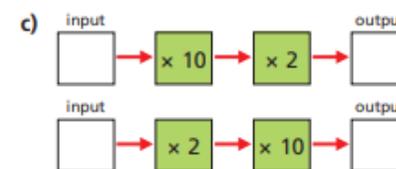
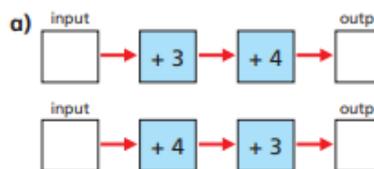
|        |   |   |   |   |    |    |
|--------|---|---|---|---|----|----|
| Input  | 1 | 2 | 3 | 5 | 10 | 50 |
| Output |   |   |   |   |    |    |

Who is correct?

3 Work out the missing outputs and inputs.



4 Which pair of function machines will give the same outputs for a given input?

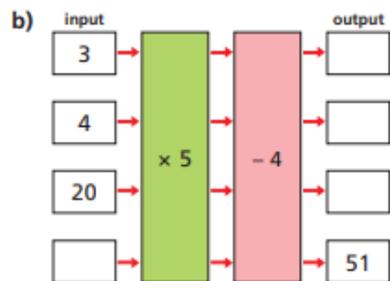
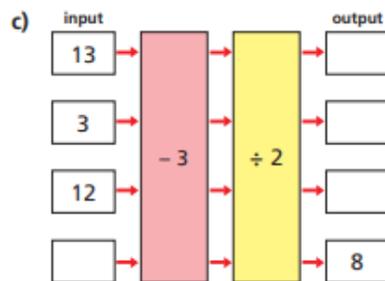
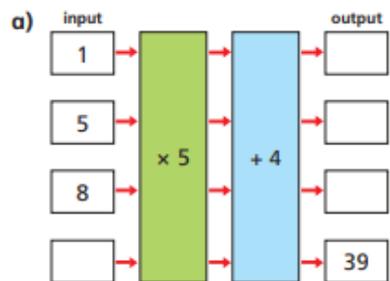


Explain your reasoning to a partner.

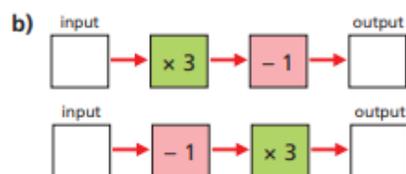
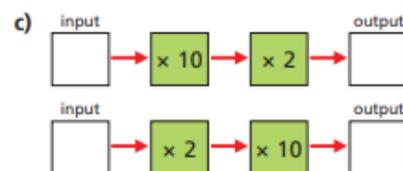
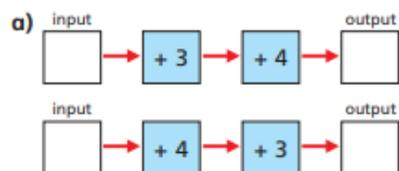


## Find a rule – two step

3 Work out the missing outputs and inputs.



4 Which pair of function machines will give the same outputs for a given input?



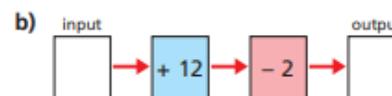
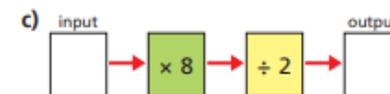
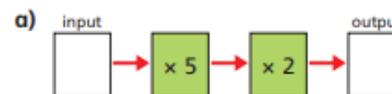
Explain your reasoning to a partner.



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?



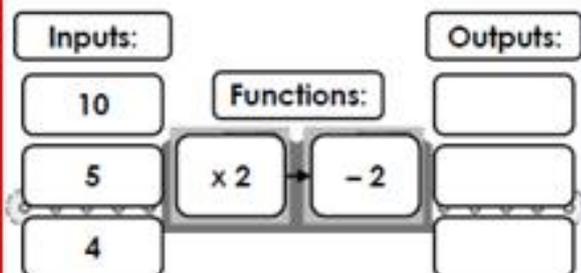


## Maths Lesson 2: Red Tasks

If you find the main activity a bit too tricky, try these questions instead...

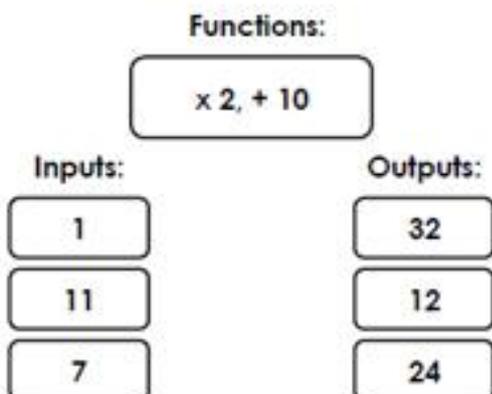
### Varied Fluency

1a. Write the outputs for the two-step function machine below.



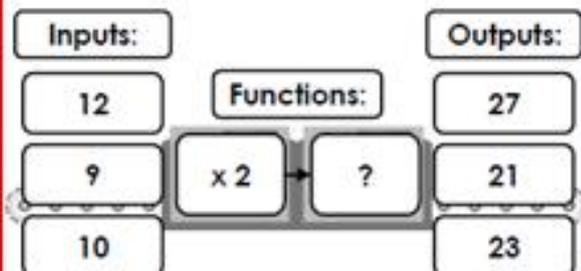
VF

2a. Use the two-step function to match the inputs to the correct outputs.



VF

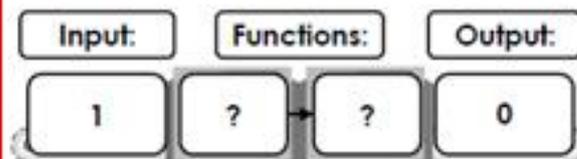
3a. Complete the two-step function machine below.



VF

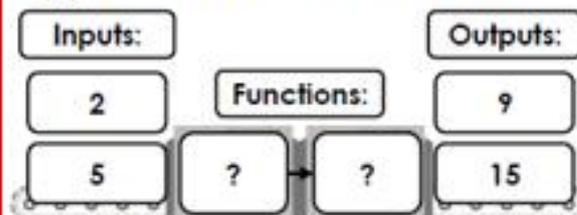
### RAPs

1a. Insert two functions that could be used to make the function machine correct.



PS

2a. True or false? Explain your answer. Suggest what the functions could be.



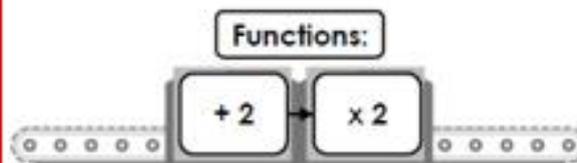
Jeanie

I think that the function is  $+ 16$  and then  $\div 2$  because  $2 + 16$ , then  $\div 2$  is 9.



PS

3a. Fatima is using this function machine.



She puts an input into the function machine to generate an output. She then puts that output into the machine as an input. She now has the output of 16.

What was Fatima's original input?



PS

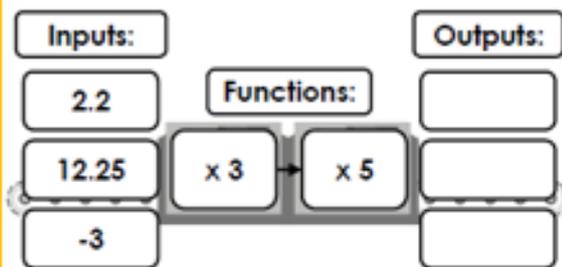


## Maths Lesson 2: Gold Tasks

If you whizz through the main activity or feel confident and want to challenge yourself further, try these questions...

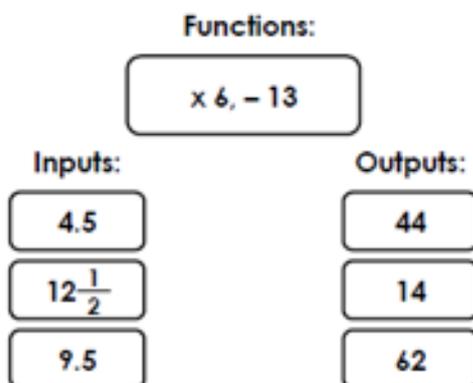
### Varied Fluency

7a. Write the outputs for the two-step function machine below.



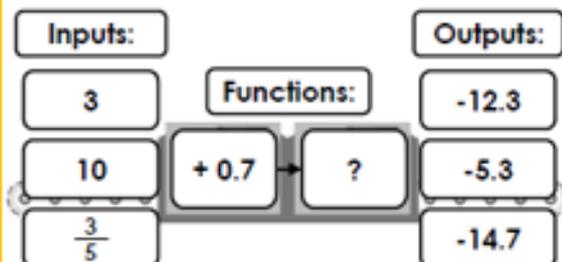
VF

8a. Use the two-step function to match the inputs to the correct outputs.



VF

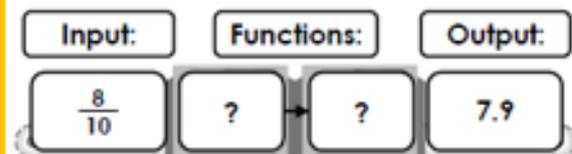
9a. Complete the two-step function machine below.



VF

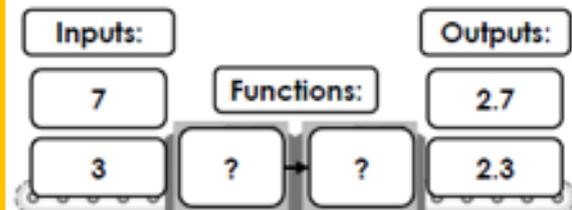
### RAPs

7a. Insert two functions that could be used to make the function machine correct.



PS

8a. True or false? Explain your answer. Suggest what the functions could be.



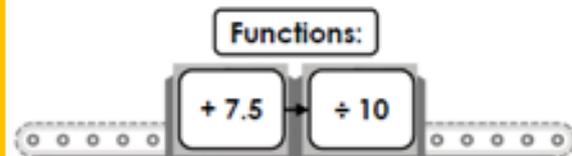
Jiang

I think that the function is  $\times 2$  and then  $- 3.7$  because  $3 \times 2$ , then  $- 3.7$  is 2.3.



R

9a. Jaiden is using this function machine.



He puts an input into the function machine to generate an output. He then puts that output into the machine as an input. He now has the output of 0.875.

What was Jaiden's original input?



PS



### Deepen the moment...

Karen is baking a cake.

The recipe she is using is very confusing. Help her find the correct measure for each ingredient.

Flour -  $110g$

Sugar -  $5y + 15$

Butter -  $12(y - 10)$

Butter cream -  $23y + 13$

Sugar is the same as flour.

Find how much butter and butter cream she needs.

Explain your reasoning.



# Maths lesson 3: Forming expressions (Main Task - Blue)

## Forming expressions

White  
Rose  
Maths

- 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) $2x + 3$ | f) |
| b)          | g) |
| c)          | h) |
| d)          |    |
| e)          |    |

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

- a)  $x + 2$       b)  $2x$       c)  $3x + 1$       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) $2y + 5 + y = 3y + 5$ | c) $6p + 2 - 2p$ |
|                          |                  |
| b) $3a + 2 + a + a$      |                  |
|                          |                  |
| d) $m + 4 + 3m - 3$      |                  |

- 4 Complete the function machines.

|                                                                                                                                                                                                                                                                                                    |       |        |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--------|--------|---|--|---|---|----|-----|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------|--|--------|----|--|---|----|---|-----|--|
| a) <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>input</td><td></td><td>output</td></tr> <tr><td>2</td><td rowspan="3" style="width: 50px; height: 100px;"></td><td>6</td></tr> <tr><td>7</td><td>11</td></tr> <tr><td><math>y</math></td><td></td></tr> </table> | input |        | output | 2 |  | 6 | 7 | 11 | $y$ |  | c) <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>input</td><td></td><td>output</td></tr> <tr><td>6</td><td rowspan="3" style="width: 50px; height: 100px;"></td><td>3</td></tr> <tr><td>12</td><td>9</td></tr> <tr><td><math>y</math></td><td></td></tr> </table>  | input |  | output | 6  |  | 3 | 12 | 9 | $y$ |  |
| input                                                                                                                                                                                                                                                                                              |       | output |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 2                                                                                                                                                                                                                                                                                                  |       | 6      |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 7                                                                                                                                                                                                                                                                                                  |       | 11     |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| $y$                                                                                                                                                                                                                                                                                                |       |        |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| input                                                                                                                                                                                                                                                                                              |       | output |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 6                                                                                                                                                                                                                                                                                                  |       | 3      |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 12                                                                                                                                                                                                                                                                                                 |       | 9      |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| $y$                                                                                                                                                                                                                                                                                                |       |        |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| b) <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>input</td><td></td><td>output</td></tr> <tr><td>2</td><td rowspan="3" style="width: 50px; height: 100px;"></td><td>4</td></tr> <tr><td>5</td><td>10</td></tr> <tr><td><math>y</math></td><td></td></tr> </table> | input |        | output | 2 |  | 4 | 5 | 10 | $y$ |  | d) <table border="1" style="display: inline-table; vertical-align: top;"> <tr><td>input</td><td></td><td>output</td></tr> <tr><td>30</td><td rowspan="3" style="width: 50px; height: 100px;"></td><td>3</td></tr> <tr><td>50</td><td>5</td></tr> <tr><td><math>y</math></td><td></td></tr> </table> | input |  | output | 30 |  | 3 | 50 | 5 | $y$ |  |
| input                                                                                                                                                                                                                                                                                              |       | output |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 2                                                                                                                                                                                                                                                                                                  |       | 4      |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 5                                                                                                                                                                                                                                                                                                  |       | 10     |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| $y$                                                                                                                                                                                                                                                                                                |       |        |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| input                                                                                                                                                                                                                                                                                              |       | output |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 30                                                                                                                                                                                                                                                                                                 |       | 3      |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| 50                                                                                                                                                                                                                                                                                                 |       | 5      |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |
| $y$                                                                                                                                                                                                                                                                                                |       |        |        |   |  |   |   |    |     |  |                                                                                                                                                                                                                                                                                                     |       |  |        |    |  |   |    |   |     |  |

- 5 Match each statement to the equivalent algebraic expression.

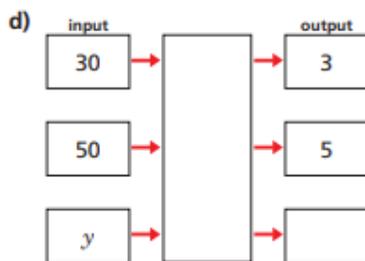
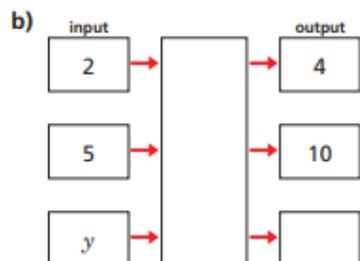
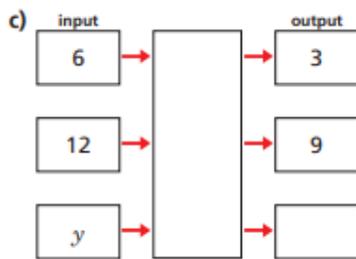
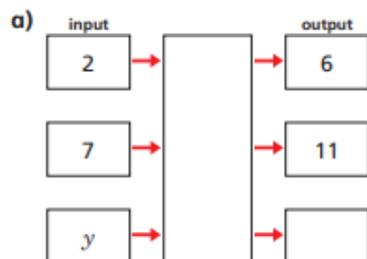
Write the missing statements.

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



## Forming expressions

4 Complete the function machines.



5 Match each statement to the equivalent algebraic expression.

Write the missing statements.

5 more than  $y$

$y$  less than 5

$y$  multiplied by 5

$y$  divided by 5

double  $y$

$2y$

$y - 5$

$5 - y$

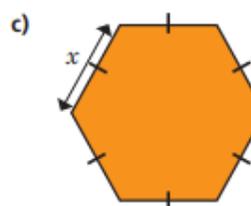
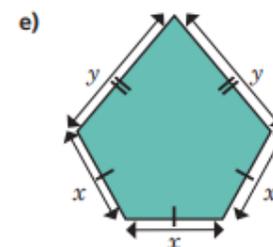
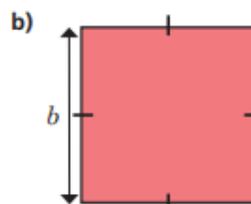
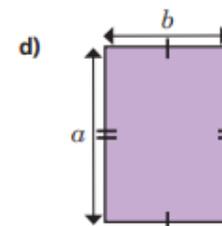
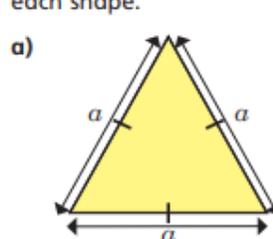
$y + 5$

$5y$

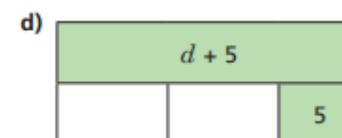
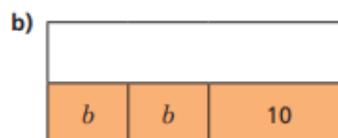
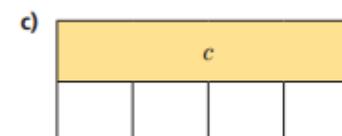
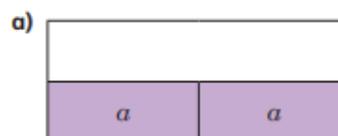
$y^2$

$\frac{y}{5}$

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



7 Complete the bar models.





# Maths Lesson 3: Red Tasks

If you find the main activity a bit too tricky, try these questions instead...

## Varied Fluency

1a. Use the pictures to help you form the expression.

Input  $\longrightarrow$   $+ 3$   $\longrightarrow$  Output

  $\longrightarrow$  

$a$   $\longrightarrow$

  $\longrightarrow$  

$b$   $\longrightarrow$

 VF

2a. Circle the function machine that does not show the correct expression.

$p \longrightarrow$   $+ 3$   $\longrightarrow$   $p + 3$

$q \longrightarrow$   $+ 4$   $\longrightarrow$   $q + 4$

$r \longrightarrow$   $\times 2$   $\longrightarrow$   $r + 2$

 VF

3a. Find the missing functions.

$a \longrightarrow$    $\longrightarrow$   $a + 3$

$b \longrightarrow$    $\longrightarrow$   $2b$

 VF

## RAPs

1a. What is the 5<sup>th</sup> expression in the sequence?

1<sup>st</sup>  $y \longrightarrow$    $\longrightarrow$   $2y$

2<sup>nd</sup>  $y + 1 \longrightarrow$   $\times 2$   $\longrightarrow$   $2y + 2$

3<sup>rd</sup>  $y + 2 \longrightarrow$    $\longrightarrow$   $2y + 4$

 PS

2a. Raza has created a function machine.

$a \longrightarrow$   $+ 5$

She says,

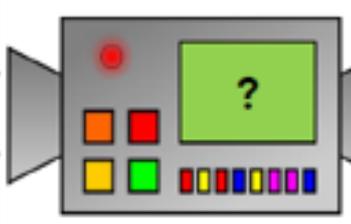
 The expression formed from this function machine is  $5a$ .

Explain Raza's mistake.

 R

3a. Jim has put some terms into a function machine. What is the output if the input is 12?

Inputs:                      Function:                      Outputs:

|   |                                                                                      |    |
|---|--------------------------------------------------------------------------------------|----|
| 3 |  | 8  |
| 7 |                                                                                      | 12 |
| 9 |                                                                                      | 14 |

 PS



## Maths Lesson 3: Gold Tasks

If you whizz through the main activity or feel confident and want to challenge yourself further, try these questions...

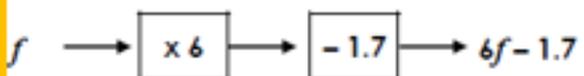
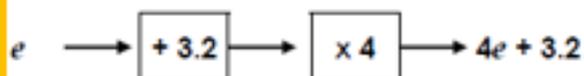
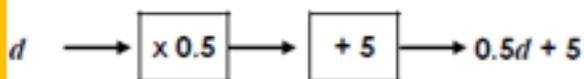
### Varied Fluency

7a. Find the outputs and form the expression.



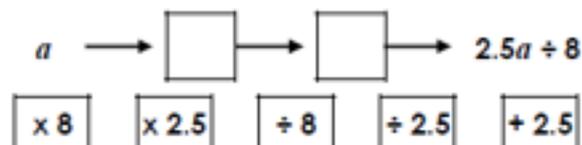
VF

8a. Circle the function machine that does not show the correct expression.



VF

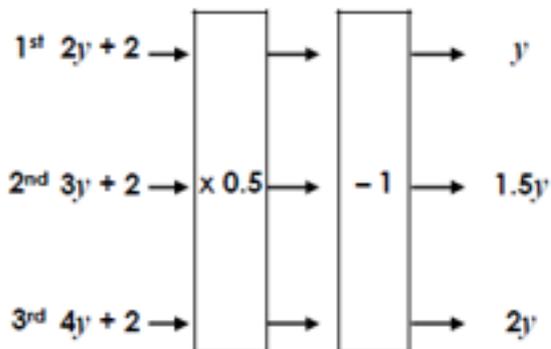
9a. Find the missing functions.



VF

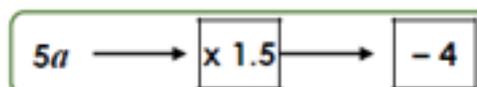
### RAPs

7a. What is the 16th expression in the sequence?



PS

8a. Nya has created a function machine.



She says,



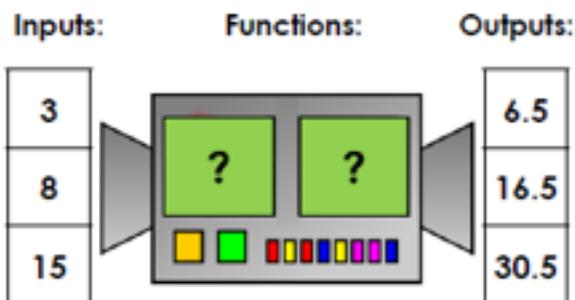
The expression formed from this function machine is  $6.5a - 4$ .

Explain Nya's mistake.



R

9a. Bill has put some terms into a function machine. What is the output if the input is 22?

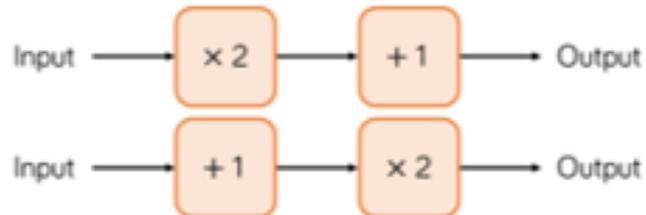


PS



### Deepen the moment...

Amir inputs  $m$  into these function machines.



He says the outputs of the machines will be the same.

Do you agree? Explain your reasons.





## Substitution

White  
Rose  
Maths

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



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       |



# Maths Lesson 4: Red Tasks

If you find the main activity a bit too tricky, try these questions instead...

## Varied Fluency

1a. Match the children's calculations to their correct answers if  $a = 4$  and  $b = 5$ .



Mo

$$(a + b) \times 10$$

10

90



Millie

$$(b - a) \times 10$$

30



VF

2a. Circle the correct answer.

If  $a = 10$  and  $b = 5$ ,  
 $2a + b = ?$

35

25

15



VF

3a. Tick the substitution used for this expression if the value is 225.

$$a + 2b$$

A.  $a = 100, b = 25$

B.  $a = 25, b = 100$

C.  $a = 50, b = 100$



VF

4a. Complete the calculations using the values below:

 = 2 and  = 10

A.  + 

B.  - 

C.  x 



VF

## RAPs

1a. Hafsa is looking at the values below.

$$d = 2e + 5$$

$$f = d - 2$$

She says,



$$\text{If } e = 7 \text{ then } f = 17.$$

Is she correct?

Explain your answer.



R

2a. Use the equation below to work out the value of  $a$  and  $b$ .

$$a = 15 - 2b$$

$$b = 16 \div 4 + 3$$

$$a = \square \quad b = \square$$



PS

3a. True or false?

$$e = 2f - 15$$

$$\text{When } f = 20, e = 5.$$

Explain your answer.



R



## Maths Lesson 4: Gold Tasks

If you whizz through the main activity or feel confident and want to challenge yourself further, try these questions...

### Varied Fluency

9a. Match the children's calculations to their correct answers if  $a = 1.25$ ,  $b = 100$  and  $c = 9$ .

|                                                                                   |                     |                                  |
|-----------------------------------------------------------------------------------|---------------------|----------------------------------|
|  | $(3a \times b) - c$ | <input type="text" value="375"/> |
|  | $(3a \times b) + c$ | <input type="text" value="366"/> |
|                                                                                   |                     | <input type="text" value="384"/> |

 VF

10a. Circle the correct answer.

If  $c = 5.1$ ,  $d = 0.5$  and  $e = 5$ ,  
 $(3c + 2d) - 4e = ?$

        VF

11a. Tick the substitution used for this expression if the value is 54.6.

$(a + c) + 5b$

- A.  $a = 2.5, b = 10, c = 2$
- B.  $a = 2.3, b = 10, c = 0.5$
- C.  $a = 2.4, b = 10, c = 1$   VF

12a. Complete the calculations using the values below:

$\star = 0.25$  and  $\blacktriangle = 0.5$

- A.  $(8 \blacktriangle + 10) - \star$
- B.  $(4 \blacktriangle + 2 \star) + \star$
- C.  $10 \star + 10 \blacktriangle + \blacktriangle$  VF



### RAPs

7a. Lucy is looking at the values below:

$$a = (b^2 + 10) + 1.25$$

$$c = a + 10$$

She says,



If  $b = 9$  then  $c = 19.5$ .

Is she correct?

Explain your answer.



8a. Use the equation below to work out the value of  $a$  and  $b$ .

$$a = 8b \div 2$$

$$b = 6 \times 1\frac{1}{3} + 3$$

$a = \square$     $b = \square$



9a. True or false?

$$a = 100b \div (c - 2.5)$$

When  $b = 0.55$  and  $c = 13.5$ ,  
 $a = 0.5$

Explain your answer.





**Deepen the moment...**

$$x = 2c + 6$$

Whitney says,



$x = 12$  because  $c$   
must be equal to 3  
because it's the 3<sup>rd</sup>  
letter in the alphabet

Is Whitney correct?

Amir says,

When  $c = 5$ ,  $x = 31$



Amir is wrong. Explain why.

What could the correct value of  $x$  be?





7

$$\square = 587 + 3927$$



10

$$2.81 + 0.006 =$$



8

$$756 + 1 =$$



11

$$3^3 =$$



9

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



12

$$810 \div 9 =$$





**13**  $67.1 \times 100 =$

1 mark

**16**  $300 \times 9 =$

1 mark

**14**  $5.03 \div 100 =$

1 mark

**17**  $3.71 \times 5 =$

1 mark

**15**  $7462 + 9024 =$

1 mark

**18**  $\frac{5}{12} - \frac{1}{12} =$

1 mark





25  $309\,712 - 69\,087 =$

1 mark

26 70% of 250 =

1 mark

27  $76 \times 31 =$

$$\begin{array}{r} 76 \\ \times 31 \\ \hline \end{array}$$

2 marks

28  $\frac{3}{5} + 1\frac{1}{6} =$

1 mark





33  $2 + 6 \times 4 =$

1 mark

35  $\frac{3}{7} + 2 =$

1 mark

34  $2308 \times 45 =$

|   |   |   |   |   |
|---|---|---|---|---|
|   | 2 | 3 | 0 | 8 |
| x |   |   | 4 | 5 |

2 marks

36  $2912 + 52 =$

|   |   |   |   |   |   |
|---|---|---|---|---|---|
| 5 | 2 | 2 | 9 | 1 | 2 |
|---|---|---|---|---|---|

2 marks

**Deepen the moment...**

Examine and explain the answer to the following question:

0.25 of A equals B.  
33 (recurring) % of B equals C.  
If A is 108 then what is B and C?



## English: Practise your spellings – double consonants.

**Remember to... look, cover, say, write and then check!**

|             |  |  |
|-------------|--|--|
| accommodate |  |  |
| accompany   |  |  |
| according   |  |  |
| aggressive  |  |  |
| apparent    |  |  |

*Use the first column to go over the letters and practise your handwriting joins.*

*Now write sentences for each of the spelling words.*

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## English Lesson 1: To examine and explore a narrative text.

### The Lanterns

I remember when the lanterns first appeared on the horizon. It was close to midnight, as most strange occurrences often are, and I was lying awake in my bed desperately counting down the hours to morning. Morning would mean it was time for the harvest, and the start of the new calendar. The elders had always told us what happened if you were awake at midnight before the harvest, when the lights from the others would try to lure children away. We hadn't believed it, of course, but they'd insisted and so something about it had crept into our imaginations.

By that point, I'd been training as a healer for a year and was getting quite good at it. I knew most of the basic herbs and elixirs to heal the wounded farmers, but I still had much to learn. That night, when the lanterns appeared on the horizon, I was destined to learn quickly.

The weather was warm, even at midnight, with a clinging humidity that threatened to suffocate you if you weren't careful. Shadowy wisps of mist clung to the edge of the riverbank as I wandered out of the hut and made my way to the top of the wooded hill. I'd hoped to get a better look at the lanterns from up there but, by the time I reached the summit, they were already there ahead of me.

From a distance, as I clambered up the rocks and slippery gravel on the side of the mound, I had been convinced that the lamps were floating through the air, like the paper lanterns we released every new moon. When I arrived, I realised that I was wrong. What I saw, shocked me.

Each light was held in the pale hand of a ghostly figure. There were maybe a hundred, maybe more, each one no taller than myself and slender like elves. Their bodies were almost transparent, only the moonlight glinting from their edges gave them any shape at all. It took me a moment to take in the scene before one of them broke away from the group and floated towards me.

Perhaps I should have run, sprinted down the hill and hidden away in my bed and pretended like it had never happened. Still, I was never one to run away from adventure. Strangely, I wasn't scared by the creatures; if anything, they gave off an air of sadness rather than terror.

When the spirit reached me, it spoke to me. Its soft voice seemed to be a whisper on the night air, nothing more than hushed wind, but it was echoed by all of the others and soon filled my head with its noise. "We need you. We need you to heal us. It is important."

Now, I was scared. How could I heal these phantom spirits that had appeared from nowhere? They were insistent, though. Gradually, they surrounded me and took my arms and legs and lifted me into the air. They weren't rough, or menacing, just gentle and urgent. We rose higher and higher until we were surrounded by clouds. Tufts of cold mist lazily drifted past, the lanterns lighting the way the entire time until we burst into darkness. Up ahead, a pinpoint of light slowly started to grow until, finally, it became an ivory tower.



## **Fastest Finger!**

You have 1 minute to scan the text and identify the words below.

- occurrences
- slender
- phantom
- menacing
- tufts
- pinpoint

Explore the meaning of each word.

Consider their meanings in the context of the text.

## **Questions**

1. Look at the first paragraph. What is happening the following day?
2. *That night, when the lanterns appeared on the horizon, I was destined to learn quickly.*  
What does *destined* mean in this sentence?
3. Look at the paragraph beginning: *'Each light was held in the...'*  
Which words would best describe what the strange creatures look like?

Tick **two**.

translucent

substantial

muscular

delicate

4. What are the spirits carrying?
5. Look at the paragraph beginning: *Perhaps I should have run...*  
**Find** and **copy** one word that is the root of the word *terrific*.



6. Using information from the text, tick one box in each row to show whether each statement is true or false.

|                                          | True | False |
|------------------------------------------|------|-------|
| The character is old.                    |      |       |
| The character is training to be a witch. |      |       |
| The character knows how to use herbs.    |      |       |
| The strange creatures were loud.         |      |       |

7. Complete the table below with one piece of evidence from the text to support each statement.

| Statement                                                         | Evidence          |
|-------------------------------------------------------------------|-------------------|
| The character had started to believe the elders about the Others. | <hr/> <hr/> <hr/> |
| The character hadn't expected to find anybody on the hill.        | <hr/> <hr/> <hr/> |

**Deepen the moment...**

'The strange creatures are completely harmless'

Do you Agree? Disagree? Both agree and disagree?

Explain your opinion of the above statement, using evidence from the text.



## English Lesson 2: Fixing comma splicing in sentences

A comma splice is where you join two sentences without using the correct punctuation. If a comma joins two sentences that both make sense on their own, then you have found a splice which will need correcting!

E.g. *It was snowing outside, I ran to get my sledge.* Comma Splice!

This comma splice could be fixed in any of these ways:

1. *It was snowing outside. I ran to get my sledge.* – use a full stop and then start a new sentence
2. *It was snowing outside - I ran to get my sledge.* – use a dash
3. *It was snowing outside; I ran to get my sledge.* – use a semi-colon
4. *It was snowing outside so I ran to get my sledge.* – use a conjunction

However, don't assume all commas are comma splices! If you cannot create two sentences that make sense on their own, it is not a splice.

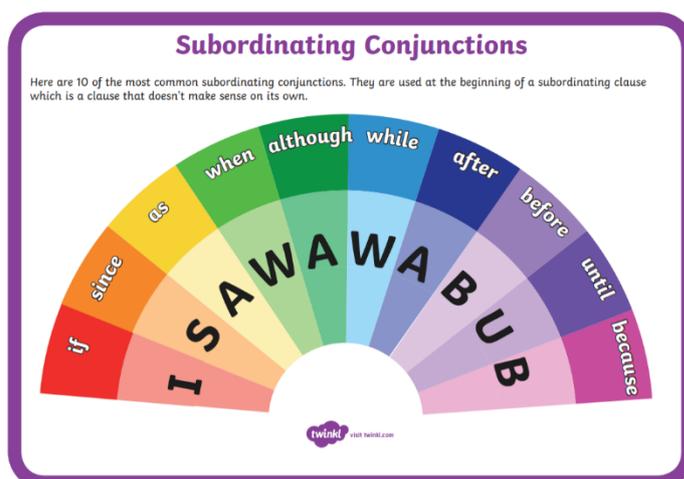
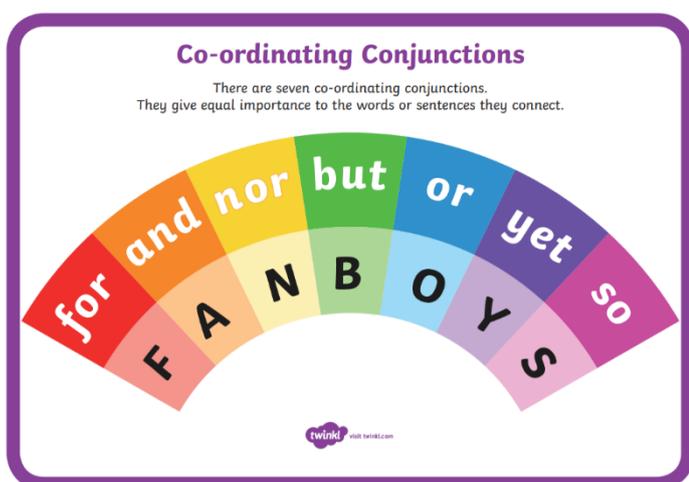
E.g.  
While it was snowing, I pulled my wellies on.



**Subordinate clause**  
(Does not make sense on its own)

Useful conjunctions for fixing comma splices:

Using a conjunction is one of the above ways of fixing a comma splice, but be careful to use one that will make sense in the sentence:





**TASK:** Re-write these sentences and fix any comma splices using one of these methods:

- Use a full stop and then start a new sentence
- Use a dash
- Use a semi-colon
- Use a conjunction

Remember, not every comma will be a comma splice, so check carefully.

1. Germany invaded Poland in 1939, this started the Second World War

.....  
.....

2. World War 2 was a global event, countries had to mobilise their armies quickly.

.....  
.....

3. Many people were evacuated quickly before war was even announced, the fear of bombings forced this to happen.

.....  
.....

4. During the evacuation process, many children left their homes, they must have been terrified.

.....  
.....

5. Hitler wanted Germany to invade Britain, he ordered thousands of planes to drop bombs over British cities.

.....  
.....

6. From September 1940 until May 1941, Britain endured the Blitz, Germany dropped bombs on cities, factories and houses.

.....  
.....

7. Fifty million people lost their lives, hundreds of millions of people were injured.

.....  
.....

8. VE day, which stands for Victory in Europe, signalled the end of the war with Germany, this happened in May 1945.

.....  
.....

**Deepen the moment...**

Explain how to fix comma splicing. Include how you can spot a comma splice and how to know which commas are NOT comma splices.



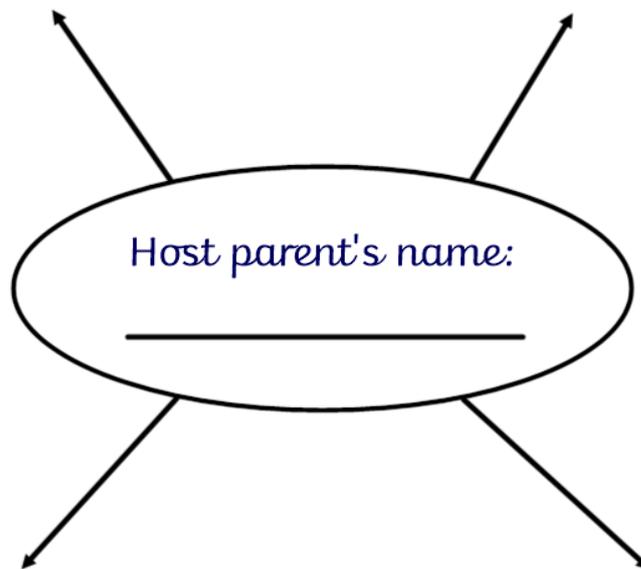
## English Lesson 3: To plan a letter from an evacuee's host parent

Imagine that you are a host parent for an evacuee. You could live on your own like Mr Tom in 'Goodnight Mister Tom' or you could have a family of your own.

Mind map ideas for your host parent character:

Where do you live?

Do you live alone or with others?



Did you want an evacuee? Why?

Do you have a job?

### **TASK:**

Your task this lesson is to plan a letter from the host parent to the evacuee's mother who is still in the city, reassuring her that her child is happy and well.

On the following page, write detailed notes in each of the sections as if you are the host parent. This means that you will eventually be writing the letter in the first person (I, we, our, us...).

You may wish to use the letter that you wrote last week as the evacuee to help you with this. Read back through the letter and imagine how the host parent would view the events that the evacuee writes about.

Remember, the host parent has never met the evacuee's parent! This means the letter will have a more formal tone.

### **Deepen the moment...**

Explain and justify the planning process.

Why do we spend time planning our ideas before we draft them?



**Opening paragraph** (Include greetings, questions, reassure evacuee's mum)

**Who you are** (Describe the yourself and your family – job, pets, hobbies etc)

**Where you live** (Describe the setting – the village, your house, the countryside etc and how it might compare to the evacuee's home in the city)

**What the evacuee has been doing** (Have they been to school, tried new things, good/bad experiences)

**Closing paragraph** (Final messages, hopes for the future)



## English Lesson 4: To write a formal letter

Your task is to use the plan that you wrote yesterday to write a formal letter from the host parent to the evacuee's mum, who is still in the city.

As the host parent does not know the evacuee's parent, the tone will need to be much more formal.

Here is a WAGOLL to help you identify the tone:

Bluebell Cottage,  
Little Stonesthorpe,  
North Yorkshire,  
YO5 7NF

Dear Mrs. Johnson,

I hope that this letter finds you in good health. My name is Julie and I am the host parent that is looking after your son, Bernard. I am eager for you to know that he is being very well cared for on my farm in Little Stonesthorpe and that he has settled in remarkably well with my family. Please rest assured that although he is happy, he does still miss you terribly and he looks forward to your reunion as soon as the war will allow!

As I have just mentioned, I live on a farm with my husband Arthur and our seven-year-old son, Terry, whom Bernard is sharing a bedroom with. I have longed for another child for a few years now, so being blessed with the chance to care for Bernard - even if temporarily - has cheered us up in these dreary times. Bernard has taken to my son Terry very quickly; whenever I look around they are climbing trees or pinching my baking together, the little scamps! He is a very well-mannered boy though, so please be content that he is behaving himself admirably well.

The farm has proved to be a very exciting place for Bernard to explore. May I ask, has he ever seen cows before? When he first encountered Bessie (our prize-winning Friesian cow), he was more than a little startled! It was a week before he would enter the same field as her! However, he has overcome these initial fears remarkably - I would even go so far as to consider the two to be friends! Bernard enjoys nothing more than the delicious, creamy milk that he himself has milked from Bessie.

Last Monday, Bernard joined our village school, St Cuthberts (a small, Catholic school which is luckily only down the lane from our farm). Again, he was very nervous on the morning, dressed in Terry's old uniform, but he is now very happy to attend every day. His teacher, Miss Marshall, has told me that he is excellent at Mathematics - he is quite advanced for his age. This is excellent news, is it not? Also, he adores the school dinners. I must say, he is eating very heartily now that he is in the fresh, countryside air!

I do hope that you will be able to visit us on the farm in the near future. I know that life must be very busy for you in the city, but please accept our invitation to visit and stay for a night or two if you ever have the opportunity. I wish you well in the war effort and pray for your safety.

Yours Sincerely,

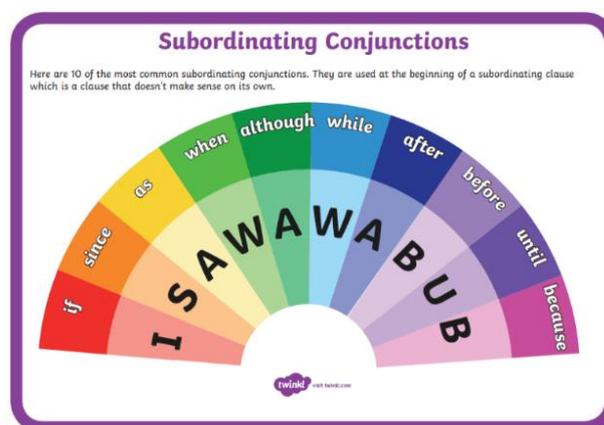
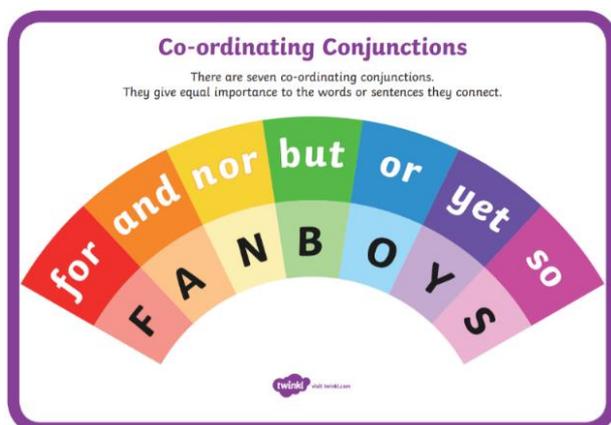
Mrs J. Larkin



Use the following resources alongside yesterday's plan to help you write your letter:

VIPs: Features of a formal Letter:

- Sender's address – usually positioned in the top right of the page which tells the recipient where the letter has come from.
- Date – the date in which the letter was written
- An appropriate greeting – used to address the reader (Dear...)
- Introduction – usually an introductory paragraph asking about the reader.
- Themed paragraphs
- Written in first person – uses pronouns such as 'I', 'me', 'we', 'my', 'us'
- Formal language and sentence structures (e.g. Avoid contractions such as 'I've')
- Fronted adverbials – words or phrases at the beginning of a sentence to describe the action that follows.
- Five senses – used to create an overall sense of your surroundings by describing what you can see, hear, smell, touch and taste.
- Parenthesis – adds extra information for the reader and uses the punctuation: brackets, dashes and commas.
- Relative clauses – clauses that describe a noun or pronoun and start with a relative pronoun such as: which, who, whose
- A range of tenses used: past, present and future
- Appropriate sign off – e.g. Yours sincerely
- Rhetorical questions directly addressing the reader
- Range of punctuation – brackets, commas, exclamation marks, question marks, colons, dashes



| Year 5 and 6 Statutory Spellings |             |             |             |             |               |             |
|----------------------------------|-------------|-------------|-------------|-------------|---------------|-------------|
| accommodate                      | category    | determined  | forty       | marvellous  | programme     | soldier     |
| accompany                        | cemetery    | develop     | frequently  | mischievous | pronunciation | stomach     |
| according                        | committee   | dictionary  | government  | muscle      | queue         | sufficient  |
| achieve                          | communicate | disastrous  | guarantee   | necessary   | recognise     | suggest     |
| aggressive                       | community   | embarrass   | harass      | neighbour   | recommend     | symbol      |
| amateur                          | competition | environment | hindrance   | nuisance    | relevant      | system      |
| ancient                          | conscience  | equipment   | identity    | occupy      | restaurant    | temperature |
| apparent                         | conscious   | equipped    | immediate   | occur       | rhyme         | thorough    |
| appreciate                       | controversy | especially  | immediately | opportunity | rhythm        | twelfth     |
| attached                         | convenience | exaggerate  | individual  | parliament  | sacrifice     | variety     |
| available                        | correspond  | excellent   | interfere   | persuade    | secretary     | vegetable   |
| average                          | criticise   | existence   | interrupt   | physical    | shoulder      | vehicle     |
| awkward                          | curiosity   | explanation | language    | prejudice   | signature     | yacht       |
| bargain                          | definite    | familiar    | leisure     | privilege   | sincere       |             |
| bruise                           | desperate   | foreign     | lightning   | profession  | sincerely     |             |









### **Deepen the moment**

Select one of the VIPs for a formal letter.

Explain how and why it has been used and the effect it has on the reader.



## Reading for Productivity Lesson 1: PSHE

### The Media's Effect on Body Image

These days we know that the media and body image are closely related. Particularly, the body image advertising portrays affects our own body image. Of course, there are many other things that influence our body image: parenting, education, intimate relationships, and so on. The popular media does have a big impact, though.

#### 1. -----

Together, Americans spend 250 billion hours watching television every year. According to the California State University at Northridge, advertising accounts for about 30 percent of all television air time. The average child watches 20,000 television commercials every year. Of course, television is not the only place we see advertisements. Popular magazines, particularly women's magazines and many teen's magazines are brimming with ads. We even see pop-up ads online. Anything we look at for so many hours has to affect us. The media and body image are closely related due to the number of images we see in the media and the excessive amount of exposure we have to those images.



#### 2. -----

Although advertising aims to convince us to buy things, ads seldom portray people that look like us. The average female fashion model wears a size two or four, for instance, while the average American woman wears a size 12 to 14. Clothing designers often say they only use very thin models because the clothes simply look better on them. In addition, photos of models in print ads are often "touched up" in order to disguise minor flaws or make the model appear even skinnier than she really is.

#### 3. -----

These "false body image" ads, showing bodies that are not real at all or that are not very realistic or representative of the general population, have far-reaching effects. Some may argue that people can recognise when ads are showing an unrealistically "perfect" girl; after all, when we see a dog food commercial featuring a talking dog, we aren't fooled into thinking dogs can really speak, right?

Unfortunately, when it comes to body image, people and especially young children and teenagers can easily be confused. The constant barrage of unrealistically skinny images can stir up feelings of inadequacy, anxiety and depression. It can even lead to the development of eating disorders like anorexia and bulimia.

#### 4. -----

Magazines and television are often blamed for portraying an ideal body image that causes people to question their looks and lose confidence in themselves. But what about the role social media plays in moulding attitudes to the way we look?



Kelsey Hibberd, from Southend, remembers her years at secondary school as being miserable. She intentionally kept her Facebook friends to a minimum because she knew they were the ones who wouldn't pick on her. It was all about my body and how I looked Kelsey explains, "I'd always been tall, and I was a bit podgy too, and the other children at school would point out everything that was wrong about me".

Eventually, Kelsey changed her hair colour and stopped eating to try to fit in before she realised that "it was for other people to stop hating on me", she explains. Now, at 20, Kelsey is running a mentoring programme called Loud Education, which goes into schools to talk to pupils and train teachers on how to deal with body confidence issues. As a result, she is well aware of the power of social media.



## 5. -----

Social media networks are the primary way young people communicate and their main channel to the outside world Kelsey explains, "There's just no way we can avoid social media but we can learn how to use them in a healthy manner!" An inquiry by the All-Party Parliamentary Group on Body Image has revealed that girls as young as five were worrying about their size and their appearance. Adults were not immune from these negative attitudes either, with about 60% of the public feeling ashamed of the way they looked. It is therefore not surprising that this pressure to look good has pushed up cosmetic surgery rates by nearly 20% since 2008.

MP Caroline Nokes was a member of the parliamentary group which, along with a number of charities, businesses and public bodies, is launching a campaign to change attitudes to body image, called Be Real: Body Confidence for Everyone. She has visited schools and talked to 12- and 13-year-olds about how easily images in the media can be altered, enhanced and improved to create something far from realistic. They understand, she says, because they go through the same process when they post images on social media sites. "I ask them to shut their eyes and put their hand up if they have ever enhanced an image on Facebook," Ms Nokes says. "They usually all put up their hands" she says.

## 6. -----

Most cameras in smart phones have built-in filters and a range of effects that can be used to enhance even the most embarrassing selfies. Social media has a huge effect on young people's body confidence, Ms Nokes explains, because it cannot be ignored. "Social media networks are the primary way they communicate and their main channel to the outside world," she says. "But they are seeing the world through a filter, and that's not healthy. "Ms Nokes' aim is to educate young people, to make them more cynical about the images they see and admire, and to work with retailers and businesses to encourage them to be more responsible in their advertising.



Dr Phillippa Diedrichs, senior research fellow at the University of West of England's Centre for Appearance Research, says research backs up the link between social media and body image concerns. "The more time spent on Facebook, the more likely people are to self-objectify themselves," she says. She explains there is a tendency to seek out negative social interactions in these forums, and to ask people to comment on how you look, which can lead to more body image anxieties.

## 7. -----

In Dr Diedrichs' view, the answer to body anxiety is to showcase a more diverse range of bodies in the media because there is not just one way to be healthy or one ideal look. Kelsey agrees. She rebuilt her confidence by volunteering with the YMCA when she 15. When she went to college, she started to rediscover who she was and feel comfortable about her body again. Now she has plans to go into advertising: "I want to get in there and change the norm, change perceptions for the better. People are drip fed so why not drip feed them with positive things," she says.



## Questions:

1: Complete the missing text headings:

- A Toxic Mirror
- In Comes Social Media
- Plastic Surgery and Photoshop
- The Answer to Body Anxiety?
- The Body Image Advertising Portrays
- The Effects of False Body Image Advertising
- The Media and Body Image

2: Mark the following statements as True or False according to the text:

|                                                                                             | True | False |
|---------------------------------------------------------------------------------------------|------|-------|
| 1. The media and body image are closely related.                                            |      |       |
| 2. Americans spend 250 billion hours watching television every year.                        |      |       |
| 3. Today, television is the only place we see advertisements.                               |      |       |
| 4. Ads usually portray people that look like us.                                            |      |       |
| 5. Photos of models in print ads are often "touched up".                                    |      |       |
| 6. People always recognise when ads are showing an unrealistically "perfect" girl.          |      |       |
| 7. The ideal body image in ads causes people to question their looks.                       |      |       |
| 8. Kelsey Hibberd from Southend, admits to having been a bully.                             |      |       |
| 9. Kelsey changed her hair colour and stopped eating to try to fit in.                      |      |       |
| 10. Social media networks are the primary way young people communicate nowadays.            |      |       |
| 11. Ms Nokes says that most children have never touched up their pictures.                  |      |       |
| 12. In Dr Diedrichs' view, a more diverse range of bodies should be showcased in the media. |      |       |

3: In the first paragraph, what is stated as the aspect of media that has a big effect upon our body image?

4: What reason, under section 3, is given as evidence to back up the argument that people can recognise when adverts are unrealistic?

5: In section 5, why is it stated that there's just no way that we can avoid social media...?"

### Deepen the moment...

Always, sometimes or never?

Social Media has a positive effect on everyone who uses it.

Explain and justify your opinion, using evidence from the text.



## Year 6 Extended Curricular Learning

### PSHE – Mental Health and Wellbeing

Monday 8th February 2021 – Activity 1



#### VIPs:

The images we constantly see in the media can have a huge impact on our thoughts and actions. Understanding that media can influence our body image can help us regain some control and be aware of negative thoughts we may have. Not all images we see are genuine or realistic; some have been 'enhanced' or altered to make viewers think or feel differently.

Pressure to behave in an unacceptable, unhealthy or risky way can come from a variety of sources. Having techniques for resisting pressure to do something dangerous, unhealthy or which makes you uncomfortable is essential.

Today, you will learn about how popular media can have an influence on our personal 'body image' – how we feel about our body and how we look. We have learnt that not all images we see in magazines, TV and on social media are realistic and may have been 'enhanced', which can lead young people to compare themselves to unrealistic images which may affect their self-esteem.

MP Caroline Nokes is launching a campaign to help change attitudes to everyone, called 'Be Real: Body Confidence for everyone'. Your task is to design an advertisement campaign that could appear on social media to help inform young people about the campaign and their important messages.

Design a poster or digital image using ICT that could be displayed in a magazine or on social media for the campaign, 'Be Real: Body Confidence for everyone'.

Think about how your images and words could have a positive effect on young people and inform them of the key facts from today's reading for productivity text. Consider persuasive text features to further encourage young people to support the campaign.

#### Deepen the moment...

Should media be banned from altering images that they use in magazines or on websites?

What would the pros and cons of a ban on altering images be? Write notes for both sides of a balanced argument on this question and decide which side of the debate YOU would agree with.





# Safer Internet Day 2021

Every year since 2005, schools in more than 150 countries across the world have supported Safer Internet Day, which provides schoolchildren and school staff with information on how to stay safe online. It aims to raise awareness of current online issues and to help young people look after their wellbeing and safety when using the Internet. This year's event is being held on Tuesday 9<sup>th</sup> February 2021.

Different each year, in 2021, the Safer Internet Day theme is 'An Internet we trust: exploring reliability in the online world'. This has been chosen to highlight the importance of questioning the reliability and trustworthiness of what we see online by asking, what is accurate and what is fictitious?

### **An Internet We Trust: Exploring Reliability in the Online World**

The online world is an incredible fount (source) of information: - it presents opportunities to research, learn new facts or skills and can even broaden viewpoints for people of all ages. The Internet is also an important way for young people to connect and experience positive relationships - to play, interact and share their lives with their peers. However, young people should approach the online world with some caution as they navigate around it and should be constantly making decisions about who and what to trust in the context of playing games together and socialising online.

Safer Internet Day gives young people the chance to develop the skills they need to be able to make the best decisions as they navigate an online world, where everything is not always as it seems. The 2021 campaign will focus on showing young people how to decide what they can trust on the Internet, as well as supporting them to question, challenge and improve the online world. They want to create a supportive yet critical and questioning environment, which encourages debate and discussion.

Once they are more confident at separating fact from fiction, it is crucial that they feel comfortable to speak out against harmful and misleading content online and to take the next steps in helping to create an Internet full of trustworthy and reliable information.

### **Did You Know...?**

Globally, over 4.6 billion people are regular Internet users according to a study from October 2020. This encompasses approximately 59% of the global population.





### Everything Is Not Always as It Seems

#### Photos

People tend to share the prettiest, happiest pictures of themselves online to try and portray (show) the kind of life (and person) they want to be. However, many photos often embellish (exaggerate) real life. Images of other people's (carefully chosen) so-called, perfect lives can sometimes leave you feeling down. Try not to compare yourself; remembering that these photos probably don't tell the whole story.

#### Fake News

Despite the Internet being a great source of news and information for young people, we should not always believe everything we read. Worryingly, the online world also contains inaccurate content and fake news. Fake news is false information that is published under the pretence of being trustworthy and reliable news.

Sometimes, completely false stories are deliberately published to make people believe something untrue or to get lots of people to visit a website. There are also stories that have some truth to them but are not entirely accurate. This is because the journalists or bloggers writing them don't check all the facts before publishing the story or they might exaggerate some of it.

Phony and fabricated information can be incredibly harmful as it can influence and persuade our decisions, actions, views and opinions, as well as what we share online. It also destroys the trust we have of people in the media, many of whom are in fact reporting honestly.

Safer Internet Day 2021 will look at why inaccurate content exists, where it comes from and how young people can manage it.

#### Reducing Screen Time

If you find yourself spending a lot of time online and even thinking about it when you're offline, then you probably need to reduce your screen time. While the Internet can be fun, there's a whole world out there, waiting to be explored. Make sure you take regular breaks away from electronic devices. It's all about striking a good balance.





### Our Use of the Internet

Many people across the world are using the Internet in their daily lives. We can use the Internet in a multitude of different ways. For example, here are some online activities that people enjoy:

- listening to music
- watching humorous videos (and making their own ones)
- chatting with friends
- using apps to keep in touch with family who live far away
- gaming (and watching walk-throughs of other people gaming)

How do you like to use the Internet?

### Staying Safe Online

The Internet is an incredibly powerful and convenient tool that can be accessed at all times of day or night, through devices within hand's reach. However, staying safe online by looking after ourselves and each other is very important.

It is sadly not uncommon for young people, when in a group chat or playing an online game or another activity, to see or hear something that causes worry, confusion or unease. Fortunately, if this happens, there are ways to report the problem so that it is less likely to happen again. For example, many apps and games have 'Report', 'Help' or 'Block' buttons. 'Report' can help us to report anything that makes us feel unsafe or unhappy. 'Help' is if you have a problem with an app and 'Block' is useful if you don't want to receive any more messages from someone. Saving evidence (such as a picture or a message) can also be useful.

Most importantly, we should tell an adult if we feel worried, confused, unsafe or unhappy about anything that happens while online.



The Internet is an amazing place to be creative, chat with friends and find interesting, fun stuff. Safer Internet Day 2021 wants to celebrate the amazing range of information and opportunities online, and it's potential to inform, connect and inspire young people while also being safe, sensible and able to separate fact from fiction.



## Questions:

1. What are the aims of Safer Internet Day?
2. Using information from the text, tick one box in each row to show whether each statement is true or false.

|                                                                                                          | True | False |
|----------------------------------------------------------------------------------------------------------|------|-------|
| Safer Internet Day started in 2005.                                                                      |      |       |
| This year's event is being held on Tuesday 9th February 2021.                                            |      |       |
| The Safer Internet Day 2021 theme is 'An Internet we can rely on: exploring trustworthy content online'. |      |       |
| You should believe everything you read on the Internet                                                   |      |       |

3. *...young people should approach the online world with some caution.*

What is meant by this?

4. Describe the two different types of fake news that can be published on the Internet and why journalists or bloggers write them.

5. Find and copy a word that means the same as 'fake' and 'fictitious'.

6. *Watching humorous videos...*

The word 'humorous' suggests that the videos are... Tick one.

important

unnecessary

funny

hurtful

7. Describe the buttons that can help users to stay safe online.

Support your answer with evidence from the text.



8. What percentage of the global population are online?
9. Your friend is worried they have been spending too much time online recently. What advice would you give to them and why?

**Deepen the moment...**

Why do you think it is important for us all to learn about staying safe online and exploring reliability in the online world?

Fully explain and justify your reasons, using evidence from the text to support your answer.



## Year 6 Extended Curricular Learning

### Computing – Safer Internet Day

Tuesday 9<sup>th</sup> February 2021 – Activity 2



#### VIPs:

- Reliability in the online world is vital. The internet is filled with unbelievably amazing content but some things can also be unreliable. The reliability of the content can affect how we and others both think and feel.
- A motive is why someone does something and it is important we consider the motive behind why people are posting the things they are on the internet.
- Asking questions is a simple thing that we can do to help us work out the motive behind the things we see online.
- Edited images and videos: When photos and videos are changed using online software (e.g. to make them look more 'impressive', to create a more finished product, or even to change the meaning of it).

Today, you will learn about the reliability of the internet and photos we see. You will understand how important it is that the internet is a world that we can trust, but is often a place of unreliability. You will explore and examine the reliability of the online world and what we can do to ensure we keep ourselves and others safe, by creating a marketing campaign that will explain and inform other children your age of the unreliability of the internet and what they can do to protect themselves against it.

1. Explore one form of online content: edited images / photos / fake news / influencers and celebs.
2. Consider the motive/s behind why these may be online / posted online etc. – how could they make you or others feel?
3. Consider the reliability of their post/s and the motives behind them.
4. Create a marketing campaign / pitch to other children of your age explaining and informing them of the unreliability of this form of online content.
5. You must explain and include the following: key terminology, examples of the unreliability of this content and the motives behind them – why it is unreliable? How could they make us feel? Provide 'top tips' to help others question and recognise the unreliability of the content and what they can do to combat it.
6. You could do this as a presentation, a speech, a poster or create your own video – it is your choice!

Possible videos to support your understanding:

<https://www.bbc.co.uk/teach/safer-internet-day-resources/z6bbhbk>

<https://vimeo.com/480840050>

#### Deepen the moment...

In 5 years', time, do you think the information online will be more or less reliable?

Explain and justify your reasons.

**Remember:**

Where has this come from?

Who created or shared it?

What do they want me to do?

Will they gain anything?



Edited images and videos



Fake news



Influencers and Celebs

**Area to investigate** Fake News

Consider: how much you trust news stories now; false stories you have seen, how far fake news can travel, times when key information is left out, clickbait.

**1 What are we talking about?**  
Write a definition to help you and others. Put key words on the top if it helps you think.

**2 What problems this could lead to?**  
Are there any problems with fake news? Could fake news impact our health or our community? Is fake news easy to spot? Have you found sources that you do trust? Are things getting better or worse?

**3 Think**  
How much does this impact young people? 1 to the least 10 is the most.

**4 What should be done about this?**  
How could we make this better for young people? What can young people do? What could people in positions of power do about this?

Key words



## Reading for Productivity Lesson 3: Geography

### The Environment and Global Economies

As we enter the new millennium, the challenge for humankind is to transform the existing economy into one that does not threaten or destroy the environment. This Environmental Revolution can be compared to the Agricultural Revolution and the Industrial Revolution of the past.

Archaeological findings reveal that the great civilizations at the dawn of history pursued economies that were fairly destructive to the environment. However, the people then were unable to change what they were doing because they did not understand what was happening. Either that or they could not persuade their governments to bring about the necessary changes.



Today, however, we have the power to bring about changes to stop the destruction of the environment because we are becoming more aware of how our lives are shaped by the environment. Even when events do not directly affect us, reports in the mass media expose us to the extensive damage caused by such events. Fishery collapses, water shortages, rainforests burning uncontrollably, sudden deaths of birds, dolphins and fish, record heat waves, and raging storms that cause widespread destruction only serve to increase our awareness that our survival depends on the weather which in turn depends on our ability to maintain the ecological

balance.

Decades before, it was mainly environmental activists who played a dominant role in drawing attention to the gradual destruction of the environment. Today, directors of large corporations, government ministers, prominent scientists and intelligence agencies are speaking out on the need to change. They have a clear sense of what has to be done for they know that the current economy cannot take us as far as we want to go under the present circumstances.



People can now make decisions that will help restructure economies. For example, companies who want to buy timber products can decide whether to buy from companies that are managing forests in a responsible manner or from companies suspected of illegal logging practices. Consumers in the United States, for example, can choose to buy power from 'green' sources as buyers become more aware of different energy sources available. Governments can also decide to become a 'green consumer' by opting for sources of electricity that are climate-friendly and buy paper that has a high recycled content.

Time is of the essence and the new economic practices must be accepted quickly. The only way this can be done is to spread accurate information quickly and on a regular basis. For example, information on climatic changes, and of how the inefficient use of water can lead to food shortages must be shared. Media coverage of environmental trends and events must also be stepped up.



## **Questions:**

1. What challenge will humankind face as we enter the new millennium?
2. What two events does the text compare the Environmental Revolution to?
3. Why couldn't people in the past stop the destruction of the environment?
  - They were ignorant simple peaceful people.
  - They did not realize that their actions were slowly destroying the environment.
  - They did not know people in the governments.
  - Their governments did not believe that the environment was being destroyed.
4. The people of today have become more aware of the relationship between the weather, environment and global economies because of ...
5. Give two examples the texts give of how the weather can negatively impact our planet?
6. What is an environmental activist?
7. Who is paying more attention to preserving the environment today?
8. What is a 'green consumer'?
9. What is the writer trying to convey in the expression: *Time is of the essence*?
  - The very essence of life is time
  - it is important
  - We must not delay
  - Time is life
10. The writer emphasises two elements in the last paragraph: time and ...

### **Deepen the moment...**

What advice would you give to companies who want to become more 'green' in their businesses?

Explain your reasons and why you think it is important for companies to act on.



## Year 6 Extended Curricular Learning

### Geography – The Environment

Wednesday 10<sup>th</sup> February 2021 – Activity 3



#### VIPs:

*As we enter the new millennium, the challenge for humankind is to transform the existing economy into one that does not threaten or destroy the environment.*

*Today, we have the power to bring about changes to stop the destruction of the environment because we are becoming more aware of how our lives are shaped by the environment.*

*Things we can do to protect the environment are: recycling, using resources sustainably, limiting deforestation and destruction of habitats, using sustainable energy as opposed to fossil fuels, etc.*

Your task is to research more about recycling in the UK. You should explore the following ideas:

- Which household items can be recycled?
- What happens during the recycling process?
- What the consequences are for not recycling these items.

Useful links:

<https://www.businesswaste.co.uk/recycling/fun-recycling-facts-for-children/>

[https://www.ducksters.com/science/environment/recycling\\_for\\_kids.php](https://www.ducksters.com/science/environment/recycling_for_kids.php)

Using this research and new knowledge, create an advert which persuades people to recycle more in the UK, using the information you have gathered. Create a script for the advert that could be shown to children, which encourages them to care more for the environment.

You should explore all of the different ways in which they can protect the environment.

#### Deepen the moment...

**“Only 50% of household waste is recycled per year.”**

How can MPs and our government convince people to care more for the environment? Could there be incentives put in place which rewards peoples for being environmentally aware?





## Reading for Productivity Lesson 4: Science

### Air Resistance

#### What is friction?

Friction is a **force**. It happens when two objects rub together creating a resistance of motion. It works against the **motion** and in the other **direction**. Like if you're trying to slide a piece of furniture along the floor in your house, it's going to be easier to slide on laminate or wooden floor than it is on the carpet. And that's all to do with the friction caused between the carpet and the piece of furniture.



Sometimes we need friction. Like if we're riding a scooter, when we put our foot to the pavement, we use the friction to slow us down. This is also how ice skaters change their **speed** and direction, using the friction between the ice and their skates. Friction can also create **heat**, like when we're cold and we rub our hands together to warm up. That's because of the friction of our two palms rubbing together.

But it can sometimes be bad, too. Like when we fall on the ground and the friction between our skin and the floor causes us to scrape our knee. (Ouch, right?) Or when our shoes get worn out at the bottom because of the constant friction between them and the ground. Or it's a good excuse to buy some new shoes, so I guess that one is up for debate on whether it's a good or bad thing.

There are also two types of friction- **static and kinetic**. Static friction happens when two objects aren't moving and kinetic friction happens between two objects that are. Air resistance is just one type of friction.

#### What causes air resistance?

Also known as '**drag**,' air resistance is a force caused by air. The **air particles** hit the front of an object, causing it to slow down. The greater the surface area, the greater the number of air particles hit the object and the greater the overall resistance.

There are two main things that affect **air resistance**- the speed of the object, and the cross-sectional area of the object. The faster an object is going, the more air resistance there'll be. It's the same for a large **cross-sectional area**; an increased area leads to an **increased amount of air resistance**.

#### Examples of air resistance

Here are some examples of air resistance in everyday life.

**Wind**- When the wind blows, it is sometimes difficult to walk through the air. This is because the air resists your force and pushes back against you.

**Parachute**- When a skydiver jumps out of an aeroplane, they open a parachute. Air resistance causes them to parachute slowly to the ground.

**Bicycle**- When you ride a fast bike, air resistance pushes you back.

**Aeroplane**- When an aeroplane is flying up in the air, the air particles hit the aeroplane so that it's more difficult to move through the air.

**Leaves**- On a windy day, when you see leaves falling from a tree really slowly, that's because air resistance is slowing down its fall.

**Umbrellas**- You know that annoying experience when it's raining cats and dogs and you put up your umbrella, but it's really difficult to hold because of the wind? What's that, you say? That's air resistance, too? Yup.





### Air resistance and streamlining

For things to move quickly and efficiently through air or water, objects need to have a small surface area. This is because the bigger the surface area, the greater the resistance. This means that objects need to be streamlined in order to push against the air's force.

Trains are designed to be streamlined so they can move quicker, getting you from one destination to the next! Even people can try and be streamlined, like swimmers, for example. They try and maintain a streamlined shape during races so that they can get through the water quicker. But this is because of water resistance, rather than air resistance (hence, you know, them being in water and everything).

### What are the three main types of air resistance?

Air resistance, or drag, can be put into one of three categories; lift induced, parasitic, and wave. Each of these types of air resistance affects an object's ability to stay up and the power it will need to keep it there.

**Lift induced** air resistance happens as the result of the creation of lift on a three-dimensional lifting body (wing or fuselage). **Parasitic drag** happens when a solid object moves through a fluid. This type of air resistance is made up of lots of components like 'form drag' and 'skin friction drag'. **Wave drag** is made when an object moves at a high speed through a compressible fluid.



## Questions:

1. Name two things that friction can help control or create.
2. What are the main factors that can affect air resistance?
3. Match the following types of air resistance with their cause:

When an object moves at a high speed through a compressible fluid

Happens when a solid object moves through a fluid

Happens as the result of the creation of lift on a three-dimensional lifting body (wing or fuselage)

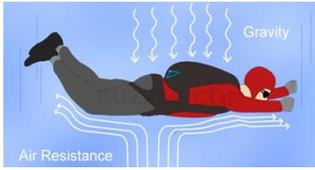
4. Summarise the meaning and uses of streamlining.
5. Summarise the first section of the text, based on 'friction', in 3 sentences.
6. Describe the link between **friction** and **air resistance**?
7. What is the difference between **air particles** and **air resistance**?
8. **Lift induced** air resistance happens as the result of the creation of lift on a three-dimensional lifting body (wing or fuselage).

What does the word '**fuselage**' mean?

### Deepen the moment...

How do birds use air resistance in order to fly?

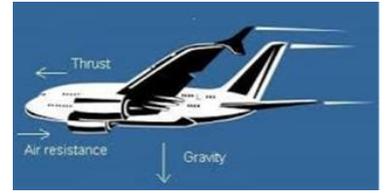
How do you think the wingspan of a bird impacts their flying speed and ability to hover in the air for any length of time?



## Year 6 Extended Curricular Learning

### Science – Air Resistance

Thursday, 11<sup>th</sup> February – Activity 4



#### VIPs:

- Air resistance pushes against an object falling through the air (due to gravity).
  - The mass of the object does not affect how fast it falls.
  - The surface area determines how much air resistance there is.
  - The larger the surface area the greater the air resistance.

Today, you are going to create your own parachute investigation in order to answer the following question:

*'What impact do different factors have on the amount of air resistance?'*

You could create an experiment to investigate how different factors could have an impact on the amount of air resistance. You could choose to investigate one of the following; the height of the drop, the size of the parachute, the shape of the parachute, the distanced dropped, the length of string or the object attached to the parachute.

When planning your experiment, think about these questions: What equipment will you need? What method will you use? What will the controlled, independent and dependent variables be? What do you predict your results to be and how will you record them?

Once you have concluded the results of your experiment, see if you can draw a diagram to represent how air resistance worked against the object that you used in your experiment.

#### Deepen the moment...

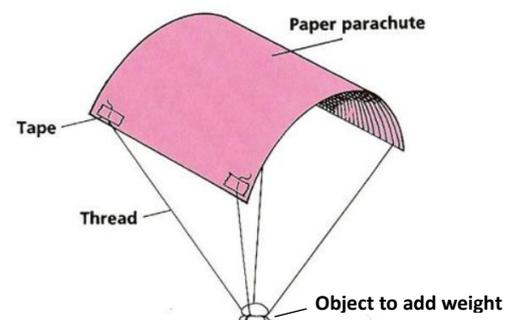
Prove it!

*If two 3D shapes (with the same surface area) are dropped from the same height will they fall at the same speed?*

Useful links:

[https://www.youtube.com/watch?v=Aoy3j9tbOk0&feature=emb\\_logo](https://www.youtube.com/watch?v=Aoy3j9tbOk0&feature=emb_logo)

<https://www.bbc.co.uk/teach/class-clips-video/science-design-and-technology-ks2-harnessing-air-resistance-with-parachutes/zjps382>





## Reading for Productivity Lesson 5: PSHE

### Conflict Resolution

Conflict resolution is a peaceful way of trying to solve a conflict with resolution. Both sides in the conflict explain what they feel happened to cause the conflict. The person who listens to both sides is called the **mediator**. After both sides state what they feel happened to cause the conflict, they discuss ways to solve the conflict. They try to come up with a “resolution” that both sides agree to.

Communication throughout the entire conflict resolution process is always exchanged in a calm manner without anger. Everyone attempts to use good listening and attending skills while people are talking. If voices get too loud or it appears that someone is angry, the mediator’s role is to address this and have the people treat each other with respect. After various suggestions are shared in how to mediate the conflict, discussion centres on the best solution. Conflict resolution can also be called dispute resolution. It is used in many environments to help solve disagreements in a peaceful way.

This is an example of how conflict resolution works in a school playground setting:

- Someone says that a student pushed them on the football field.
- The person accused as the “pusher” claims it was an accident.
- The person pushed gets the mediator.
- The mediator takes the two people who are upset somewhere in a quieter spot and away from others to talk.
- The mediator calms everyone down and lets them know that he understands their feelings.
- Each person describes what happened.
- The mediator asks for clarification if something is not clear.
- The mediator repeats what he heard so it is clear to everyone and /she identifies with those involved.
- The mediator asks for ideas to solve the problem.
- The two individuals offer ideas and solutions to the problem.
- The individuals discuss the ideas and solutions and come to some agreement on the solution.
- The mediator makes sure the individuals follow-through on the solution whether it is to say they are sorry, to shake hands or to play nicely together, etc.
- The mediator offers praise for solving the problem.

Conflict resolution can work in many settings and it can work with several individuals at once. In any event, it is worth trying to get at the heart of the matter by involving the peers themselves who have a concern. It encourages them to analyse what really happened, to share their feelings about the conflict, and to work together peacefully to solve the problem. Conflict resolution gives those involved a structure to use with a mediator to help reach an agreement. It allows onlookers to see a workable framework.





## **Questions:**

1. What word in the text means the same as “a solution to the conflict”?
2. Why do you think the author included the bullet points in this particular text about conflict resolution?
3. According to the text, what is the most likely reason to use conflict resolution?
4. Explain the ideal communication in the steps to solve a conflict.  
How should a person talk, etc.?
5. Give an example of when you used one or more steps of conflict resolution to work on a problem, even if you may not have known what the step was called.  
Explain the people involved, the problem, and the outcome. Did you solve the problem?

### **Deepen the moment...**

How important do you think conflict resolution is to your life today?

Is it more, less or just as important in your future life?



## Year 6 Extended Curricular Learning

### PSHE – Conflict Resolution

Friday 12<sup>th</sup> February 2021 – Activity 5



#### VIPs:

Conflict resolution is a peaceful way of trying to solve a conflict with resolution. Both sides in the conflict explain what they feel happened to cause the conflict.

The person who listens to both sides is called the **mediator**.

After both sides state what they feel happened to cause the conflict, they discuss ways to solve the conflict. They try to come up with a “resolution” that both sides agree to.

Today, you will learn about how to deal with and react to conflicts in the best possible way in order for them to be resolved effectively. Your job is to use the suggestions in your reading for productivity text and also conduct your own research to design and create a leaflet advising people on techniques they can use to stay calm when conflicts happen and the best ways they can deal with conflicts.

Your leaflet can include pictures and examples of situations if you wish.

You should aim to include at least three or four ways people can calm themselves down when they feel angry or upset.

The title of your leaflet will be: ‘Think before you act’.

#### Deepen the moment...

Create your own scenario where a conflict occurs and demonstrate the best way to resolve it. Explain ways in which this conflict could have been prevented.

You could act this out through role play or write your own script for your scenario.





# Session 2 Logic vs illogic activity

Worksheet

**LOGICAL**

(based on fact)

**VS**

**FALSE LOGIC**

(based on assumptions, beliefs, theories)

**Q1. The cause of polio in the 1950s?**

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

**Q2. The cause of childbed fever?**

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

**Q3. The shape of the earth?**

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

**Q4. What is the centre of the solar system?**

|  |  |  |
|--|--|--|
|  |  |  |
|--|--|--|

**Q5. Can someone or something put a feeling in you?**

|  |  |                                                                                       |
|--|--|---------------------------------------------------------------------------------------|
|  |  |  |
|--|--|---------------------------------------------------------------------------------------|



## Session 2

Worksheet

# Logic vs illogic activity

## Statements

1a) The 1952 polio pandemic was caused by eating ice cream.

1b) The 1952 polio pandemic was caused by a virus that spread due to poor sanitation.

2a) Childbed fever was caused by the anxious/scared personality of the mother, no fresh air and curdled milk.

2b) Childbed fever was caused by germs.

3a) The earth is round. You can sail forever and never reach the edge.

3b) The earth is flat. You can't sail far before falling off the edge.

4a) The earth does not move. The sun moves and rises and sets.

4b) The sun does not move around the earth. The earth rotates around the sun.

5a) My friend cannot take away my wellbeing and put a hurt feeling in me.

5b) My friend can take away my wellbeing and put a hurt feeling in me.





# Session 2

Feedback



## What's on your mind?



- Tick if you agree.
- Cross if you disagree.
- Question mark if you are unsure.

My psychological system is an intelligent system.

Intelligent systems are reliable/predictable - we can count on the way that they work.

The psychological system works the same way for everyone.

It might seem like someone or something can put a feeling in me, but this is not possible.

It is important to know how our minds work as it can help us in life.

? Questions:

! Comments:



### Halfpenny Lane Reading Challenge

We are continuing to run our weekly 'Reading challenge' for all of our children throughout this National Lockdown period. Whilst you are at home, we would like you to continue to read at least 4 times a week and fill in your reading record.

Send us a picture of your completed reading record every Thursday each week on Class Dojo for an extra Dojo point and to be put into 'the reading raffle' for a chance of winning a prize upon our return.

At the end of each week, the names of the winning classes of our reading challenge and the randomly chosen children who have won our reading raffle, will be included in our weekly newsletter and posted on our school Twitter page.

Good luck everyone and continue to read as much as you have been doing!  
Happy reading!





### Halfpenny Lane TT Rockstars Weekly Battles

We are continuing to run our weekly TT Rockstars battles for all of our children in Year 2 to 6, throughout this National Lockdown period. Whilst you are at home, we would like you to continue to go on and access TT Rockstars as much as you can.

Each week we will be able to see how many correct answers each of you have got and which class has won their weekly battle.

An extra Dojo point will be awarded to those children going on and accessing this each week.

At the end of each week, the names of the winning classes and the top three children with the most correct answers across school, will be included in our weekly newsletter and posted on our school Twitter page. Prizes will be awarded upon our return.

Good luck everyone and rock on!

