Connected Learning Team Primary

Year Three

Mathematics Package Addition & Subtraction Problems Multiplication word problems Symmetry Data Representation 2D shapes

Overview		
Day 1-5	Day 6-10	
Focus: Addition and Subtraction fact families	Focus: Symmetry	
Focus: Equivalent number sentences	Focus: Chance experiment	
Focus: Addition and Subtraction word problems	Focus: Data representation	
Focus: Multiplication word problems	Focus: 2D Shapes	
Focus: Symmetry	Focus: 2D shapes	

Year 3 Curriculum Links

Number & Algebra

Recognise and explain the connection between addition and subtraction (ACMNA054)

Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation (ACMNA055)

Represent and solve problems involving multiplication using efficient mental and written strategies and appropriate digital technologies (ACMNA057)

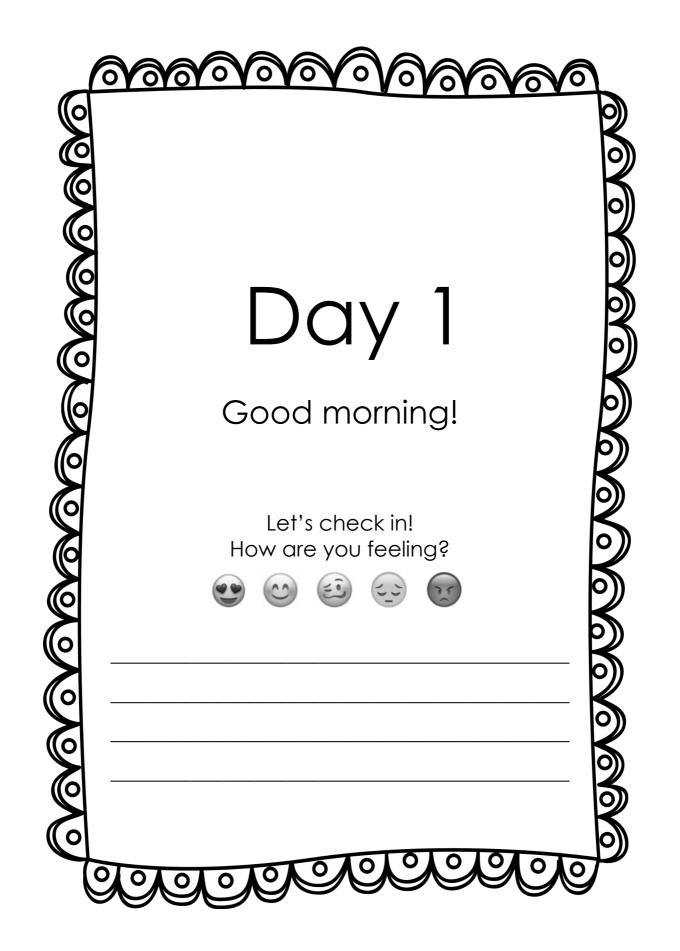
Measurement and Geometry

Identify symmetry in the environment (ACMMG066)

Statistics and Probability

Interpret and compare <u>data</u> displays <u>(ACMSP070)</u> Collect <u>data</u>, organise into categories and create displays using lists, tables, <u>picture graphs</u> and simple column graphs, with and without the use of digital technologies <u>(ACMSP069)</u> Conduct chance experiments, identify and describe possible outcomes and

recognise variation in results (ACMSP067)



Mathematics

Addition & Subtraction Fact Families

We are learning to:

• Understand what a fact family is.

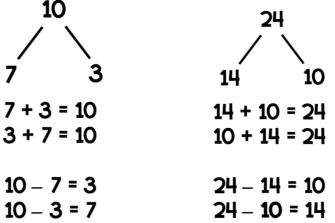
I will be successful when:

- I can write four related addition and subtraction number sentences.
- I can explain how addition and subtraction facts are related.

Task 1:

Let's talk about fact families! A **fact family** is a set of four related addition and subtraction facts that use the same three numbers.

For example, you can form a fact family using these three numbers:



Question 1

Find the addition and subtraction fact families for each group of numbers. The first one has been done for you.

18	18 + 23 = 41	68	23 + 45 = 68
41	23 + 18 = 41	23	45 + =
	41 - 23 = 18		68 - 23 = 45
23	41 - 18 = 23	45	68 - =

Question 2

Find the addition and subtraction fact families for each group of numbers.

20	+ =	35	+ =
12	+ =	22	+ =
0	- =		- =
O	- =	13	- =

Question 3

Find the addition and subtraction fact families for each group of numbers.

92	+ =	91	+ =
19	+ =	55	+ =
	- =		- =
73	- =	36	- =

Question 4

Find the addition and subtraction fact families for each group of numbers.

130	+ =	153	+ =
75	+ =	122	+ =
	- =		- =
55	- =	31	- =

Task 2

Choose three numbers to create your own set of related addition and subtraction facts. The first one have been done for you.

Question 1

+ =	+ =
+ =	+ =
- =	- =
- =	- =

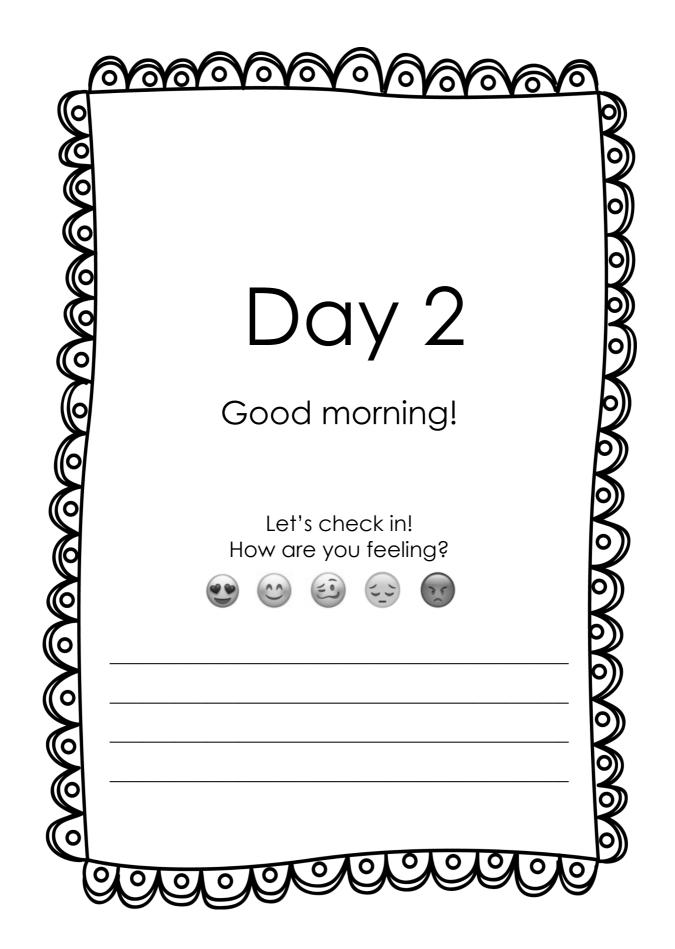
Question 2

+ =	+ =
+ =	+ =
- =	- =
- =	- =

Challenge

Imagine you are teaching a friend about fact families. Write how you would explain this below. E.g. Draw a diagram and write some sentences.





Mathematics Equivalent number sentences

We are learning to:

• Use our knowledge of fact families and partitioning to create equivalent number sentences.

I will be successful when I can:

- Use partitioning to equal a whole amount
- Create equivalent number sentences

We know how to use fact families to create addition and subtraction number sentences. We can also use partitioning to expand these number sentences. Partitioning is when we split something into smaller parts to make it easier to work with.	10 7 3 7 + 3 = 10 3 + 7 = 10
For example: Let's take 3 + 7 = 10	
We know that 10 can be made by adding 3 and 7 together, but we	10 – 7 = 3 10 – 3 = 7

can also make 10 by adding 9 and 1.

So, we the number sentences below could also be correct, because we know they both equal 10:

3 + 7 = 9 + 1

These two number sentences (3 + 7 and 9 + 1) are called **equivalent number sentences**, because they equal the same amount.

We can also have an addition number sentence and subtraction number sentence be equivalent number sentences, as long as they equal the same amount.

For example: we know that 11 - 1 = 10, so: **3 + 7 = 11 - 1**

Task 1: Complete the following equivalent number sentences:

3 + 7 = 8 +	10 - 4 = 8
+ 6 = 5 + 4	13 - 6 = 9
12 + = 19 + 1	5 = 20 - 10
16 + 4 = 15 +	8 = 25 - 4
35 + 15 = 25 +	54 – 9 = 60

Number sentences can also include addition and subtraction within the same number sentence.

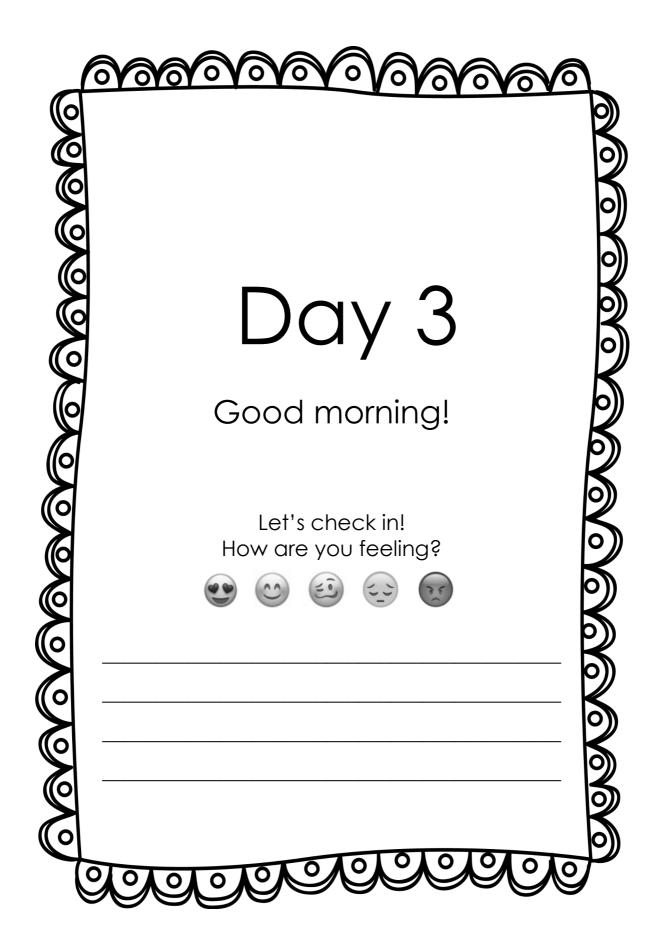
For example:

57 + 19 = 57 + 20 - 1

Task 3:

Create 5 of your own equivalent number sentences that include both addition and subtraction:





Mathematics Addition and Subtraction Word Problems

We are learning to:

• Solve one step addition and subtraction word problems.

I will be successful when I can:

- Solve one step word problems
- Create my own word problem

We can use our knowledge of fact families and how to find the missing digit in a number sentence, to solve addition and subtraction word problems.

Question 1: When a number is added to 23 the answer is the same as 57 minus 19. What is the number?'

STEP 1: What is the question asking you to find out? What is the number?

STEP 2: What is the important information in the question? Can you
draw it or write it as a number sentence?'When a number is added to 23'Number + 23'the answer is the same as'='57 minus 19'57 - 19

STEP 3: Break down the number sentence to simple steps: Number + 23 = 57 - 19 57 - 19 = 38 Number + 23 = 38 STEP 4: Find missing numbers to solve problem: +23 = 38 38 - 23 = 15ANSWER: 15

Task 1:

Follow the for 4 steps to solve these problems. The first one has been done for you.

Question 1: When a number is added to 18 the answer is the same as 43 minus 11. What is the number?'

43- 11= 32

____+ 18 = 32

32-18 = 14

Answer is 14

Question 2: When a number is added to 15 the answer is the same as 50 minus 26. What is the number?'

50-26=

Question 3: When a number is added to 26 the answer is the same as 65 minus 21. What is the number?'

Question 4: When a number is added to 33 the answer is the same as 72 minus 34. What is the number?'

Task 2:

Create your own word problem that involves finding a missing number and get someone in your house to try and solve it. You need to have the working out and answer completed on the next page for them to check their answers when they have finished.

My word problem:	
's	working out:

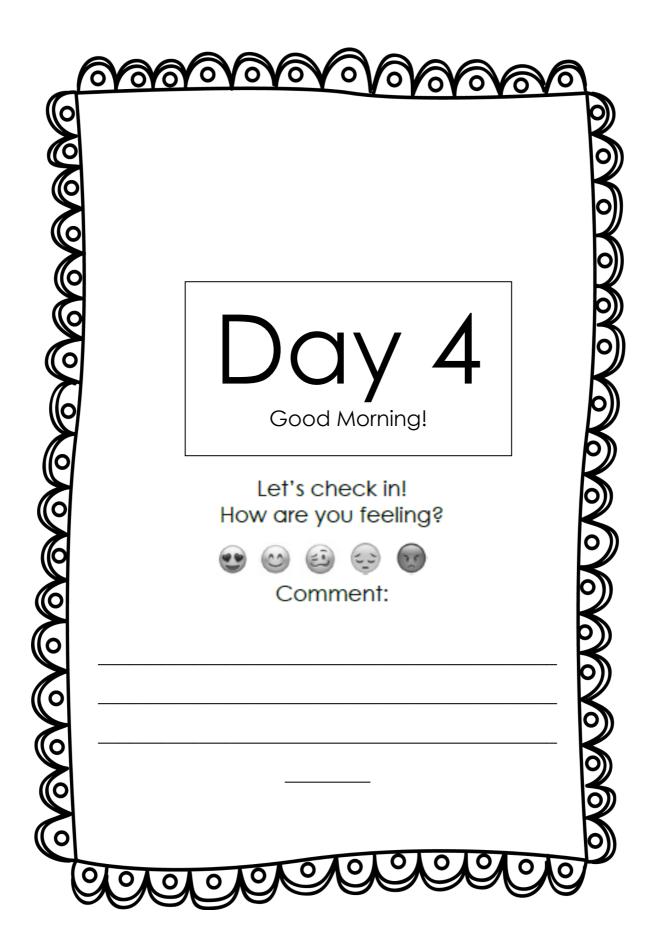
Did the person I selected correctly answer the word problem? If not, which step did they get wrong?

Was my working out and answer correct?

My working out and answer:

What did I find most challenging about creating this word problem?

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Mathematics Multiplication Word Problems

We are learning to:

• Solve one step multiplication word problems.

I will be successful when I can:

- Solve one step word problems
- Create my own one step word problem

Today we are going to solve some one step word problems:

ONE STEP WORD PROBLEMS

Question: Joe is making cakes. They need to be put into boxes. Each box holds 5 cakes and he is making 6 boxes. How many cakes will he make?

STEP 1: What is the question asking you to find out? How many cakes will he make?

STEP 2: What is the important information in the question? Can you draw it?

Each box holds 5 cakes. 6 boxes

STEP 3: Determine number sentence and operation (multiply or <u>divide</u>) 5 cakes and 5 boxes **5 x 6 =**

<u>STEP 4: Solve problem</u> 5 x 6 = **30 ANSWER: 30**

Task 1

Solve these one part word problems. The first one has been done for you.

Question 1: Steve is going on the bus with 4 friends. Each ticket costs \$4. How much did Steve spend?

How much money? 5 people total and 4 dollars each $5 \times 4 =$ $5 \times 4 = 20$ Answer = 20

Question 2: Jane is playing games at the store. She played 9 games and won 5 tokens on each. How many tokens did she win?

Question 3: Brett has 3 friends and he is giving them basketball cards. He gives each friend 4 cards. How many cards in total did he give?

Question 4: There are 4 weeks until the holidays. How many days is that?

Task 2

Create your own one step word problem and get someone in your house to try and solve it. You need to have the working out and answer completed on the next page for them to check their answers when they have finished.

My word problem: 's working out:

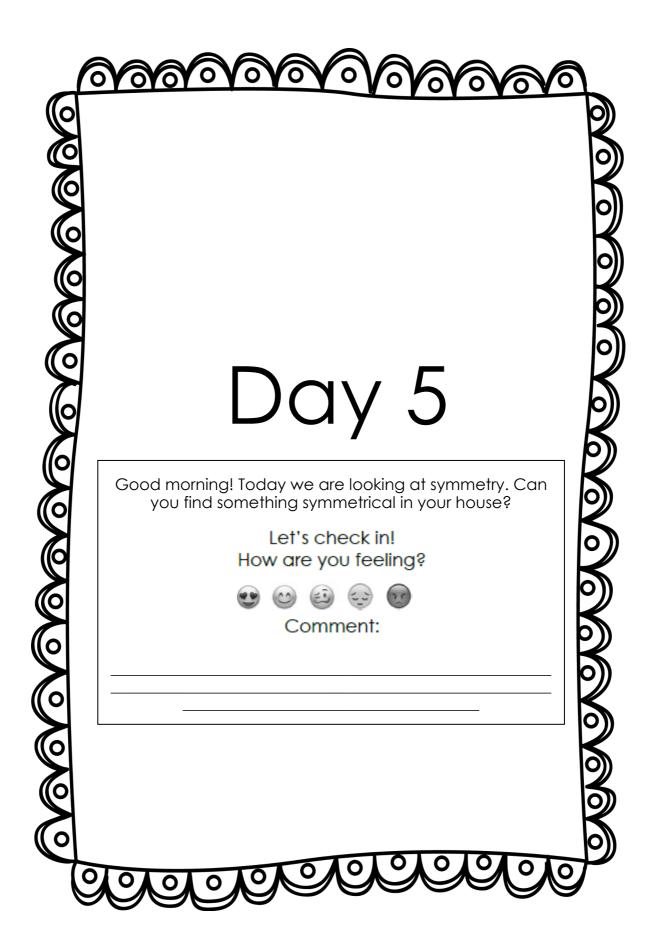
Did the person I selected correctly answer the word problem? If not, which step did they get wrong?

Was my working out and answer correct?

My working out and answer:

What did I find most challenging about creating this word problem?

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Mathematics Symmetry

We are learning to:

• identify and draw the lines of symmetry

I will be successful when I can:

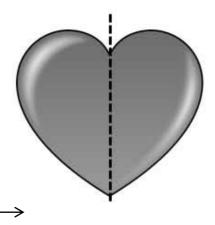
- draw lines of symmetry on a shape
- explain if shapes can have more than 1 line of symmetry

What is symmetry?

An object is symmetrical when it can be folded in half and both sides are exactly the same.

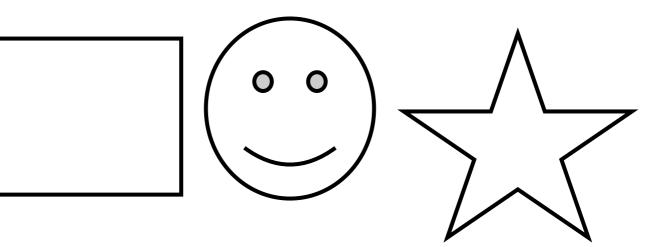
A line of symmetry divides a shape into

two equal parts.



Task 1:

Try drawing a line of symmetry on the shapes below:



Task 2

The next page is left blank; you will need this piece of paper to experiment with lines of symmetry. Take out that piece of paper, follow the instructions below and complete the reflection questions at each step.

<u>Step 1</u>

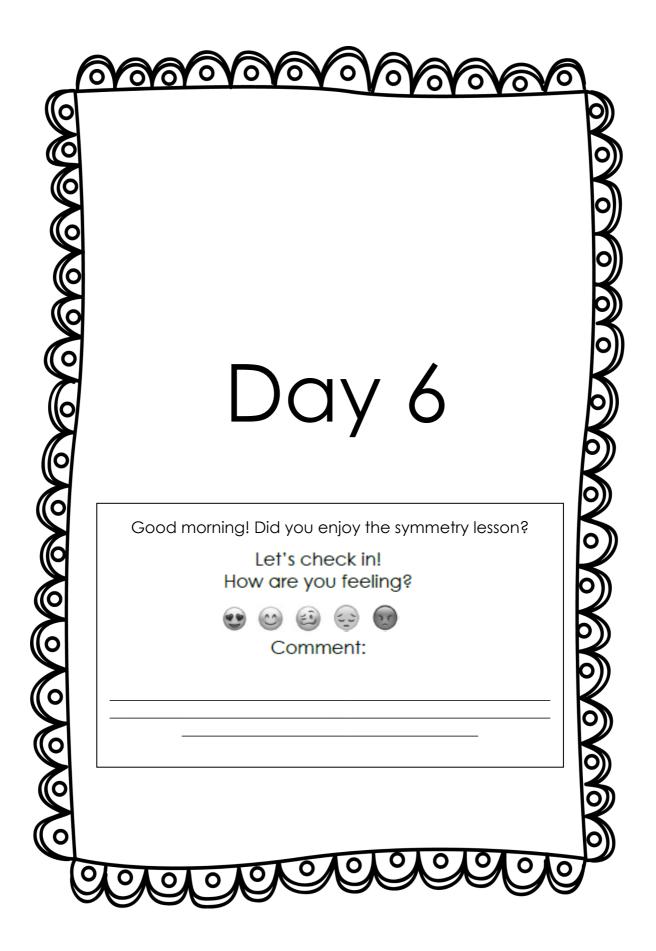
- Fold your piece of paper in half horizontally (make sure your paper matches up perfectly when it is folded)
- Open it up
- What do you notice?
- How many lines of symmetry are there? ______

Do you think a shape can have more than one line of symmetry? Why or why not? Explain your thinking below

<u>Step 2</u>

- Fold the piece of paper back to the horizontal fold you started with.
- Fold your paper vertically, remember to make sure the edges match up perfectly
- Open up your paper
- Use a ruler or another tool to draw the over the folded lines what do you notice?

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Mathematics Symmetry

We are learning to:

• identify and draw the lines of symmetry

I will be successful when I can:

• create symmetrical patterns using pictures and shapes

Task 1:

In your own words or using pictures explain what the word

symmetrical means (you can look at your work from yesterday if

you need to)

Task 2:

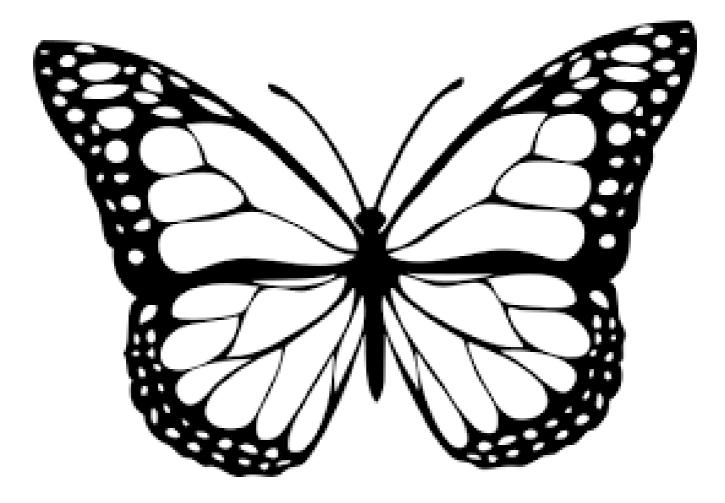
Instructions

Look at the picture of the butterfly.

Colour in the butterfly

Make the patterns on each of the wings match the other side

1. Colour in the butterfly. Remember to make the wings match each other.



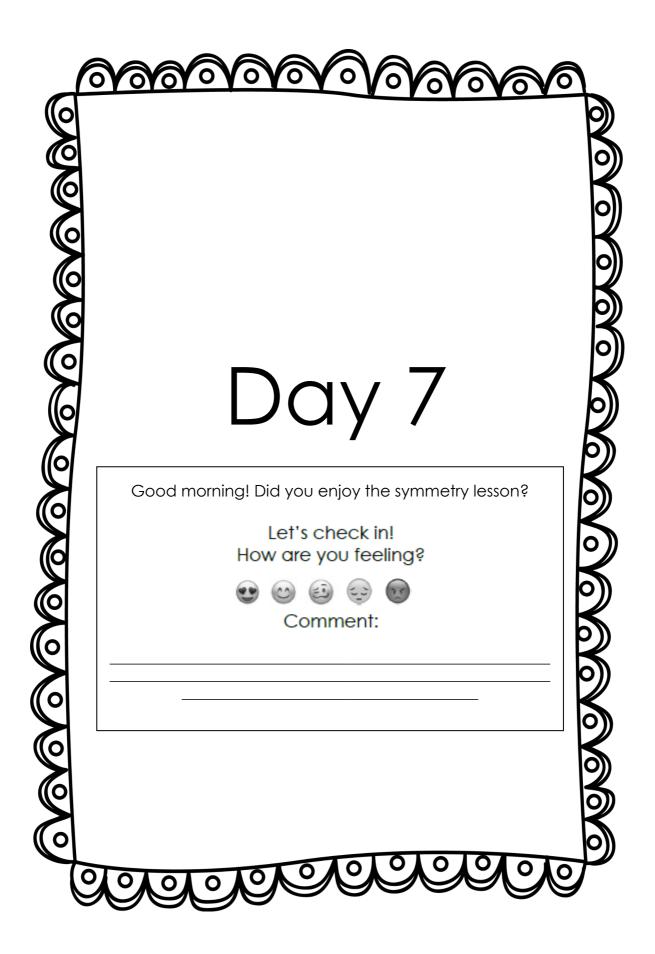
2. Draw a line of symmetry on the butterfly

What do you notice about the shape and colour of the wings?

Task 3:

Use the blank space below to create your own shapes or pictures, and then draw the lines of symmetry on them. You can use inspiration from objects and pictures around your home

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



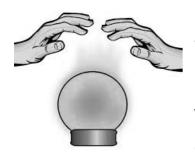
Mathematics Probability

We are learning to:

• describe everyday events and order their chances of occurring.

I will be successful when I can:

• use specific language to explain the likeliness of an event occurring



Did you know that you are a bit like a fortuneteller? Everyday you are predicting what will happen; you chose your clothes based on the weather, you choose where to sit during recess depending on where you think your friends might

sit, you make moves in a card games based on what you think your opponent might do. You make decisions and every choice you make is based on the prediction of how likely you think an event or series of events might happen.

We can measure how likely it is for something to happen, the special name we give to this type of measurement is **probability**.



We can use different words to describe how likely it is for something to happen. Words we can use are: impossible, unlikely, 50-50 chance, likely and certain.

Task 1:

Read the events below and use the words impossible, unlikely,

50-50 chance, likely and certain to decide the likeliness of the

events taking place.

Event	Probability
It will rain today	
You will watch T.V.	
You will have a shower	
A turtle will grow wings and fly	
You will eat dessert	
You will see a spider	
You will eat something	
You will ride your bike	
You will draw a picture	
You will go to bed	
A monkey will knit you a blanket	
You will see a neighbour	
You will see the Prime Minister on T.V.	
You will have a good day	
You will complete a chore	
You will make a video call	
You will go outside	
It will be 7 p.m. at some stage today	
The sun will shine	

Task 2:

You can practice measuring probability by conducting chance experiments. Before you begin you will need to gather the following materials:

- 1 scrunched up piece of paper this can be a catalogue, serviette, aluminium foil, baking paper, magazine, newspaper or any other material
- 1 container
- Something to write with

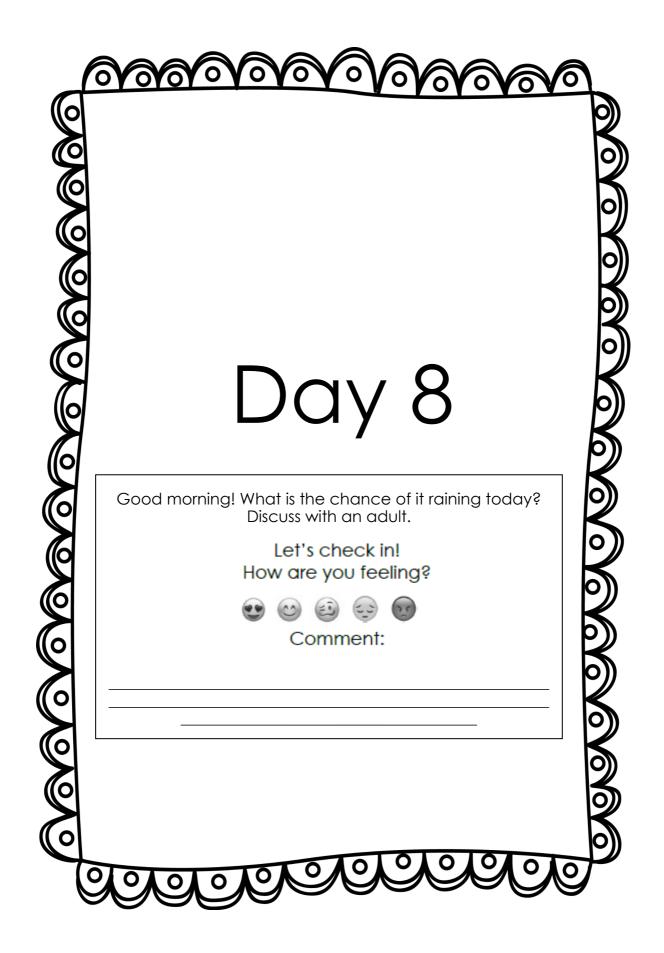
Chance Experiment

- Set up your container in a space where it is safe for you to throw your scrunched up paper
- 2. Take approximately 5 steps away from your container
- 3. Sit facing your container and your paper ball in your hand
- 4. Attempt your best to throw the paper into the container
- 5. Record (by using a tally) how many times the piece of paper goes into the container and how many times it doesn't.

In	
Out	

How many turns did you have in total?	
How many went into the container?	
How many did you miss?	

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Mathematics Data Representation

We are learning to:

 describe everyday events and order their chances of occurring

I will be successful when I can:

• use numbers to describe the probability of an event taking place

Task 1:

Did you know that you can use numbers to determine the probability of an event occurring? Let's have a look at some examples.

Look at the different foods below



How many foods are there all together? ____

Imagine if these foods were mixed up and a blanket was placed over them.

What is the **probability** that you would pull out a hamburger? **4/15** The answer is 4/15 because there are 4 hamburgers out of a total of 15 foods.

Now try some for yourself.

Task 2:

Use the pictures to answer the questions on your own.



What is the probability of pulling out an ice cream?

What is the probability of pulling out a hotdog? _____

What is the probability of pulling out either a hamburger or an ice cream? _____

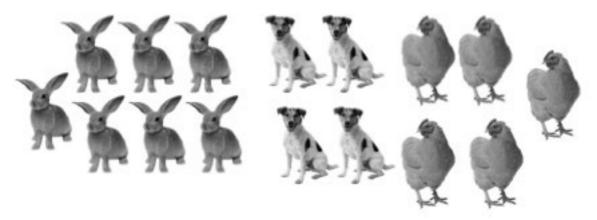
What is the probability of pulling out either an ice cream or a hotdog? ____

What is the probability of pulling out either a hamburger or a hotdog? _____

How did you go? What did you find easy and what did you find challenging?

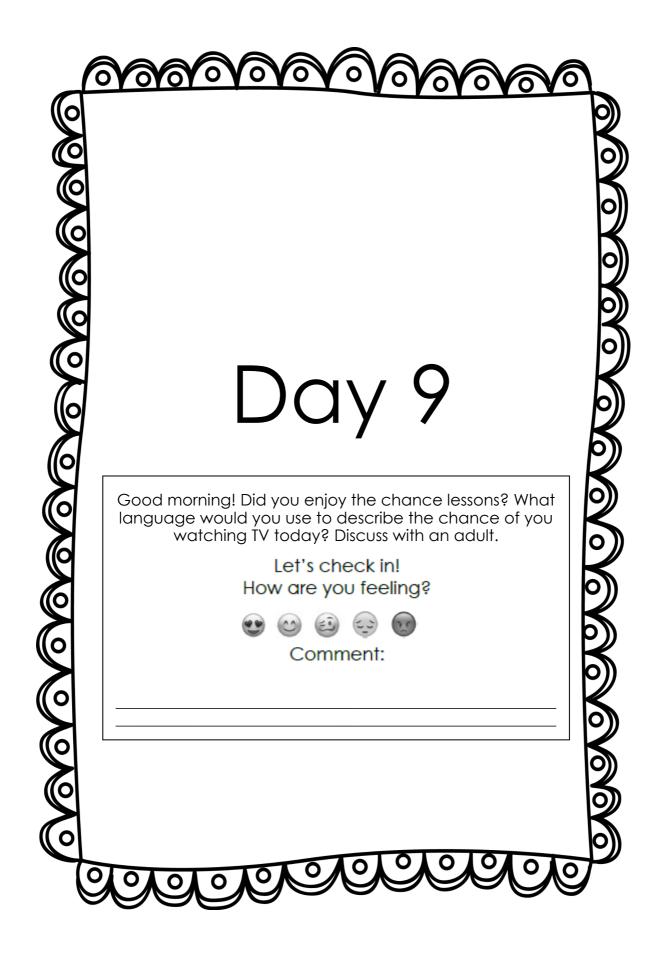
Task 3:

Try some more probability questions with these pictures.



What is the probability of pulling out a rabbit? _____ What is the probability of pulling out a dog? _____ What is the probability of pulling out a chicken? _____ What is the probability of pulling out a rabbit and a dog? _____ What is the probability of pulling out a dog and a chicken? _____ What is the probability of pulling out a rabbit and a chicken? _____

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Mathematics Properties of Shapes

We are learning to:

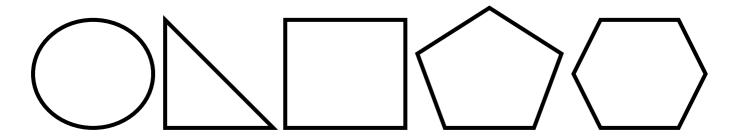
• compare and describe two dimensional shapes

I will be successful when I can:

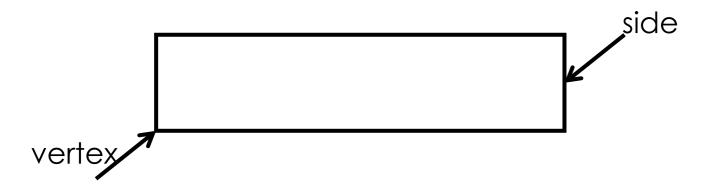
• find the sides and vertices of a 2D shape

<u>Two-dimensional Shapes</u>

Two-dimensional shapes or 2D shapes are shapes that have two dimensions, length and width. A 2D shape is flat. Look at the different 2d shapes below, which ones do you know the names of?



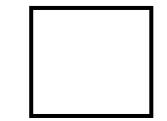
Look at the different properties of 2D shapes



Task 1:

Draw an arrow to show where the side and vertices are on the square below:

Side

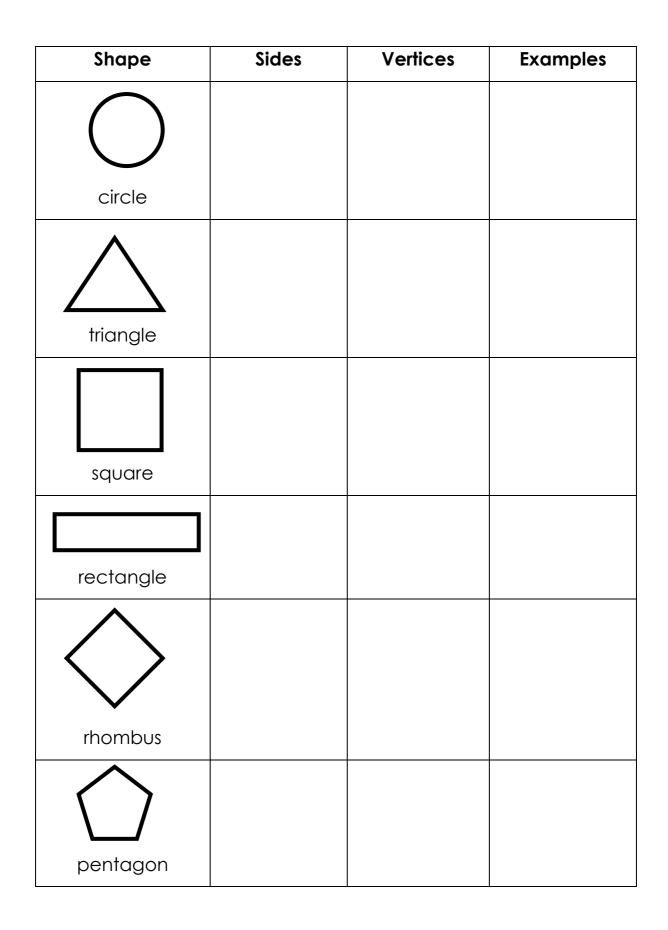


Vertices

Task 2:

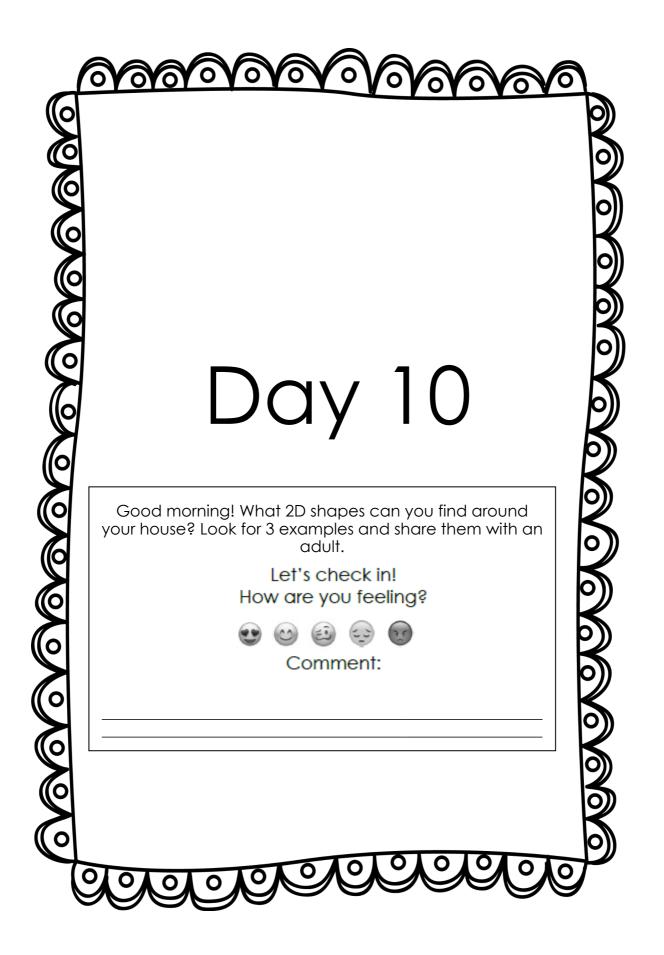
Look at the shapes on the table over the page, write the number of sides and faces it has, then find some examples around your home to match the shapes, you can draw or write these. Here is an example of how to fill out your table:

Shape	Sides	Vertices	Examples
parallelogram	4	4	Eraser Eraser Foof of house
oval	0	0	egg
			footy oval



Shape	Sides	Vertices	Examples
hexagon			
trapezoid			
octagon			

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Mathematics Properties of Shapes

We are learning to:

compare and describe two dimensional shapes I will be successful when I can:

match the clues of the properties of shapes to a 2D shape

Task 1: Detective Work

For your amazing skills in identifying the properties of 2D shapes, YOU have been chosen to carry out some detective work. Your mission is to read the clues provided and match the shape to those clues. How fast can you find the

matching shapes? If you are stuck you can look at your work from yesterday. Good luck!





I have 4 sides and 4 vertices. Two of my sides

are longer and two of my sides are shorter. What shape am I?

_____Draw me:

<u>Clue 2</u>

I have 5 sides and 5 vertices. None of my sides are parallel. What shape am I?

_____ Draw me:

<u>Clue 3</u>

I have 3 sides and 3 vertices. My sides are not always equal. What shape am I?

_____Draw me:

Clue 4

I have 4 sides and 4 vertices. All of my sides are equal. What shape am I?

_____Draw me:

<u>Clue 5</u>

I have 0 sides and 0 vertices. What shape am I?

_____ Draw me:

Clue 6

I have 4 sides and 4 vertices. Two of my sides are parallel and two are not. What shape am I?

_____ Draw me:

Dear Student,

Congratulations on completing your first mission, we knew we had found the right person for the job! But there is no time to waste; we have another mission for you!

It is my duty to inform you that we have some shapes on the loose! They have escaped from Shape Prison and are sabotaging the world as we know it. We have evidence to suggest that these shapes have the ability to transform themselves into strange creatures threatening how we see the world and all of the shapes in it!

This is why we need YOU! Your job is to raise community awareness by creating wanted posters. You need to make sure you are very descriptive by giving the shapes a name, face and body features, and a detailed description of their properties to ensure they are caught as soon as possible!

The success of this mission can save our world from a shape catastrophe! Get started straight away by signing the contract below. Good luck, we have full faith in your abilities!



I _____ (name) commit to

making wanted posters using mathematical language that I have learnt this week. I will ensure my work is neat, legible, colourful and detailed.

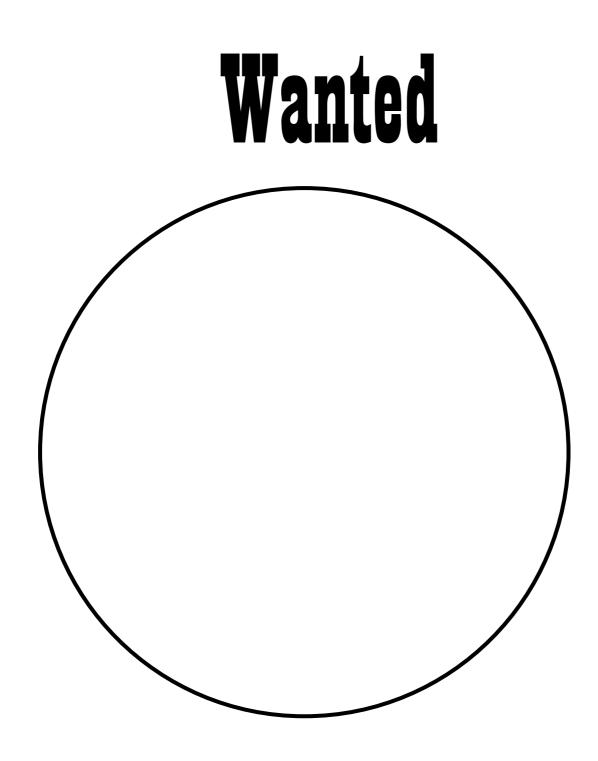
_____ (signature) ______ (date)

Task 2: It is up to you how many shapes you do.

Wanted

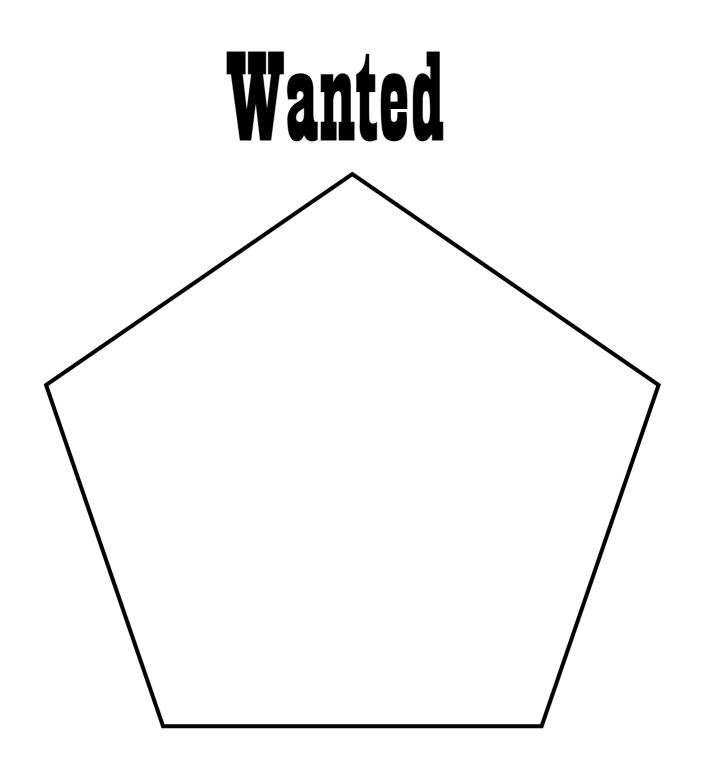
Name:

Description:



Name:

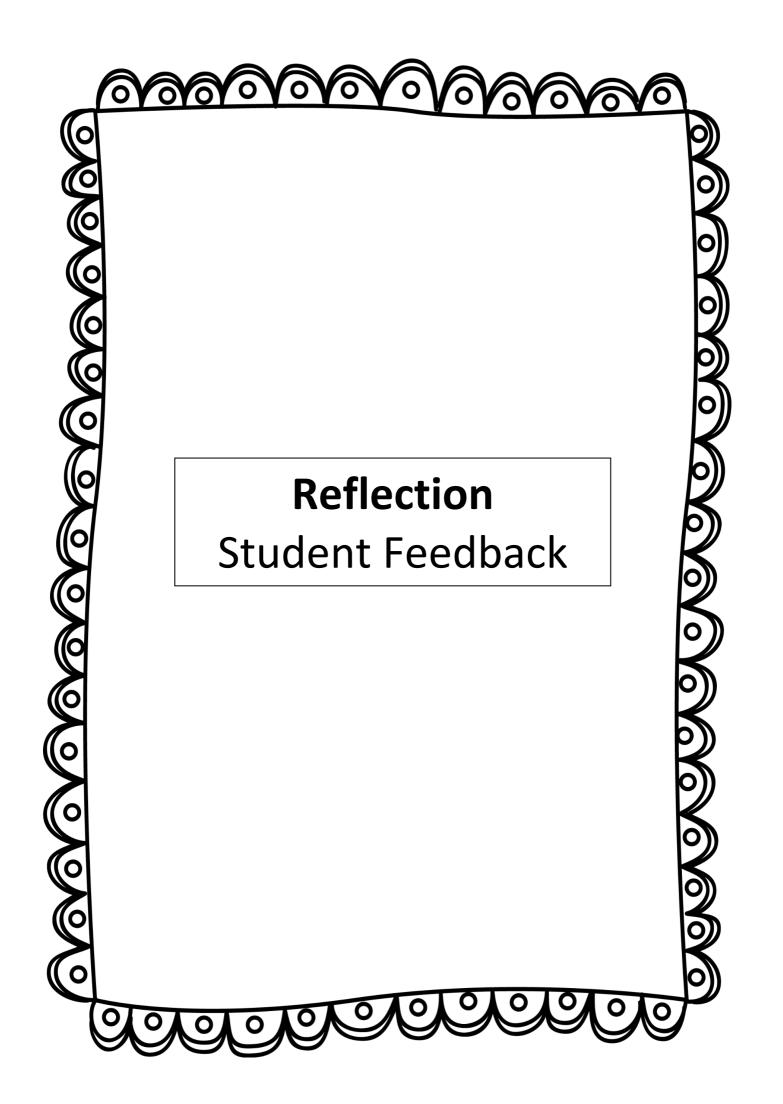
Description:



Name:

Description:

Time taken to complete:	
Questions I still have:	
What I'm most proud of:	Let's check in again! How are you feeling



Student Feedback

Choose a sentence starter from the list in the box to write a letter in the space below to your teacher. Remember to start with a greeting.

Sentence Starters

• The most important ideas that I picked up from the lessons are...

- My teacher wants me to understand... because...
- My 'ah-ha' moment from the lessons are because...
- Something I am unsure of or did not understand is...

Dear_____,

From,_____



Parent Help

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Information for Parents/Guardians

This section has been designed to assist your child with their at home learning. Each task has been designed for your child to complete as independently as possible. We have provided an overview to help you understand the learning for each task.

DAY 1: ANSWERS

Question 1

18	18 + 23 = 41	68	23 + 45 = 68
41	23 + 18 = 41	23	45 + 23 = 68
	41 - 23 = 18		68 - 23 = 45
23	41 - 18 = 23	45	68 - 45 = 23

Question 2

20	12 + 8 = 20	35	22 + 13 = 35
12	8 + 12 = 20	22	13 + 22 = 35
	20 - 12 = 8	10	35 - 22 = 13
8	20 - 8 = 12	13	35 - 13 = 22

Question 3

92	73 + 19 = 92	91	55 + 36 = 91
19	19 + 73 = 92	55	36 + 55 = 91
	92 - 73 = 19		91 - 55 = 36
73	92 - 19 = 73	36	91 - 36 = 55

Question 4

130	75 + 55 = 130	153 122 + 31 = 153
75	55 + 75 = 130	122 31 + 122 = 153
	130 - 75 = 55	$\begin{array}{c c} 1 & -1 \\ 1 & -1 \\ 2 & 1 \\ \end{array}$
55	130 - 55 = 75	31 153 - 31 = 122

DAY 2: ANSWERS

3 + 7 = 8 + 2	10 – 4 = 8 – 2
3 + 6 = 5 + 4	13 - 6 = 9 - 2
12 + 8 = 19 + 1	15 - 5 = 20 - 10
16 + 4 = 15 + 5	29 - 8 = 25 - 4
35 + 15 = 25 + 25	54 – 9 = 60 - 15

53 + 18 = 53 + 20 - 2
81 + 43 = 100 + 25 - 1
24 + 26 = 34 + 17 - 1
67 + 38 = 99 + 17 - 11
67 + 24 = 72 + 21 – 2
46 + 13 - 1 = 51 + 14 - 7
89 + 19 - 2 = 61 + 51 - 6
100 + 121 - 2 = 74 + 46 - 1
89 - 24 + 1= 100 - 38 + 2
58 - 22 + 1= 85 - 60 + 12

DAY 3: ANSWERS:

Question 1: When a number is added to 18 the answer is the same as 43 minus 11. What is the number?'

43-11= 32

____ + 18 = 32

32-18 = 14

Answer is 14

Question 2: When a number is added to 15 the answer is the same as 50 minus 26. What is the number?'

50-26= 24 9 + 15 = 24 **Answer is 9**

Question 3: When a number is added to 26 the answer is the same as 65 minus 21. What is the number?'

Answer is 18

Question 4: When a number is added to 33 the answer is the same as 72 minus 34. What is the number?'

Answer is 5

DAY 4: ANSWERS

Question 1: Steve is going on the bus with 4 friends. Each ticket costs \$4. How much did Steve spend?

How much money? 5 people total and 4 dollars each $5 \times 4 =$ $5 \times 4 = 20$ Answer = 20

Question 2: Jane is playing games at the store. She played 9 games and won 5 tokens on each. How many tokens did she win?

9 x 5 = 45

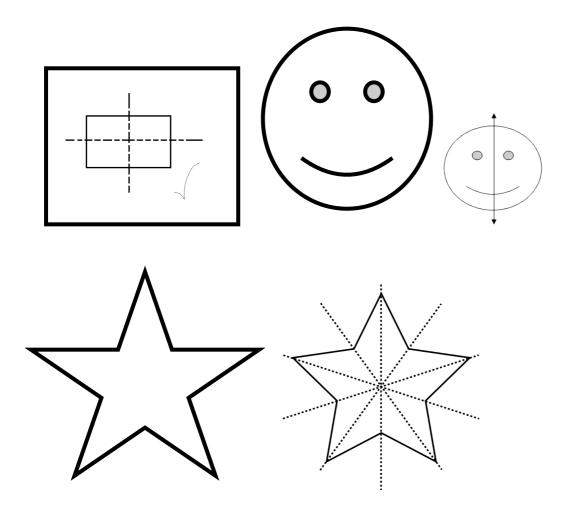
Question 3: Brett has 3 friends and he is giving them basketball cards. He gives each friend 4 cards. How many cards in total did he give?

4 x 4 = 16

Question 4: There are 4 weeks until the holidays. How many days is that?

4 x 7 = 28

DAY 5: ANSWERS:

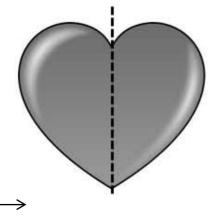


Answers will vary for the rest- check that your child has completed the tasks

DAY 6: ANSWERS:

What is symmetry?

An object is symmetrical when it can be folded in half and both sides are exactly the same.



A line of symmetry divides a shape into two equal parts.

Answers will vary for the rest- check that your child has completed the tasks

DAY 7: ANSWERS:

Event	Probability
It will rain today	Answers may vary
You will watch T.V.	Answers may vary
You will have a shower	Answers may vary
A turtle will grow wings and fly	Impossible
You will eat dessert	Answers may vary
You will see a spider	Answers may vary
You will eat something	Answers may vary
You will ride your bike	Answers may vary
You will draw a picture	Answers may vary
You will go to bed	Answers may vary
A monkey will knit you a blanket	Impossible
You will see a neighbour	Answers may vary
You will see the Prime Minister on T.V.	Answers may vary
You will have a good day	Answers may vary
You will complete a chore	Answers may vary
You will make a video call	Answers may vary
You will go outside	Answers may vary
It will be 7 p.m. at some stage today	Certain
The sun will shine	Answers may vary

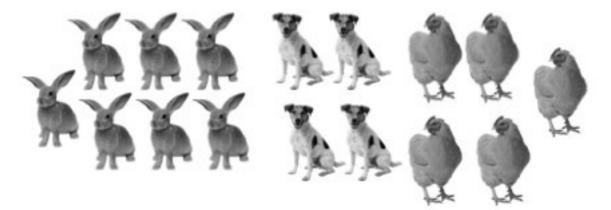
DAY 8: ANSWERS:



What is the probability of pulling out an ice cream? 5/15 What is the probability of pulling out a hotdog? 6/15 What is the probability of pulling out either a hamburger or an ice cream? 9/15 What is the probability of pulling out either an ice cream or a

What is the probability of pulling out either an ice cream or a hotdog? 11/15

What is the probability of pulling out either a hamburger or a hotdog? 10/15



What is the probability of pulling out a rabbit? 7/16 What is the probability of pulling out a dog? 4/16 What is the probability of pulling out a chicken? 5/16 What is the probability of pulling out a rabbit and a dog? 11/16 What is the probability of pulling out a dog and a chicken? 9/16 What is the probability of pulling out a rabbit and a chicken? 12/16

DAY 9: ANSWERS:

Shape	Sides	Vertices	Examples
circle	1	0	lid
triangle	3	3	Give way sign
square	4	4	dice
rectangle	4	4	Chocolate bar
rhombus	4	4	kite
pentagon	5	5	Soccer ball pentagons

Shape	Sides	Vertices	Examples
	6	6	honeycomb
hexagon			
trapezoid	4	4	handbag
octagon	8	8	umbrella

DAY 10: ANSWERS:

<u>Clue 1</u>

I have 4 sides and 4 vertices. Two of my sides are longer and two

of my sides are shorter. What shape am I?

_____rectangle_____ Draw me:

<u>Clue 2</u>

I have 5 sides and 5 vertices. None of my sides are parallel. What shape am I?

_____pentagon____ Draw me:



<u>Clue 3</u>

I have 3 sides and 3 vertices. My sides are not always equal. What

shape am I?

_____triangle_____Draw me:



<u>Clue 4</u>

I have 4 sides and 4 vertices. All of my sides are equal. What

shape am I?

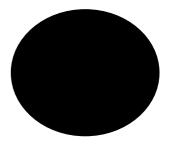
_____square_____ Draw me:



<u>Clue 5</u>

I have 0 sides and 0 vertices. What shape am I?

_____ Draw me:



<u>Clue 6</u>

I have 4 sides and 4 vertices. Two of my sides are parallel and two

are not. What shape am I?

_____trapezoid_____ Draw me:

