

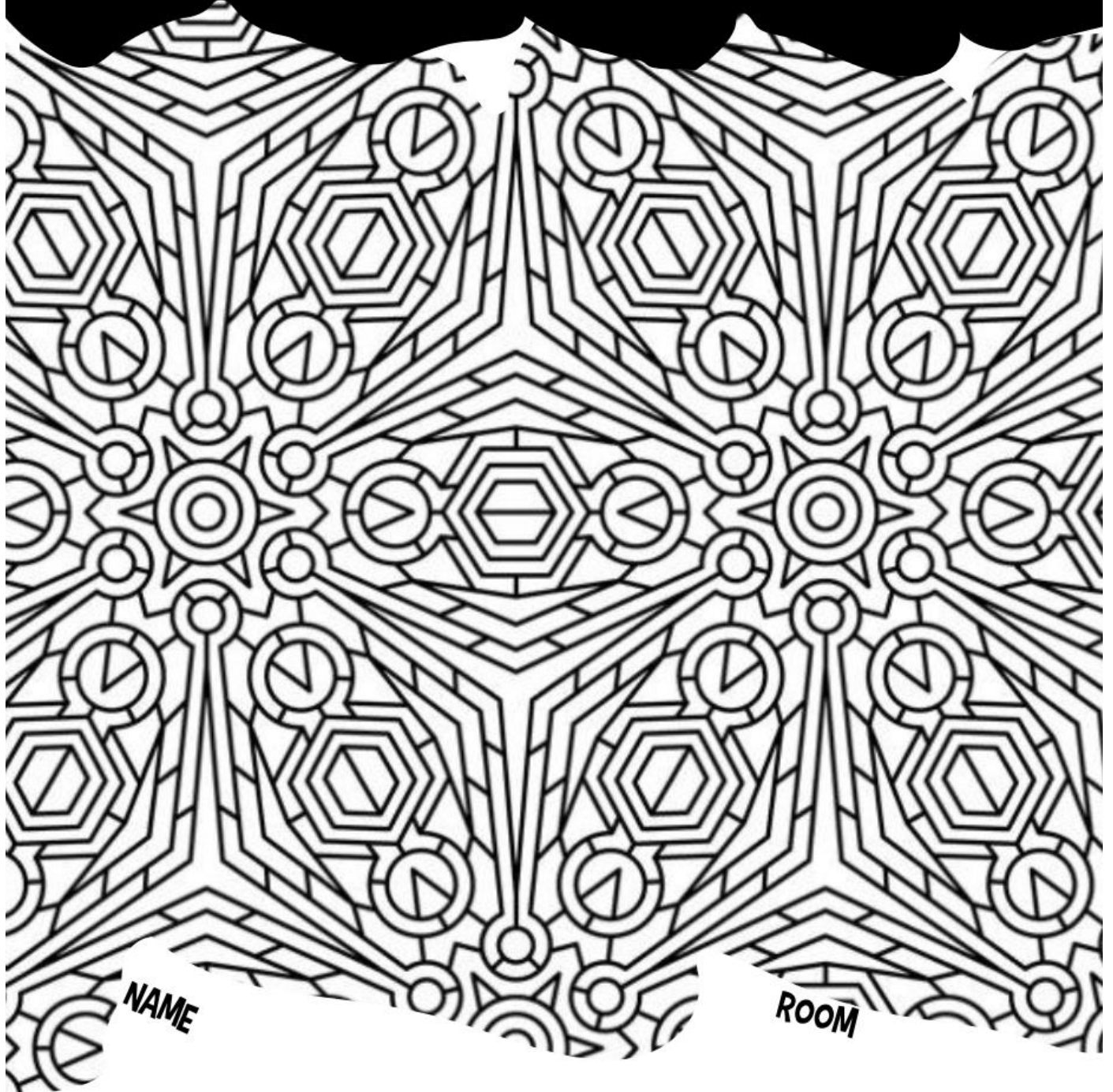
# **Connected Learning Team Primary**

**Year 6**

**Maths Package  
Statistics & Probability  
Measurement & Geometry**

**2 weeks**

# YEAR 6



NAME

ROOM

# Our timetable

Day 1	Day 2	Day3	Day4	Day5
Maths Chance experiments: Tallying	Maths Graphing data	Maths Chance experiments: actual vs. expected	Maths Probability from 0 - 1	Maths Conduct own chance experiment

Parents: Please see the back of the package for answers. These have been provided for activities with explicit answers.

# Year 6 Curriculum Links

## Statistics and Probability

Chance: describe probabilities using fraction, decimals and percentages (ACMSP 144)

Chance: conduct chance experiments with both small and large numbers of trials using appropriate digital technologies(ACMSP145)

Data representation and interpretation: Interpret and compare a range of data displays, including side-by-side column graphs for two categorical variables(ACMSP147)

## Statistics and Probability

Shape: Construct simple prisms and pyramids

WELCOME TO...

DAY 1

you  
GOT. =  
= this

# Mathematics

Topic: Chance Experiment: tallying	Time required: 45 minutes	Let's check in! How are you feeling?  🥰 😊 😐 😞 😡 Comment:
We are learning to collect data.	I will be successful if I can collect accurate data.	



Whether you know it or not you are a bit like a fortune-teller! 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**.



You can practice measuring using probability by conducting chance experiments. On the next page you will begin your very own chance experiment. 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

1. 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? \_\_\_\_\_

Do you think this was a fair or unfair experiment? Explain why.

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What would you or could you change about this experiment?

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Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling



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WELCOME TO...

Day 2

you  
GOT!  
this

# Mathematics

Topic:  
Graphing Data

Time required:  
45 minutes

Let's check in!  
How are you feeling?

We are learning to  
represent data.

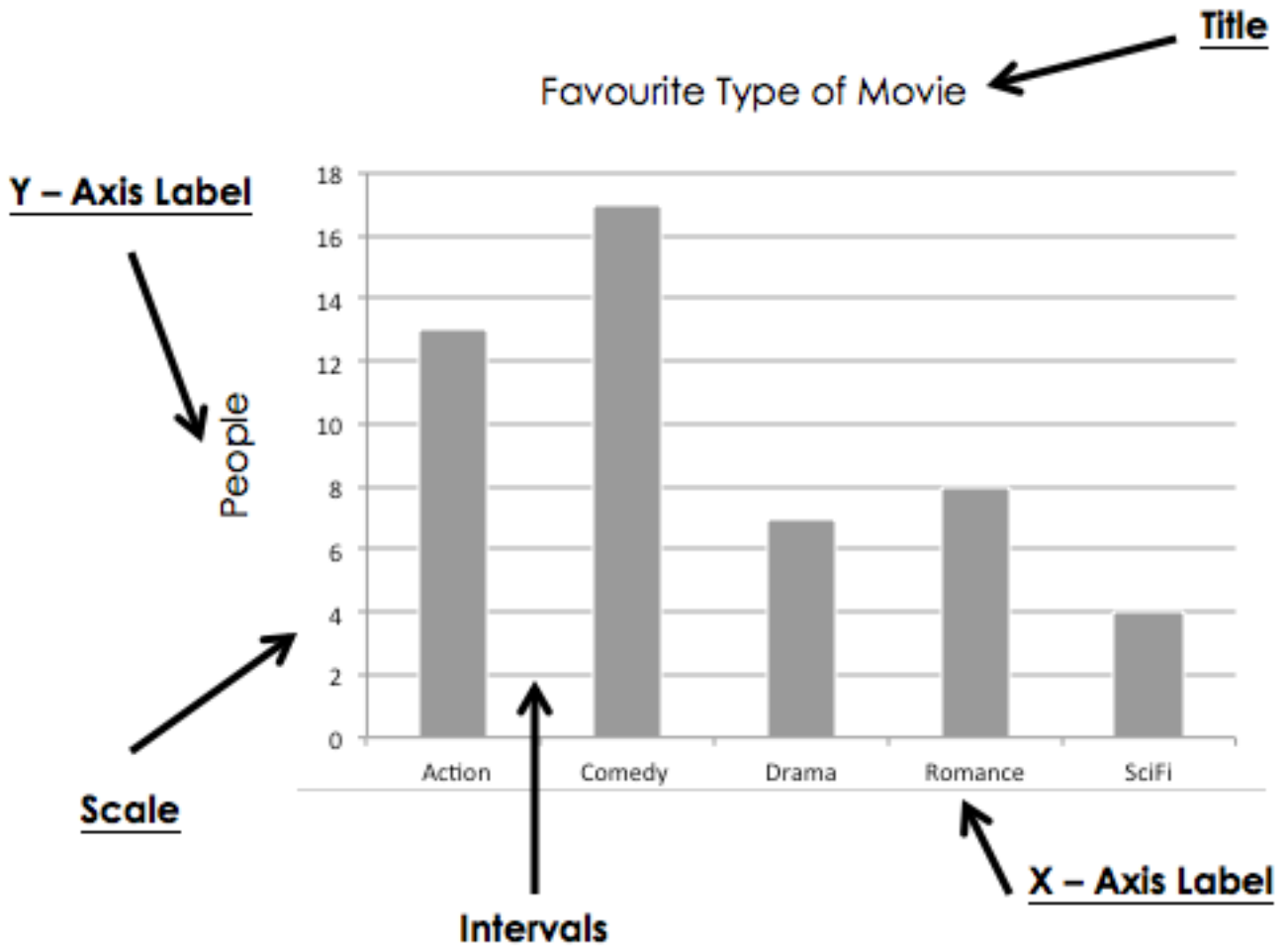
I will be  
successful if I  
can represent  
my collected  
data in a  
meaningful  
way.



Comment:

## Bar Graphs

A bar graph is a display of data collected using bars of different heights. Look at the bar graph below about the types of movies people like to watch. Closely inspect how data is displayed on a bar graph. Then answer the questions on the next page.



Why do you think bar graphs are a good way to display data?

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What type of movie was the most popular?

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What movie was the least popular?

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What was displayed on the X-Axis?

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What was displayed on the Y-Axis?

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At what number did the scale begin? \_\_\_\_\_

What number did the scale go up to? \_\_\_\_\_

What was the title? \_\_\_\_\_

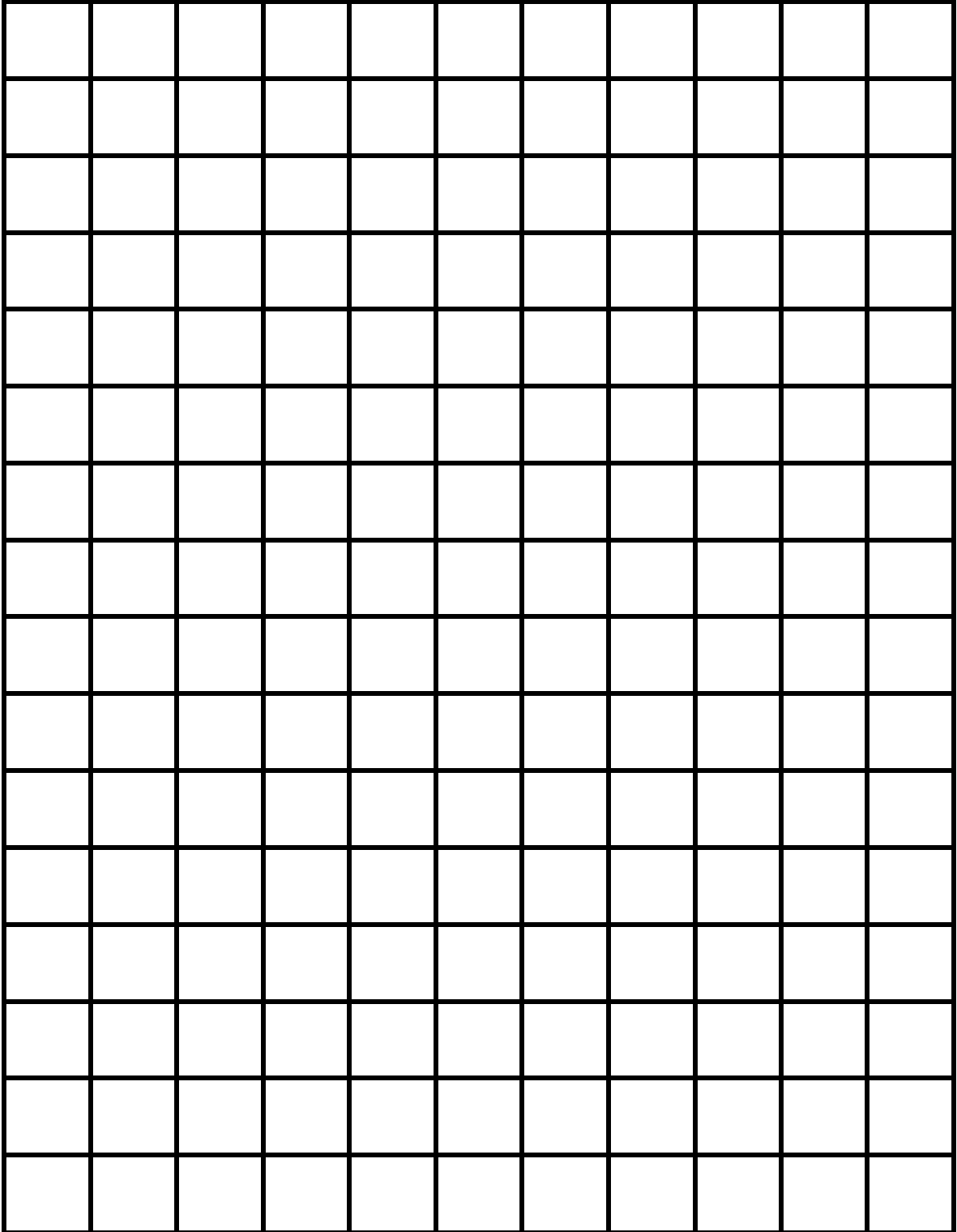


Over to **YOU!**

Use the data you collected from your chance experiment yesterday to create a bar graph that displays your information on the graph paper

below. Remember to include in your bar graph: a title, an x-axis, a y axis, a scale - you may need to use skip counting and intervals.

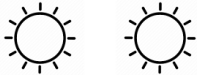

*TIP: if you would like to collect more data you can re-do your experiment with members of your family.*



Use the rubric below to assess your graph. Place a tick where you think you went in each area. Add up the total, give yourself a score out of 12 and complete the reflection.

Area	3	2	1
<u>Graph Title and Labels</u>	The graph has a meaningful title and labels. They relate to the data represented and communicate useful information. <input type="checkbox"/>	The graph has either a meaningful title or meaningful labels. <input type="checkbox"/>	The graph does not have a title and/or labels. They do not connect to the data being represented. <input type="checkbox"/>
<u>Presentation of Information</u>	The graph presents information that is neat and easy to read. <input type="checkbox"/>	The information could be presented in a neater way. <input type="checkbox"/>	The information cannot be understood. <input type="checkbox"/>
<u>Scale and Axis Labels</u>	The scale and axes are clear and accurate. <input type="checkbox"/>	The scale and axes have labels. <input type="checkbox"/>	The scale or axis label might be missing, confusing or misleading. <input type="checkbox"/>
<u>Representation of Data</u>	The data is represented clearly in the bar graph. <input type="checkbox"/>	The data is confusing to understand. <input type="checkbox"/>	The data is incorrect. <input type="checkbox"/>

Total:     /12

<p>2 Glows (2 things I did really well and I am proud of)</p>	<p>1 Grow (Something I'd like to work on)</p>
	

Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling



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WELCOME TO...

DAY 3

you  
GOT. =  
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# Mathematics

Topic: Chance Experiment:	Time required: 45 minutes	Let's check in! How are you feeling?   Comment:
We are learning to use percentage when looking at experimental probability.	I will be successful if I... -can define theoretical probability -can define experimental probability -determine the percentage of a chance experiment	



Think about the probability of a coin landing on heads, you would probably answer that the chance is  $\frac{1}{2}$  or 50%.

Imagine that you tossed that coin 20 times. How many times would you expect it to land on heads? \_\_\_\_\_ Did you say 50% again? So you would expect it to land on heads 10 times? This is called **theoretical probability**. Theoretical probability is what you expect to happen, but isn't always what does happen.

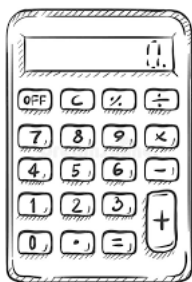
Peter tossed a \$1 coin 20 times have a look at his results on the next page.

Coin Toss	Result
Heads	13
Tails	7
Total	20

Were Peter's results the same as your prediction earlier? The results shown are called **experimental probability**. Experimental probability is the actual results of an experiment. It shows what actually happened instead of what you thought was going to happen.

Its time for us to analyse the results, using the table above lets look at the experimental probability of this experiment.

How many times out of 20 did the coin land on heads?    /20



Lets work out the percentage. You can use a calculator if you find division a bit tricky. Most mobile phones have a calculator if you need one.

To find the percentage you need to divide the top number (numerator) by the bottom number (denominator).

$$13 \div 20 = 0.65$$

$$0.65 = 65\%$$

So, the percentage of the coin landing on heads for Peter's experiment was 65%. It landed on heads more times than we expected.

Peter decides to continue the experiment, only this time he tosses the coin a total of 50 times. Take a look at his results below.

Coin Toss	Result
Heads	26
Tails	24
Toss	50

What is the experimental probability of the coin landing on heads? \_\_\_\_\_

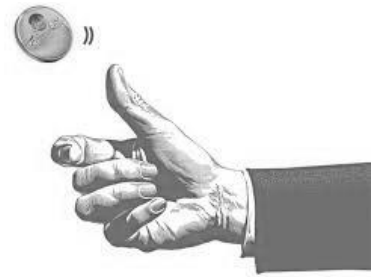
Complete the number sentence below to work out the percentage. Remember you can use a calculator if you need to.

How many times out of 50 did the coin land on heads? \_\_\_\_\_

\_\_\_\_\_  $\div$  50 =

Precent: \_\_\_\_\_%

Conduct your own experiment by tossing a coin in 3 different sets. If you don't have a coin you could use a: Lego block, spoon, pencil case, water bottle, paper or plastic plate, paper or plastic cup, DVD or game case, book or anything else that you think could work get creative but remember to determine which side is heads and which side is tails.



Before you start decide on the **theoretical probability** of your experiment.

Set 1: toss your coin 10 times, my theoretical probability: \_\_ /10

Set 2: toss your coin 20 times, my theoretical probability: \_\_ /20

Set 3: toss your coin 30 times, my theoretical probability: \_\_ /30

	1. Toss the coin 10 times	2. Toss the coin 20 times	3. Toss the coin 30 times
Heads			
Tails			
Total			

## **Experimental Probability Results**

1. How many times out of 10 did the coin land on heads? \_\_\_\_\_  
\_\_\_\_\_  $\div$  10 =

Percent: \_\_\_ %

2. How many times out of 20 did the coin land on heads? \_\_\_\_\_  
\_\_\_\_\_  $\div$  20 =

Percent: \_\_\_ %

3. How many times out of 30 did the coin land on heads? \_\_\_\_\_  
\_\_\_\_\_  $\div$  30 =

Percent: \_\_\_ %



## **Reflection**

What do the results tell you?

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Was there anything that surprised you about the results?

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If you were to do this experiment again, what would you change?

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**Challenge**

Combine all of your results together and work out the experimental probability for the total number of heads below.

Remember to show our working out!



Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling



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WELCOME TO...

Day 4

you  
GOT. ≡  
≡ this



# Mathematics

Topic: Probability from 0-1	Time required: 45 minutes	Let's check in! How are you feeling?  Comment:
We are learning to order events in decimals fractions and percent.	I will be successful if I... -use a probability line -use fractions, decimals and percent to demonstrate my understanding	

Read the scenarios below and place them in the table in the next page depending on the probability of the event-taking place today. If you have scissors and glue you can cut and paste them.

You will see a dog	You will go to the library	An octopus will fly a helicopter	You will eat something
You will watch T.V.	You will see a family member	It will rain	The sun will shine
You will breath	It will be 7:00 p.m. at some point	A monkey will knit you a blanket	You will get dressed
You will have a shower	You will draw a picture	You will go outside	You will ride your bike
The oceans will turn purple	You will see a spider	You will see three birds flying	You will go to bed
A turtle will grow wings and fly	You will make a video call	There will be an announcement	You will see the Premier on T.V.
You will play with your toys	You will have pizza for dinner	You will say hello to a neighbour	You will have a good day

Write or cut and paste the scenarios below. Think about the probability of that event-taking place TODAY.

Impossible	Unlikely	Likely	Certain



Let's take a trip back to memory lane, remember when we looked at probability on day 1? We discussed that probability is the chance that something will happen. This can be shown in a line:



impossible

unlikely



even  
chance

likely

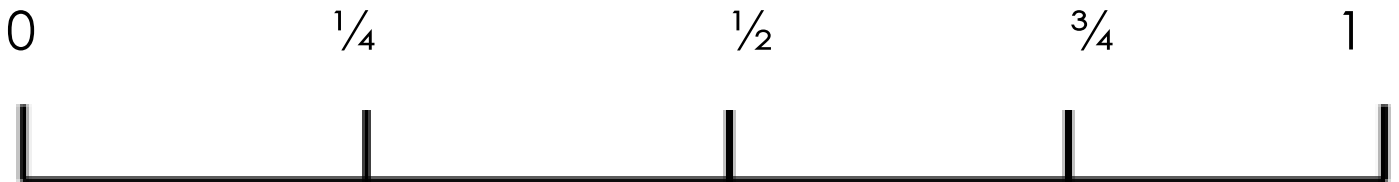


certain

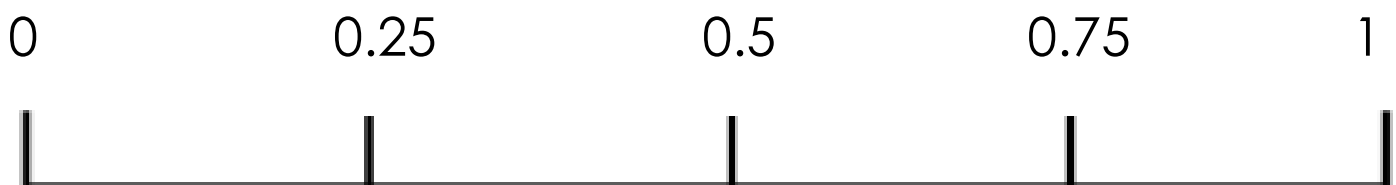


As well as words we can also use numbers to show the probability of something happening. Impossible is **zero** and certain is **one**. What happens in between? Well, we can use fractions, decimals or percent!

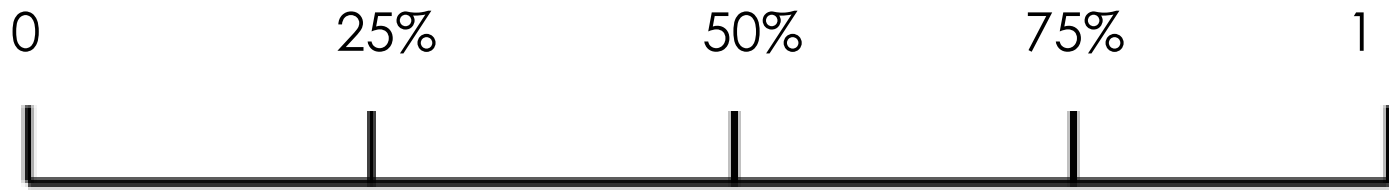
### Fractions



### Decimals



Precent



Look at your answers from the scenarios earlier, using the information above go back and give them a fraction, decimal or percentage or all three based on where you placed them.

How did you go? What was easy what was tricky?

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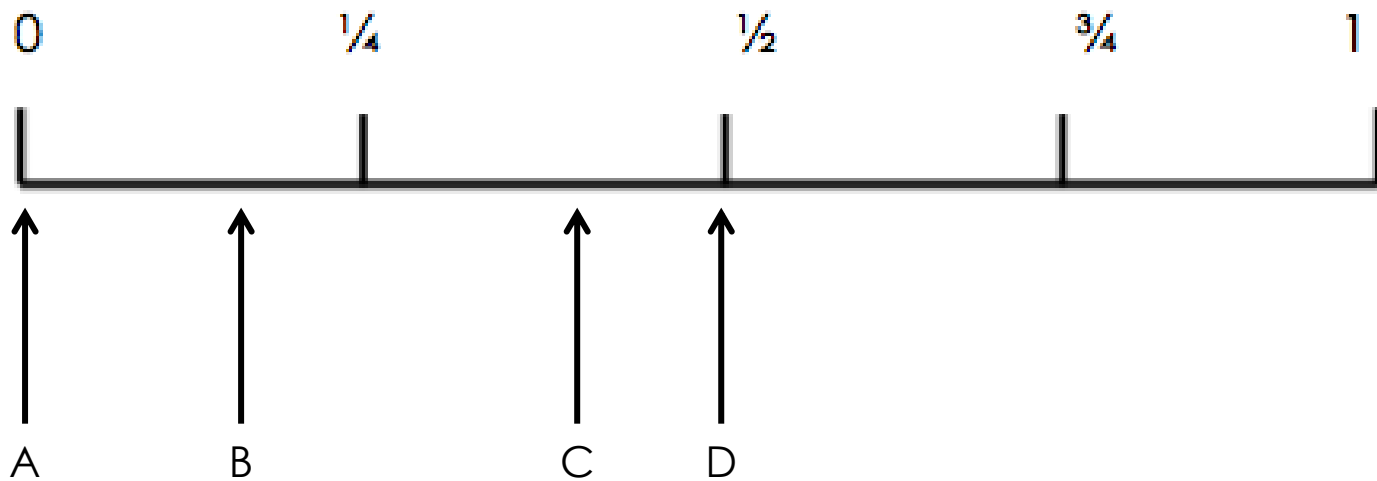
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Use what you know about probability to answer the next few questions. You can return to these pages anytime you like help you answer the questions.

### Question 1

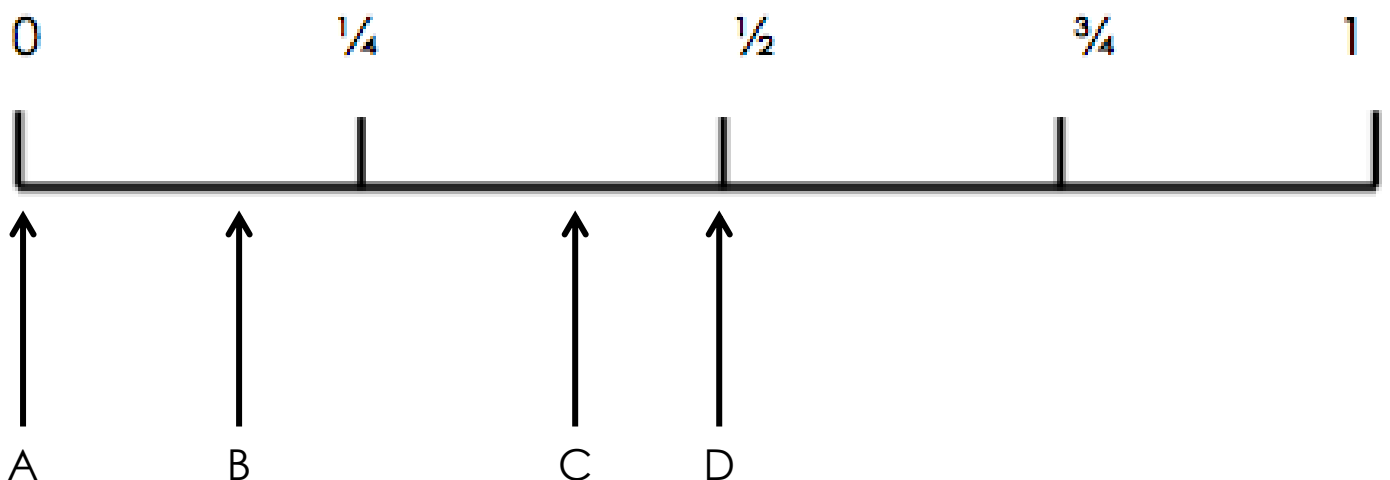
Which of the arrows A, B, C or D show the best position on the probability line for the event "tomorrow it will rain in Perth".



Answer: \_\_\_\_\_

### Question 2

A 50c coin and a 10c coin are tossed together. Which of the arrows shows the position on the probability line for the event "both coins tails up"?



Answer: \_\_\_\_\_

Use your answers from the two questions above and change them to a decimal and a percent.

Question 1


Decimal \_\_\_\_\_

Percent \_\_\_\_\_

Question 2

Decimal \_\_\_\_\_

Percent \_\_\_\_\_

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

WELCOME TO...

Day 5

you  
GOT. =  
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# Mathematics

Topic:  
Probability from 0-1

Time required:  
45 minutes

Let's check in!  
How are you feeling?

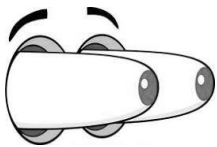
We are learning to  
use data to create  
graphs.

I will be  
successful if I  
collect data  
and represent  
it in a  
meaningful  
way.

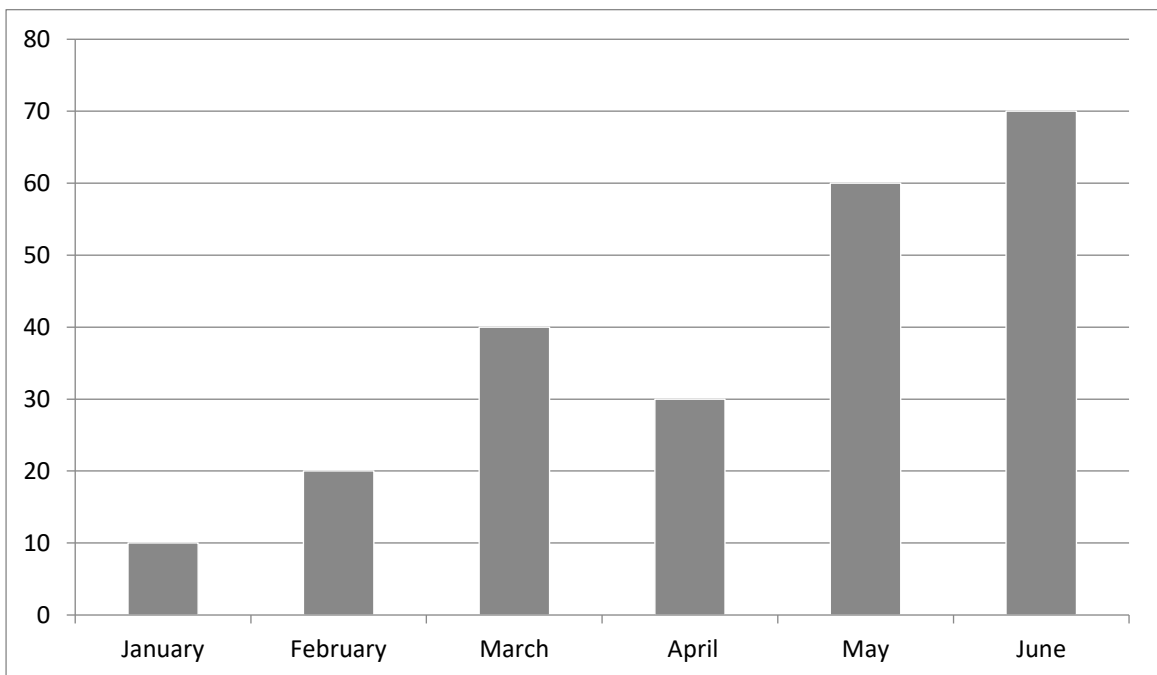


Comment:

## Data Review



Look at the graph below; it displays the average rainfall (measured in millimetres) in Broome from January through to June. Use your knowledge from the previous lesson to answer the questions and fill in the missing information.





What would be a good title for this graph?

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What is measured on the y-axis?

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What is the scale on the y-axis?

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What is on the x-axis?

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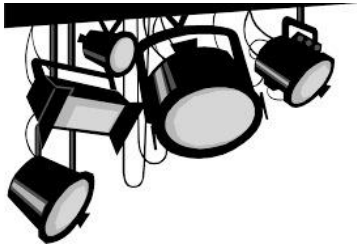
Which month had the most rainfall? \_\_\_\_\_

Which month had the least rainfall?

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The month of June receives, on average, more rainfall than which of the two months combined? (circle your answer)

- a) April & May
- b) January & February
- c) March & April



## Bring it all together

Think about everything you have learnt this week, this is your chance to show me what you have understood. It is your time to shine!

Your task is to create a chance experiment where you will collect data and graph you're the information collected in a meaningful way. Here are some ideas to get you started:

- ✓ Record the number of times you hear a hyperbole throughout the week
- ✓ Complete a set of exercises and record how many you can complete in 1 minute
- ✓ Play paper, scissors, rock with someone at home, record yours and their results
- ✓ Tally the number of birds you see throughout the week

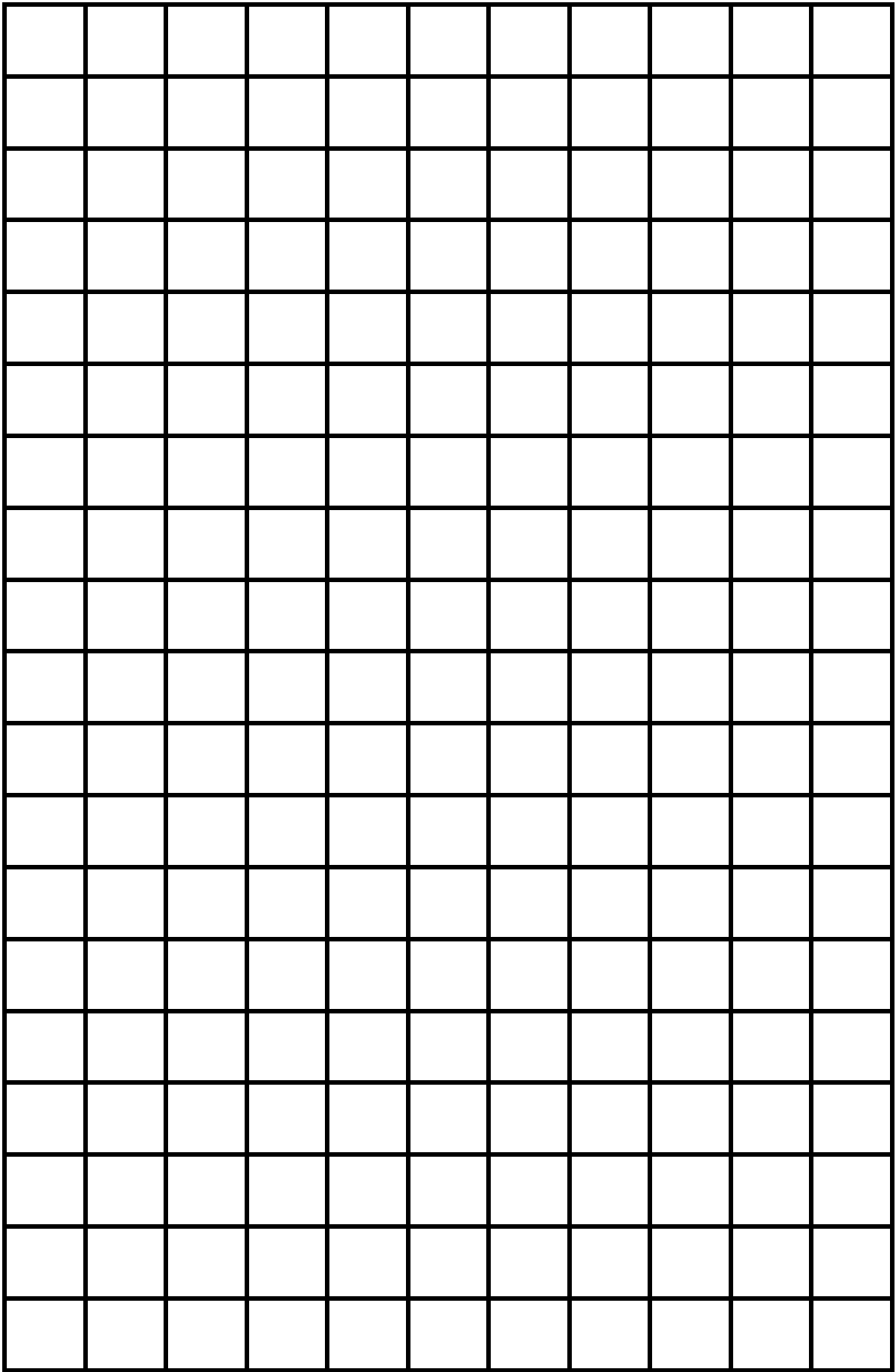
Use the space below to explain how you will conduct your experiment, what are you measuring? How will you collect your data

A large rectangular area defined by a dotted line, intended for the student to write their experimental plan.

Use the space below to collect your data, you can use any way to record your information a table with a tally might be a helpful way. You might take several days to collect your data depending on your experiment.

A large rectangular area enclosed by a dashed border, intended for data collection. The border consists of a series of short horizontal and vertical dashes forming a continuous frame.

On the next page you will find some graph paper use the paper to graph your results. Remember to include all of the necessary elements. You might like to look back at your work from the first few days before you start.



## Reflection

What worked well?

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What would be even better?

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Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling



# Our timetable

Day 6	Day 7	Day 8	Day 9	Day 10
Maths Properties of Shapes	Maths Properties of Shapes	Maths Transformational Geometry	Maths Symmetry	Maths Entrepreneurship Project

Parents: Please see the back of the package for answers. These have been provided for activities with explicit answers.

WELCOME TO...

DAY 6

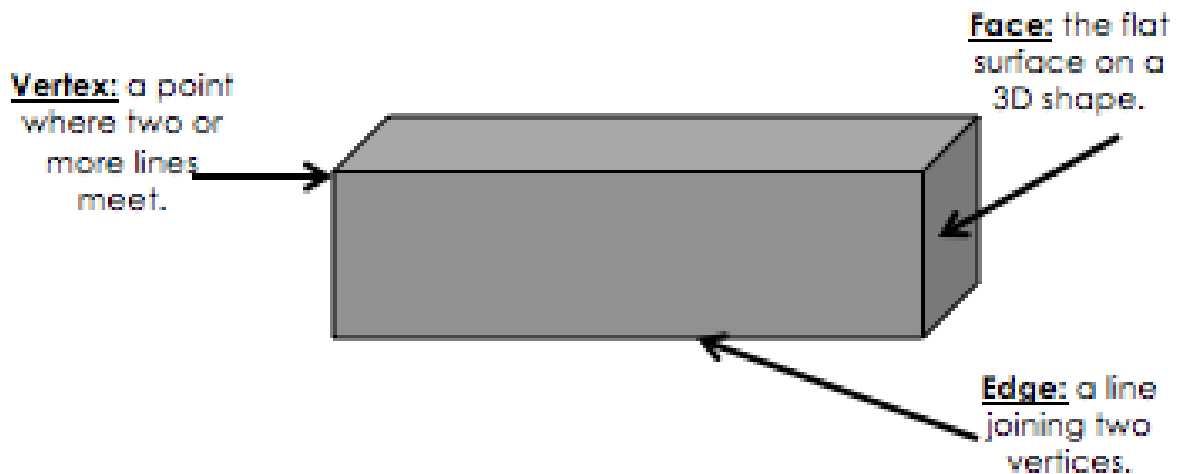
you  
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# Mathematics

Topic: Properties of Shapes	Time required: 45 minutes	Let's check in! How are you feeling?  🥰 😊 😐 😞 😡 Comment:
We are learning how to find the properties of shapes.	I will be successful if I... -can find the faces, vertices and edges of a 3D shape	

## 3 Dimensional Shapes

Three-dimensional shapes or 3D shapes are called this because they have three dimensions: width, depth and height. Today we will be looking at look at some common 3D shapes. But first lets examine some important vocabulary



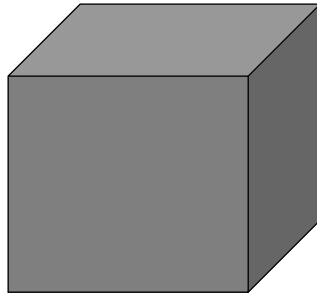


Draw and arrow to show where the face, vertex and edge is on the cube below:

Face

Vertex

Edge



More important vocabulary:

**Congruent:** the same shape and size.

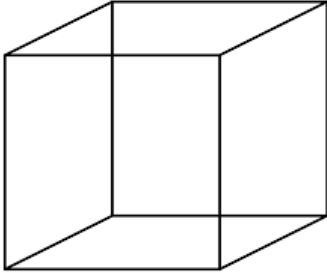
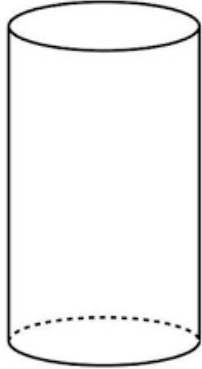
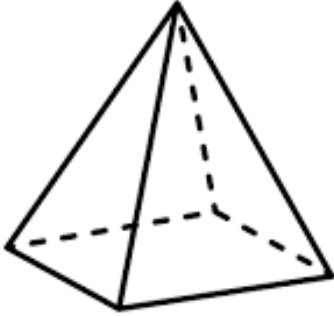
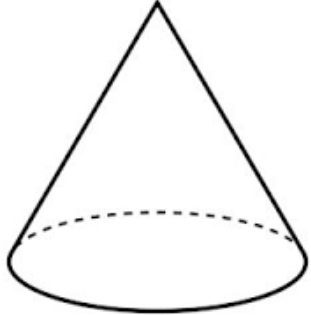
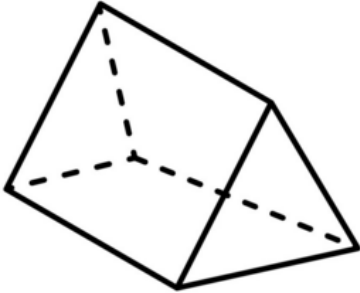
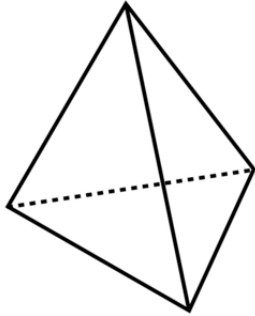
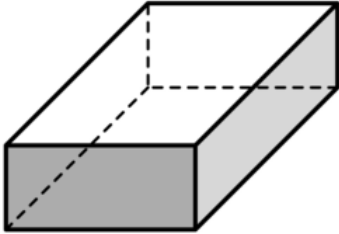
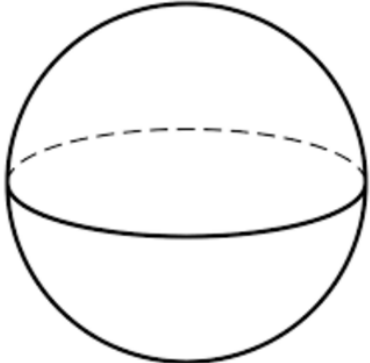
**Parallel:** lines that are always the same distance apart and never touch.

### Prisms and Pyramids

A **prism** is a 3D shape with two congruent and parallel bases.

A **pyramid** is a 3D shape whose base is connected by triangle faces that all meet at a vertex. The name of a pyramid is determined by the shape of the base. On the next page complete the table by showing the number of faces, vertices and edges.

## 3D Shape Properties

<p><b>Cube</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 	<p><b>Cylinder</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 
<p><b>Square Pyramid</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 	<p><b>Cone</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 
<p><b>Triangular Pyramid</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 	<p><b>Triangular Prism</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 
<p><b>Rectangular Prism</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 	<p><b>Sphere</b></p> <p>Faces:</p> <p>Edges:</p> <p>Vertices:</p> 

Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling




WELCOME TO...

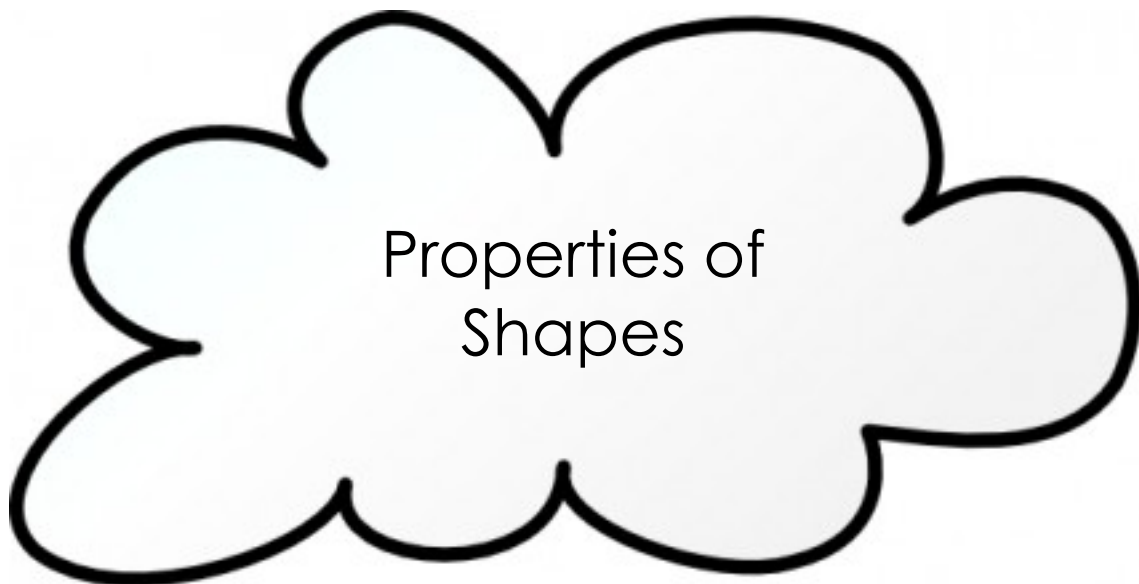
DAY 7

you  
GOT. ≡  
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# Mathematics

Topic: Properties of shapes	Time required: 45 minutes	Let's check in! How are you feeling?  Comment:
We are learning how to find the properties of shapes.	I will be successful if I... -can explain and find the faces, vertices and edges of a 3D shape	

Think back to what you learnt yesterday about the properties of shapes. Brainstorm what you remember below:



Scavenger Hunt: find the 3D shapes below around your home, draw the object you find into the correct box, fill in how many faces, edges and vertices it has.

<b>Cube</b>  Faces:  Edges:  Vertices:	<b>Cylinder</b>  Faces:  Edges:  Vertices:
<b>Square Pyramid</b>  Faces:  Edges:  Vertices:	<b>Cone</b>  Faces:  Edges:  Vertices:
<b>Square Pyramid</b>  Faces:  Edges:  Vertices:	<b>Square Pyramid</b>  Faces:  Edges:  Vertices:
<b>Rectangular Prism</b>  Faces:  Edges:  Vertices:	<b>Sphere</b>  Faces:  Edges:  Vertices:

Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling



WELCOME TO...

DAY 8

you  
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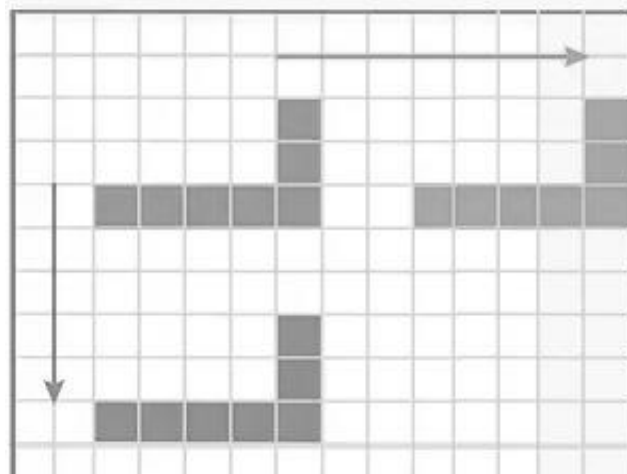
# Mathematics

Topic: Transformational Geometry	Time required: 45 minutes	Let's check in! How are you feeling?  🥰 😊 😐 😞 😡 Comment:
We are learning how to translate shapes across a grid.	I will be successful if I... -can accurately follow the directions to translate a shape	

## What is Transformational Geometry?

In maths a transformation means to change, **transformational geometry** means to make changes to a given shape. Fun fact: even after transforming a shape, the angles and the lengths of the sides remain unaffected. Today our focus will be on shape translation.

**Shape translation** means moving a shape into a different position, without changing it in any way. For example, the shape below has been translated 5 units down in the first picture and 7 units to the right in the second picture.



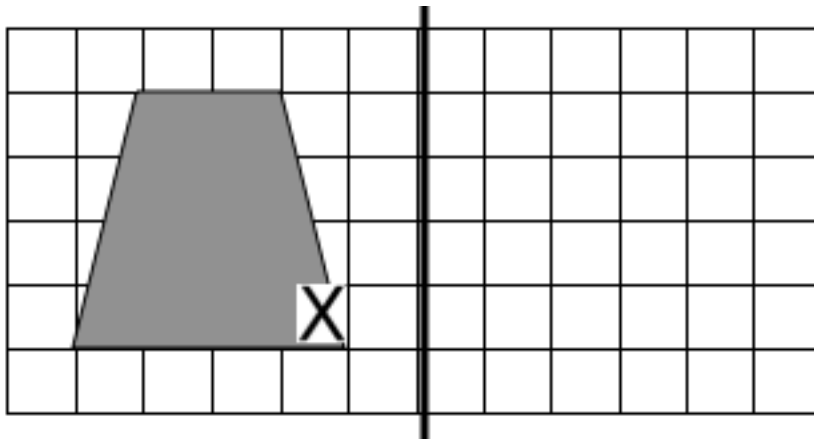


## Over to YOU!

Look at each of the tasks on the next few pages;  
translate the shapes using the directions given. Let's  
practice first

### **Example**

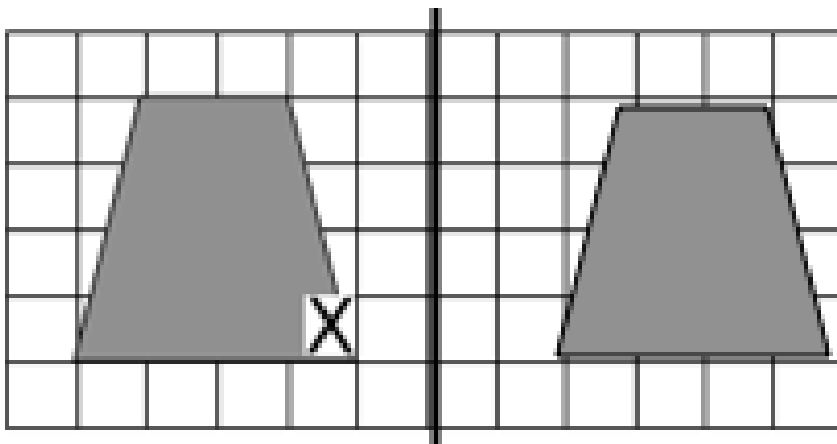
Translate 3 squares to the right.



### **How?**

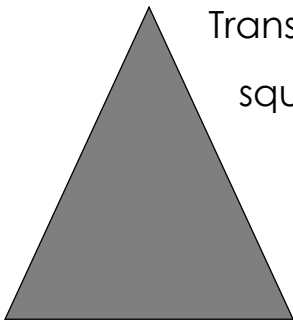
Start at the square  
where the X is  
marked; count 3  
squares to the right,  
draw the shape.

Answer:



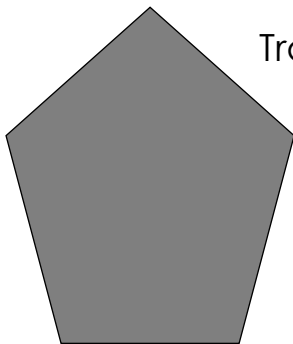
Now try some on your own. Use the graph paper to complete the four tasks below. You can draw these shapes on the graph paper over the next few pages. Remember to use a ruler or any other tool to help you draw straight lines. Tip: you can go over both the horizontal and vertical lines.

**Task 1**



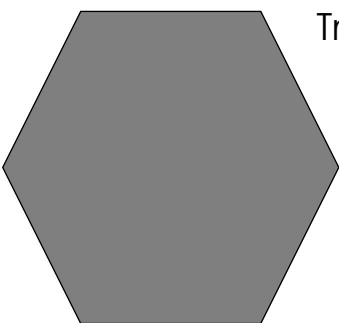
Translate the triangle 3 squares to the right and 8 squares down.

**Task 2**



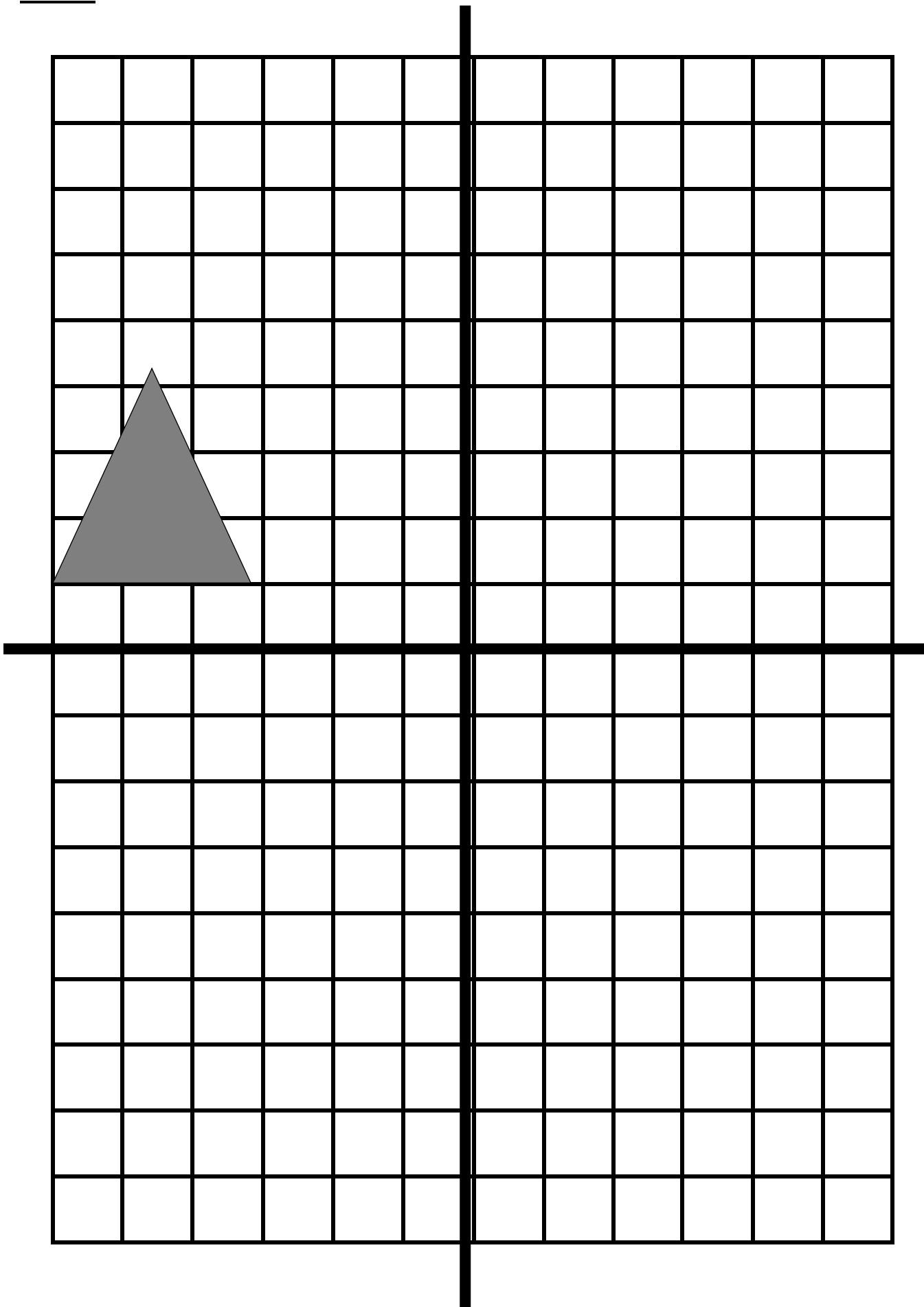
Translate the pentagon 1 square to the right and 8 squares down.

**Task 3**

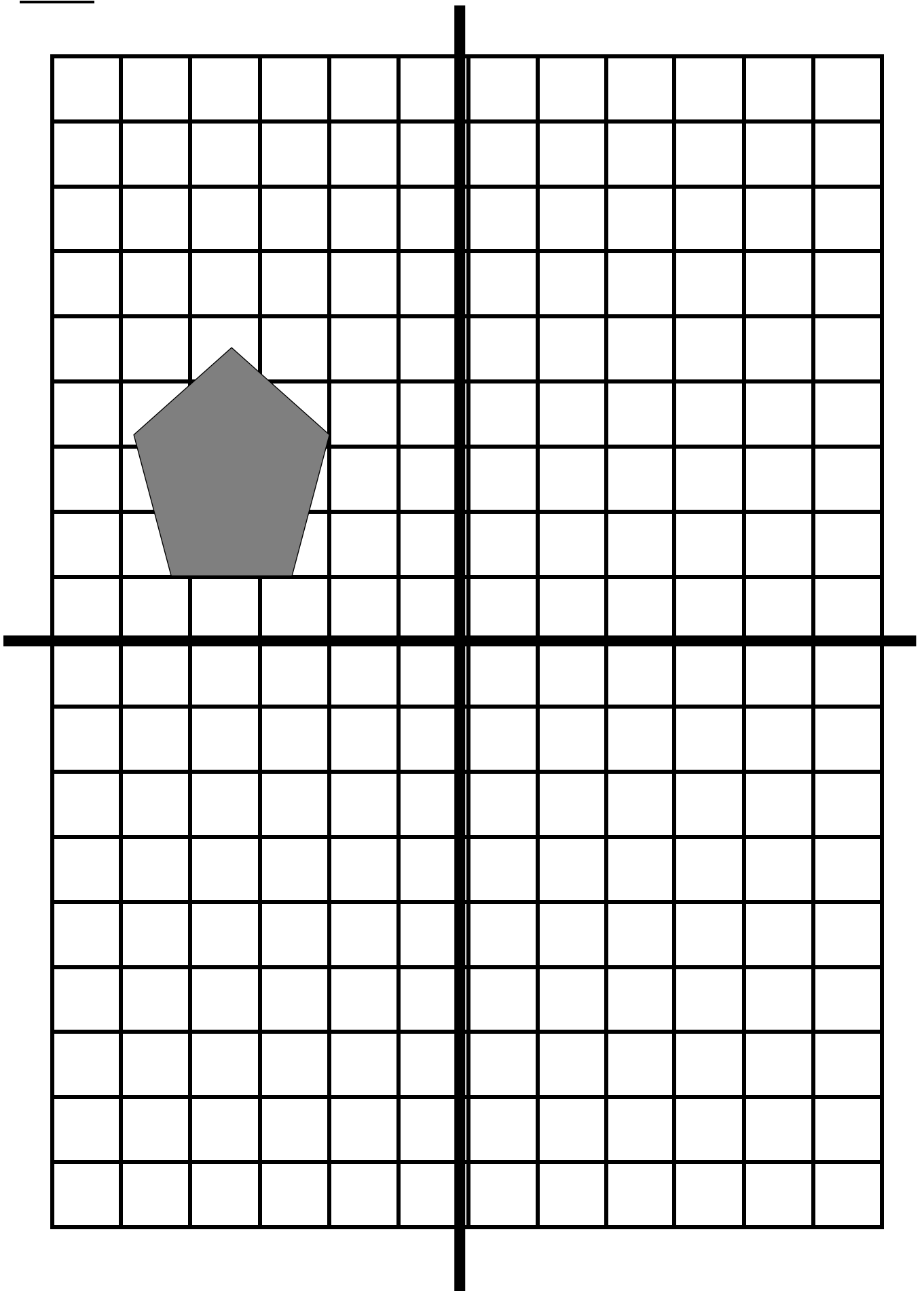


Translate the hexagon 5 squares down and 2 squares to the right

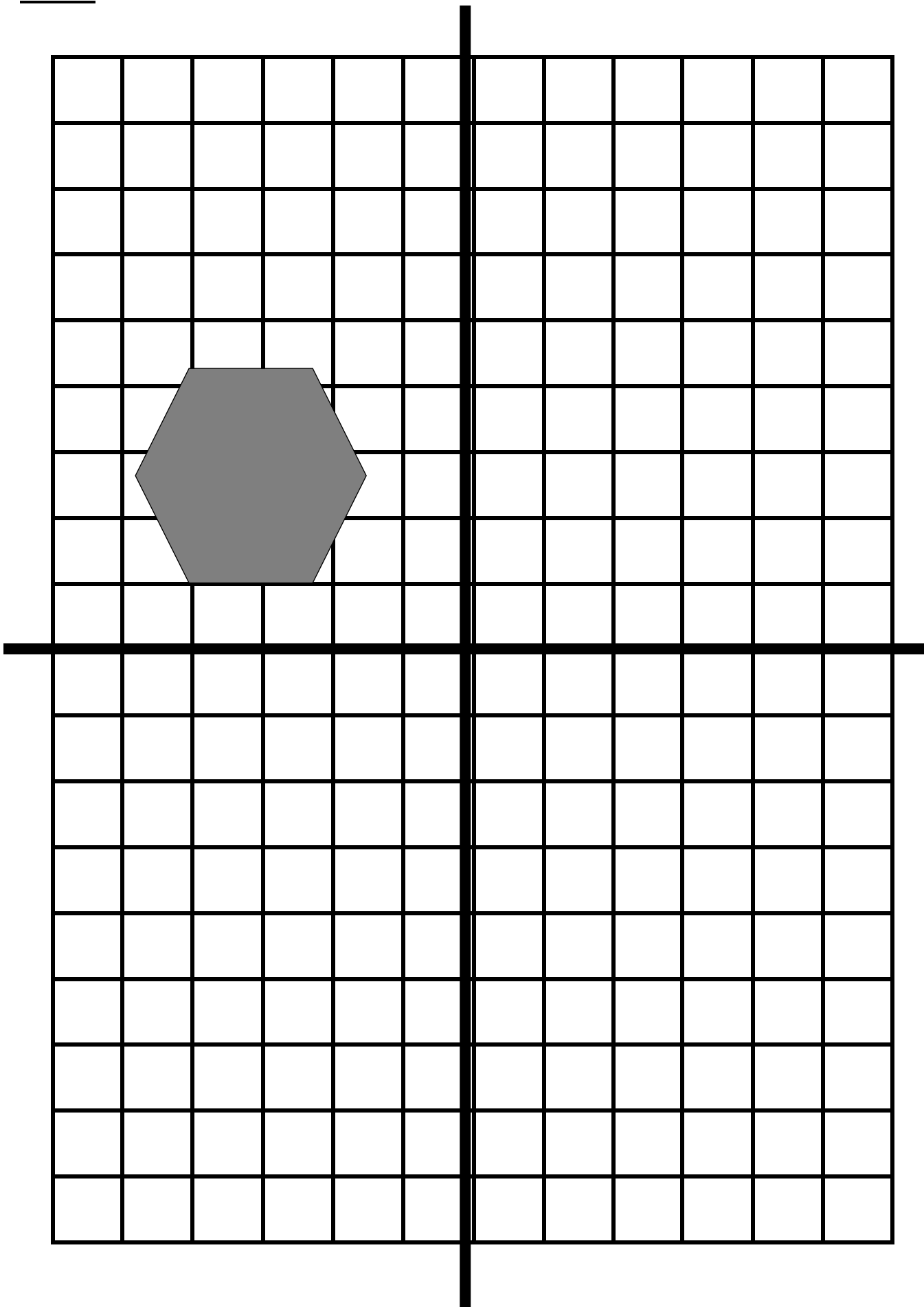
Task 2



Task 2



Task 3



Time taken to complete:

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling




WELCOME TO...

DAY 9

you  
GOT. ≡  
≡ this

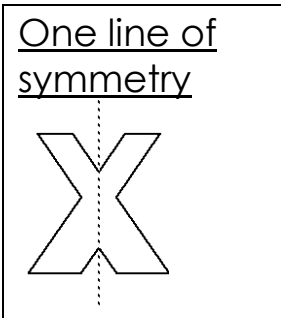


# Mathematics

Topic: Symmetry	Time required: 45 minutes	Let's check in! How are you feeling?
We are learning that shapes can be reflected.	I will be successful when I... -can determine if a shape has a line of symmetry -draw a shape that has different lines of symmetry	 Comment:

## Lines of Symmetry

The line of symmetry can be defined as the axis or imaginary line that passes through the middle of the shape or object and divides it into identical halves. Some shapes have more than one line of symmetry.

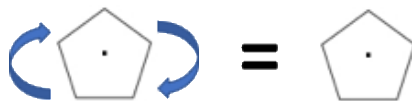


## Rotational Symmetry

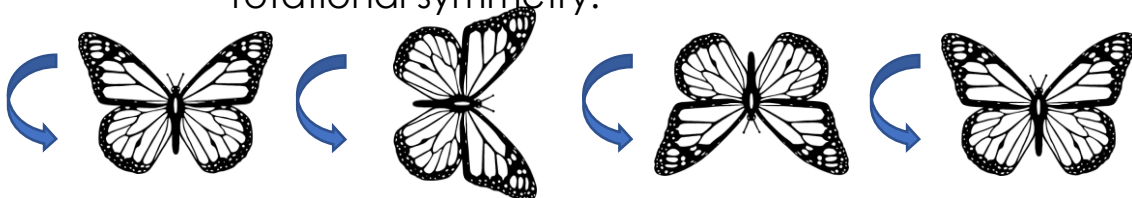
A shape has rotational symmetry when it still looks the same after some rotation (of less than one full turn).

### Rotational symmetry

No  
Rotation  
al  
symmetr  
y

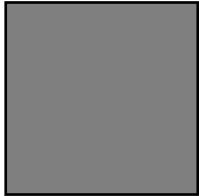
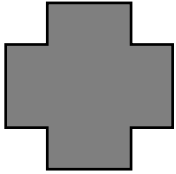
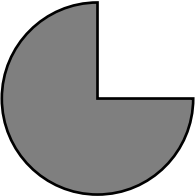
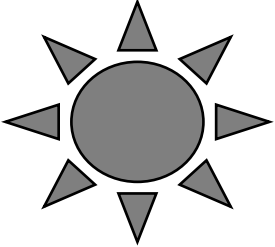

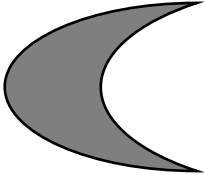
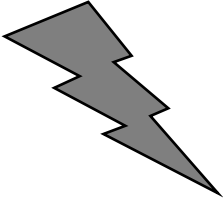



This shape can be rotated **5** times and still look the same. It has rotational symmetry.



This shape can not be rotated and still look the same. It does **not** have rotational symmetry.

1.) Determine whether these shapes have a line of symmetry. HINT: Some of these shapes have more than one line of symmetry. How many lines of symmetry are there for each shape?

			
Number of Lines of Symmetry:	Number of Lines of Symmetry:	Number of Lines of Symmetry:	Number of Lines of Symmetry:
			
Number of Lines of Symmetry:	Number of Lines of Symmetry:	Number of Lines of Symmetry:	Number of Lines of Symmetry:

2.) Draw a shape that has:

Rotational Symmetry	2 Lines of Symmetry

Time taken to complete:

--

Questions I still have:

What I'm most proud of:

Let's check in again!  
How are you feeling



WELCOME TO...

DAY 10

you  
GOT. ≡  
≡ this

# Entrepreneurship Project

## Welcome

Something exciting is happening in our classroom, you have the opportunity to create your very own business! You will lead yourself to plan, design and produce a business of your choice.

## Why?

The number one reason this project is important is because you will take ownership of your own learning. This project is intended to spark your curiosity and encourage life-long learning, imagination, perseverance and a growth mindset.

## How?

You will need to follow the directions in this package to help you. How much time you spend working on your project will depend on you. My expectation is that you spend a minimum of 1 hour per week, if you choose to spend more time, fabulous, if you choose to stick with the minimum, that's fabulous too.

As your teacher, I am excited to offer this learning opportunity and look forward to your final results.



### **Task1:**

Decide if your business will provide goods or a service. Use the space below to explain your choice.

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### **Task2:**

Use the space below to brainstorm possible names for your business. Once you have chosen which one you like best, highlight it.

My Business name is \_\_\_\_\_

I chose this name because:

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### **Task 3**

Create a logo for your business that reflects its purpose. Draw your logo below and explain your thinking behind your logo. Make sure you use colour. Try to use reflections, lines of symmetry, pyramids and prisms.

I chose this logo because

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**Task4:**

Create an advertisement for your business. Think about the purpose of an ad, it is to persuade the audience into buying their products. How will you persuade your audience? What kind of words could you use? Use the space below for planning and brainstorming. Use the next page to create your ad. Try to include figurative language to persuade your audience.





**Task 5:**

This is the exciting part! This is where you get to create your good or provide your service to your family. Use the space below to plan how you will do this.

**Materials I will need:**

**Steps to create my good or provide my service**

## **Evidence**

Use this space to glue in photos of your work or draw pictures of your designs and/or ideas.

## **Reflection**

Reflect on your experience in completing this project by writing 2 glows and 1 grow.

Glow = something you did really well and are proud of

Grow = something you could improve on for your next project



Glow 1:

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Glow 1:

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Glow 1:

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## My Reflection Log

Questions	My Response
What did you do?	
What did you learn?	
What was your biggest triumph?	
What was your biggest challenge?	

How can you apply this to real life?	
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## Project Assessment

### Optional Parent feedback

Please ask a parent or older sibling to complete the answers below about how they think you went with your project.  
How independent was your child in completing this project?

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How motivated was your child to work on this project?

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Please give an overall comment on how you think your child went:

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Thank you for your valuable feedback!



# Parent Notes



# Day – 1 Answers

This is an open-ended task, what you should be looking for is for the student to complete at least 20 throws and recording their data correctly.

## Chance Experiment

6. Set up your container in a space where it is safe for you to throw your scrunched up paper
7. Take approximately 5 steps away from your container
8. Sit facing your container and your paper ball in your hand
9. Attempt your best to throw the paper into the container
10. 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? \_\_\_\_\_

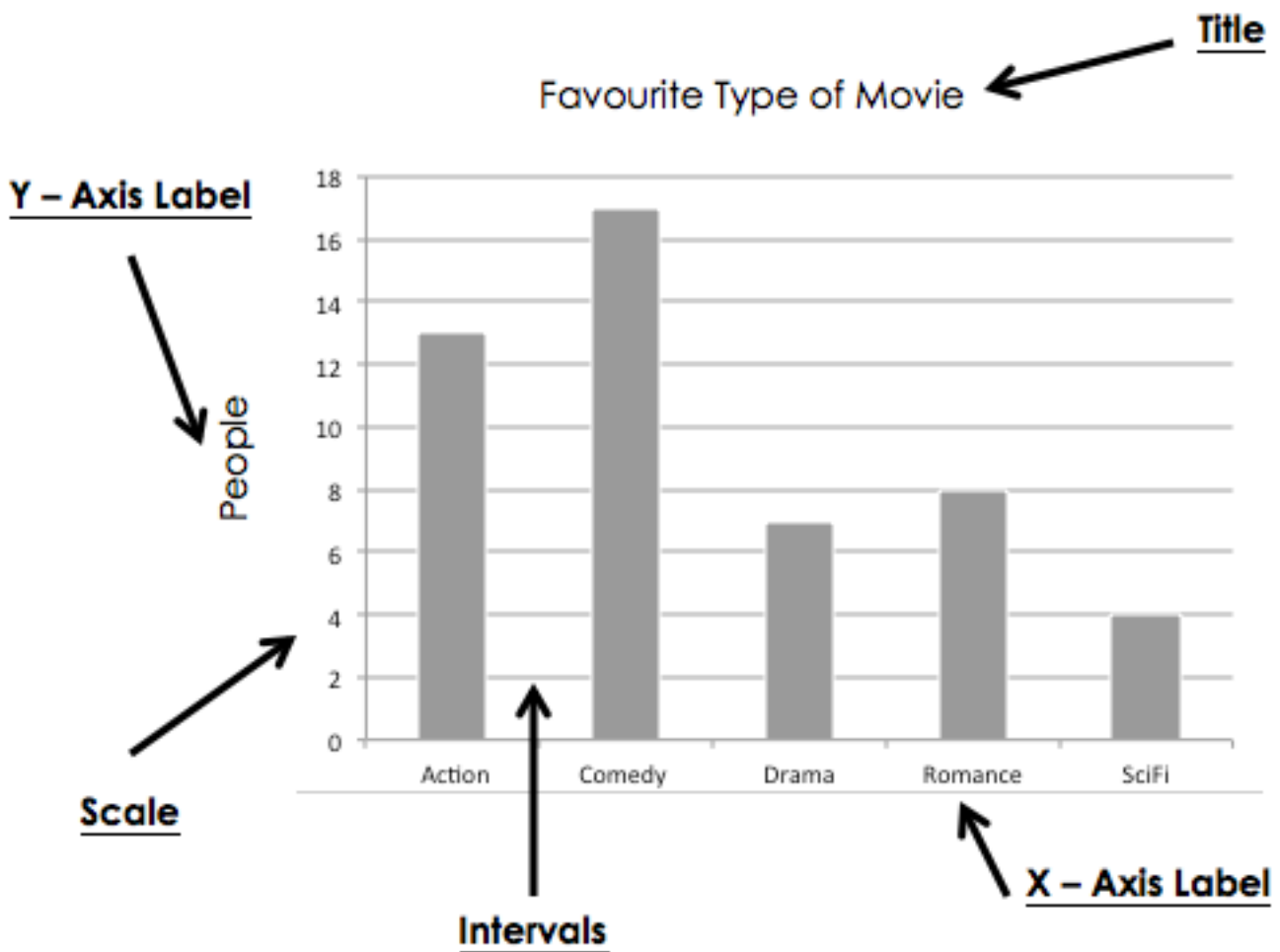
How many went into the container? \_\_\_\_\_

How many did you miss? \_\_\_\_\_

# Day – 2 Answers

## Bar Graphs

A bar graph is a display of data collected using bars of different heights. Look at the bar graph below about the types of movies people like to watch. Closely inspect how data is displayed on a bar graph. Then answer the questions on the next page.



Why do you think bar graphs are a good way to display data?

The student should be explaining that bar graphs are easy to look at a large range of information in a quick way.

What type of movie was the most popular?

Comedy

What movie was the least popular?

SciFi

What was displayed on the X-Axis?

The types of movies, the genre

What was displayed on the Y-Axis?

The number of people who voted

At what number did the scale begin? 0

What number did the scale go up to? 18

What was the title? Favourite Type of Movie



# Day – 3 Answers

Peter tossed a \$1 coin 20 times have a look at his results below:

Coin Toss	Result
Heads	13
Tails	7
Total	20

Were Peter's results the same as your prediction earlier? The results shown are called **experimental probability**. Experimental probability is the actual results of an experiment. It shows what actually happened instead of what you thought was going to happen.

Its time for us to analyse the results, using the table above lets look at the experimental probability of this experiment.

How many times out of 20 did the coin land on heads? 13/20

Peter decides to continue the experiment, only this time he tosses the coin a total of 50 times. Take a look at his results below.

Coin Toss	Result
Heads	26
Tails	24
Toss	50

What is the experimental probability of the coin landing on heads

$26/50$

How many times out of 50 did the coin land on heads?  $26$

$26 \div 50 = 0.52$

Percent:  $52\%$

Answers will vary

Before you start decide on the **theoretical probability** of your experiment.

Set 1: toss your coin 10 times, my theoretical probability: \_\_\_ /10

Set 2: toss your coin 20 times, my theoretical probability: \_\_\_ /20

Set 3: toss your coin 30 times, my theoretical probability: \_\_\_ /30

	1. Toss the coin 10 times	2. Toss the coin 20 times	3. Toss the coin 30 times
Heads			
Tails			
Total			

Answers will vary

### **Experimental Probability Results**

2. How many times out of 10 did the coin land on heads? \_\_\_\_\_  
\_\_\_\_\_ ÷ 10 =

Precent: \_\_\_ %

3. How many times out of 20 did the coin land on heads? \_\_\_\_\_  
\_\_\_\_\_ ÷ 20 =

Precent: \_\_\_ %

# Day – 4 Answers

*Answers may vary*

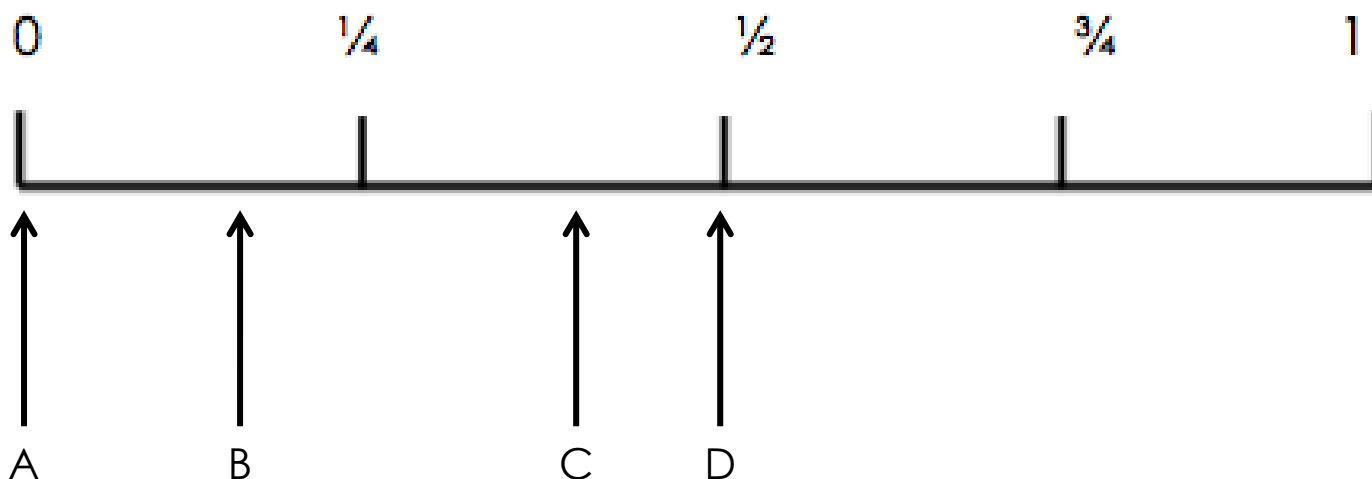
Impossible	Unlikely	Likely	Certain
<p>The oceans will turn purple</p> <p>A turtle will grow wings and fly</p> <p>You will go to the library</p> <p>An octopus will fly a helicopter</p> <p>A monkey will knit you a blanket</p>	<p>You will draw a picture</p> <p>You will see a spider</p> <p>You will have pizza for dinner</p> <p>It will rain</p> <p>You will say hello to a neighbour</p>	<p>You will see a dog</p> <p>You will play with your toys</p> <p>You will see a family member</p> <p>It will be 7:00 p.m. at some point</p> <p>You will make a video call</p> <p>You will see three birds flying</p> <p>There will be an announcement</p> <p>You will ride your bike</p> <p>You will see the Premier on T.V.</p>	<p>You will watch T.V.</p> <p>You will breath</p> <p>You will have a shower</p> <p>You will go outside</p> <p>You will eat something</p> <p>The sun will shine</p> <p>You will get dressed</p> <p>You will go to bed</p> <p>You will have a good day</p>
0	$\frac{1}{4}$ , 0.25, 25%	$\frac{3}{4}$ , 0.75, 75%	1



### Question 1

Which of the arrows A, B, C or D show the best position on the probability line for the event “tomorrow it will rain in Perth”.

Answers may vary



Answer: D

### Question 2

A 50c coin and a 10c coin are tossed together. Which of the arrows shows the position on the probability line for the event “both coins tails up”?

Answer: D

Use your answers from the two questions above and change them to a decimal and a percent.

### Question 1

Decimal 0.5

Precent 50%

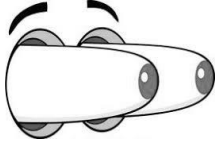
Question 2

Decimal 0.5

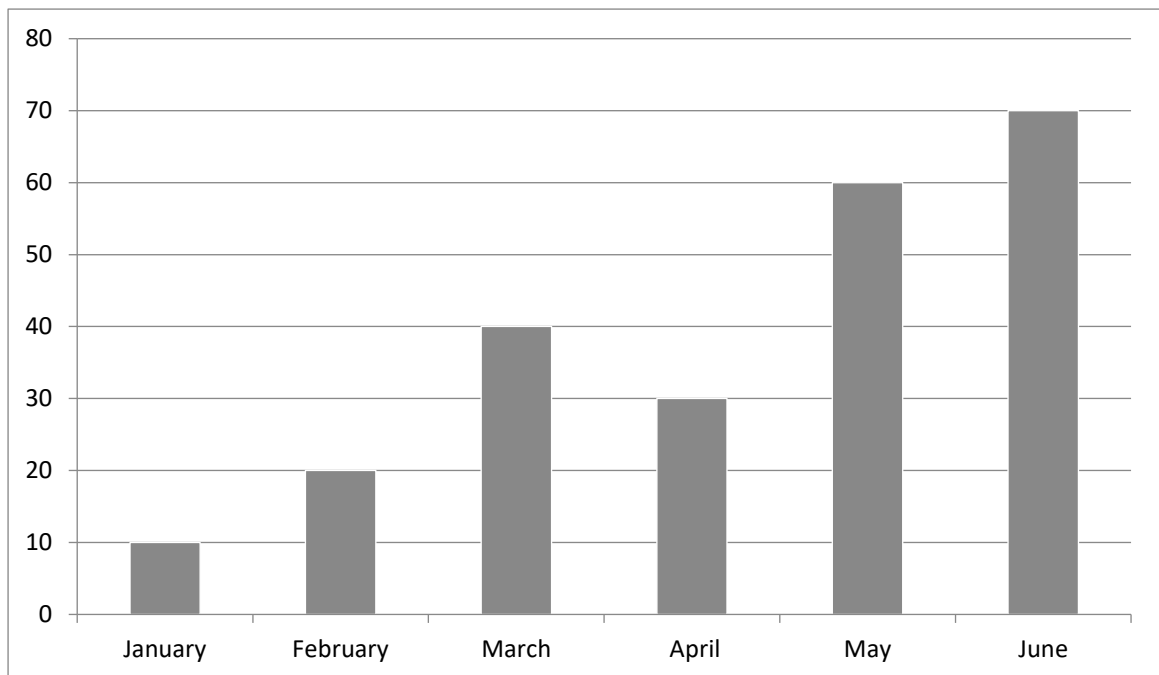
Precent 50%

# Day – 5 Answers

## Data Review



Look at the graph below; it displays the average rainfall (measured in millimetres) in Broome from January through to June. Use your knowledge from the previous lesson to answer the questions and fill in the missing information.



What would be a good title for this graph? *Answers will vary*

What is measured on the y-axis? *Average rainfall*

What is the scale on the y-axis? *It is going up by tens*

What is on the x-axis? **Months of the year**

Which month had the most rainfall? **June**

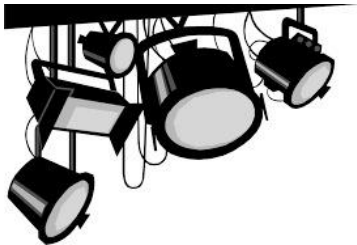
Which month had the least rainfall? **January**

The month of June receives, on average, more rainfall than which of the two months combined? (circle your answer)

d) April & May

**e) January & February**

f) March & April



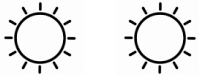

Bring it all together

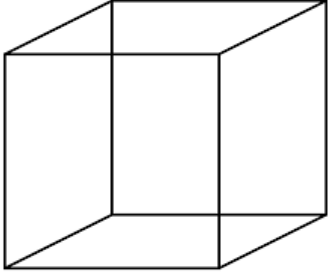
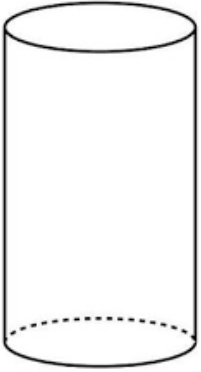
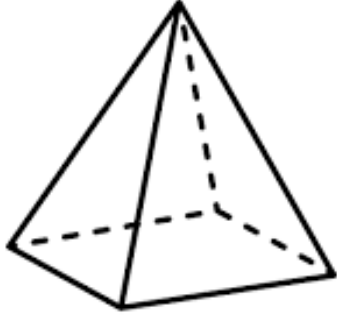
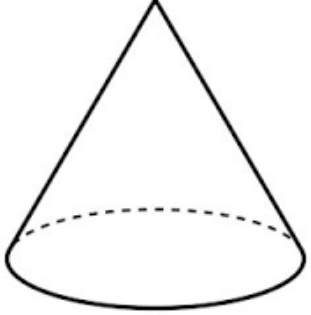
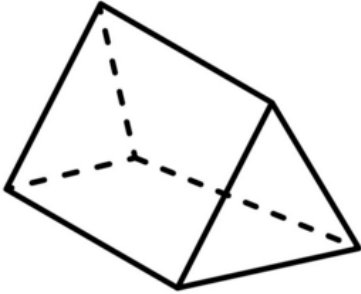
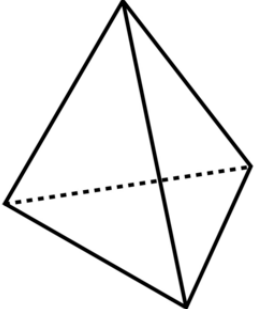
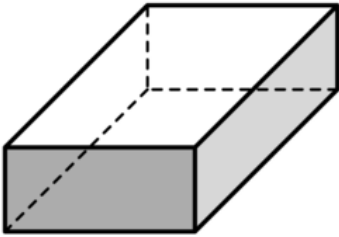
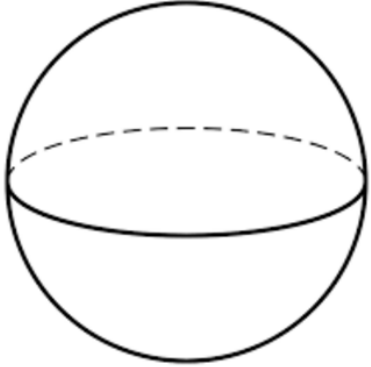
**This is an open-ended task, answers will vary.  
You can use the rubric over the page to assess you child's work.**

Use the rubric below to assess your child's graph. Place a tick where you think they went in each area. Add up the total, give yourself a score out of 12 and complete the reflection.

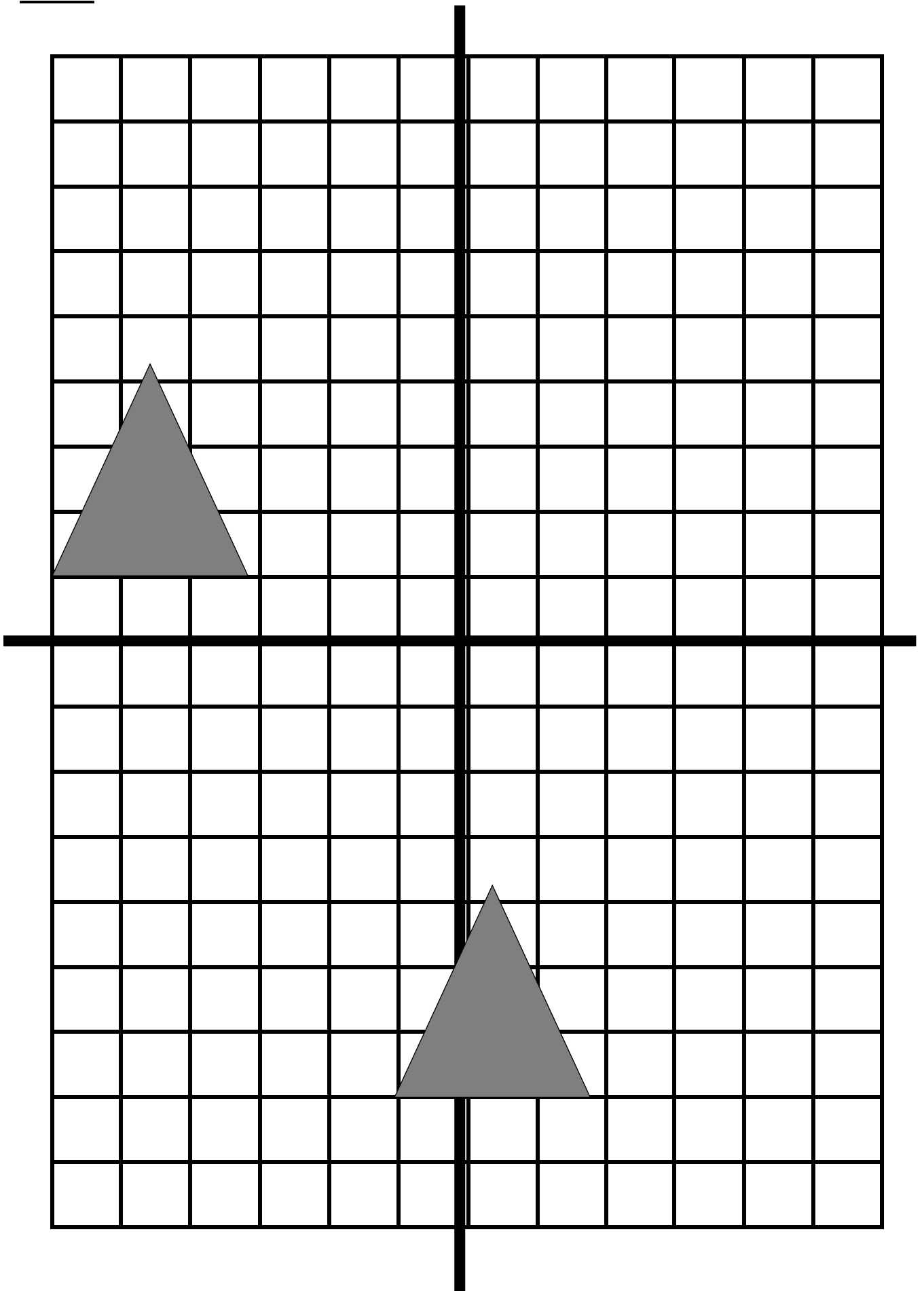
Area	3	2	1
<u>Graph Title and Labels</u>	The graph has a meaningful title and labels. They relate to the data represented and communicate useful information. <input type="checkbox"/>	The graph has either a meaningful title or meaningful table. <input type="checkbox"/>	The graph does not have a title and/or labels. They do not connect to the data being represented. <input type="checkbox"/>
<u>Presentation of Information</u>	The graph presents information that is neat and easy to read. <input type="checkbox"/>	The information could be presented in a neater way. <input type="checkbox"/>	The information cannot be understood. <input type="checkbox"/>
<u>Scale and Axis Labels</u>	The scale and axes are clear and accurate. <input type="checkbox"/>	The scale and axes have labels. <input type="checkbox"/>	The scale or axis label might be missing, confusing or misleading. <input type="checkbox"/>
<u>Representation of Data</u>	The data is represented clearly in the bar graph. <input type="checkbox"/>	The data is confusing to understand. <input type="checkbox"/>	The data is incorrect. <input type="checkbox"/>

Total:     /12

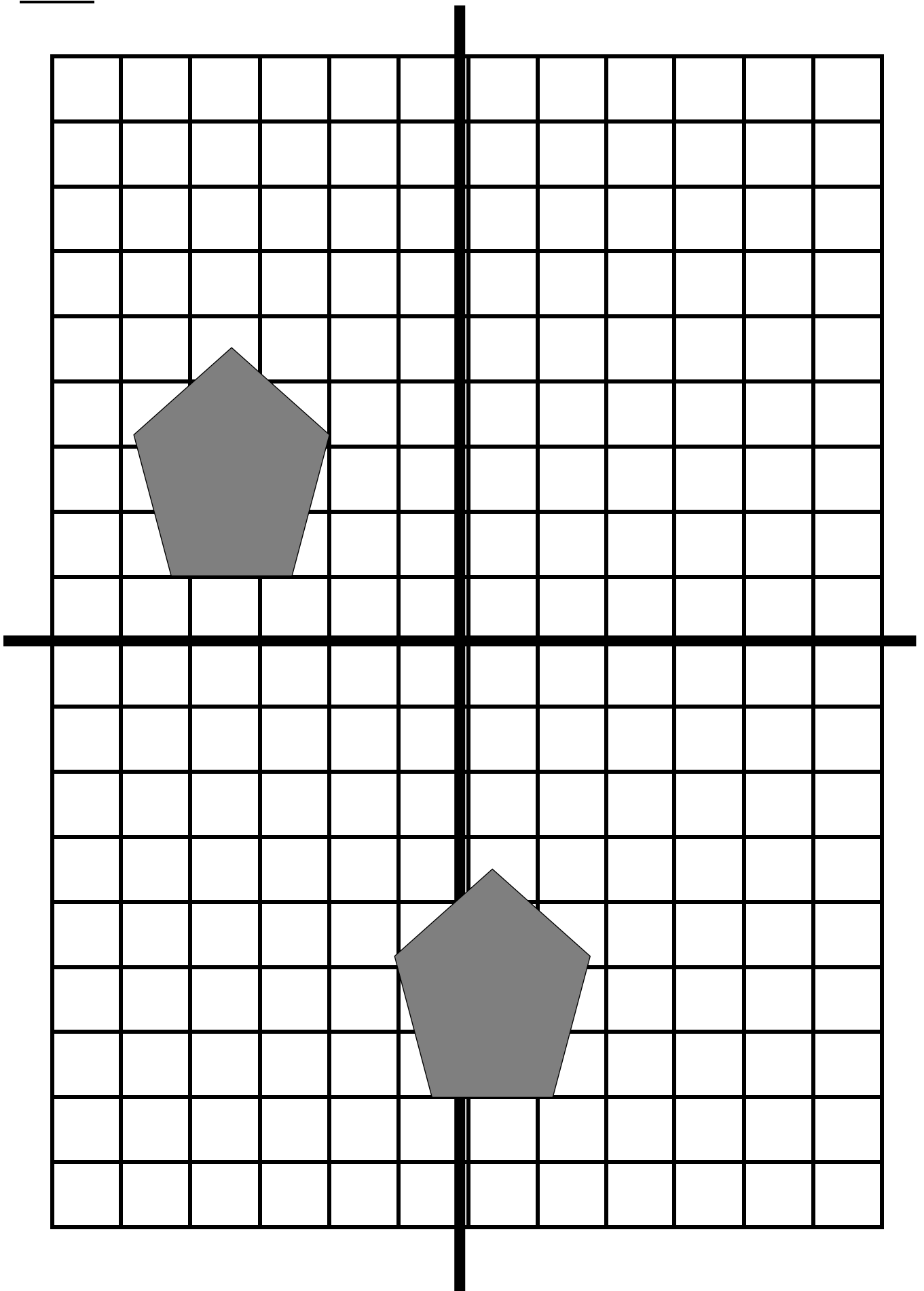
<p>2 Glows</p> <p>(2 things they did really well and you are proud of)</p>	<p>1 Grow</p> <p>(A goal you have for your child)</p>
	

<p><b>Cube</b></p> <p>Faces: 5</p> <p>Edges: 12</p> <p>Vertices: 8</p> 	<p><b>Cylinder</b></p> <p>Faces: 1</p> <p>Edges: 4</p> <p>Vertices: 0</p> 
<p><b>Square Pyramid</b></p> <p>Faces: 5</p> <p>Edges: 8</p> <p>Vertices: 5</p> 	<p><b>Cone</b></p> <p>Faces: 2</p> <p>Edges: 0</p> <p>Vertices: 1</p> 
<p><b>Triangular Pyramid</b></p> <p>Faces: 5</p> <p>Edges: 8</p> <p>Vertices: 5</p> 	<p><b>Triangular Prism</b></p> <p>Faces: 4</p> <p>Edges: 6</p> <p>Vertices: 4</p> 
<p><b>Rectangular Prism</b></p> <p>Faces: 6</p> <p>Edges: 12</p> <p>Vertices: 8</p> 	<p><b>Sphere</b></p> <p>Faces: 1</p> <p>Edges: 0</p> <p>Vertices: 0</p> 

Task 2

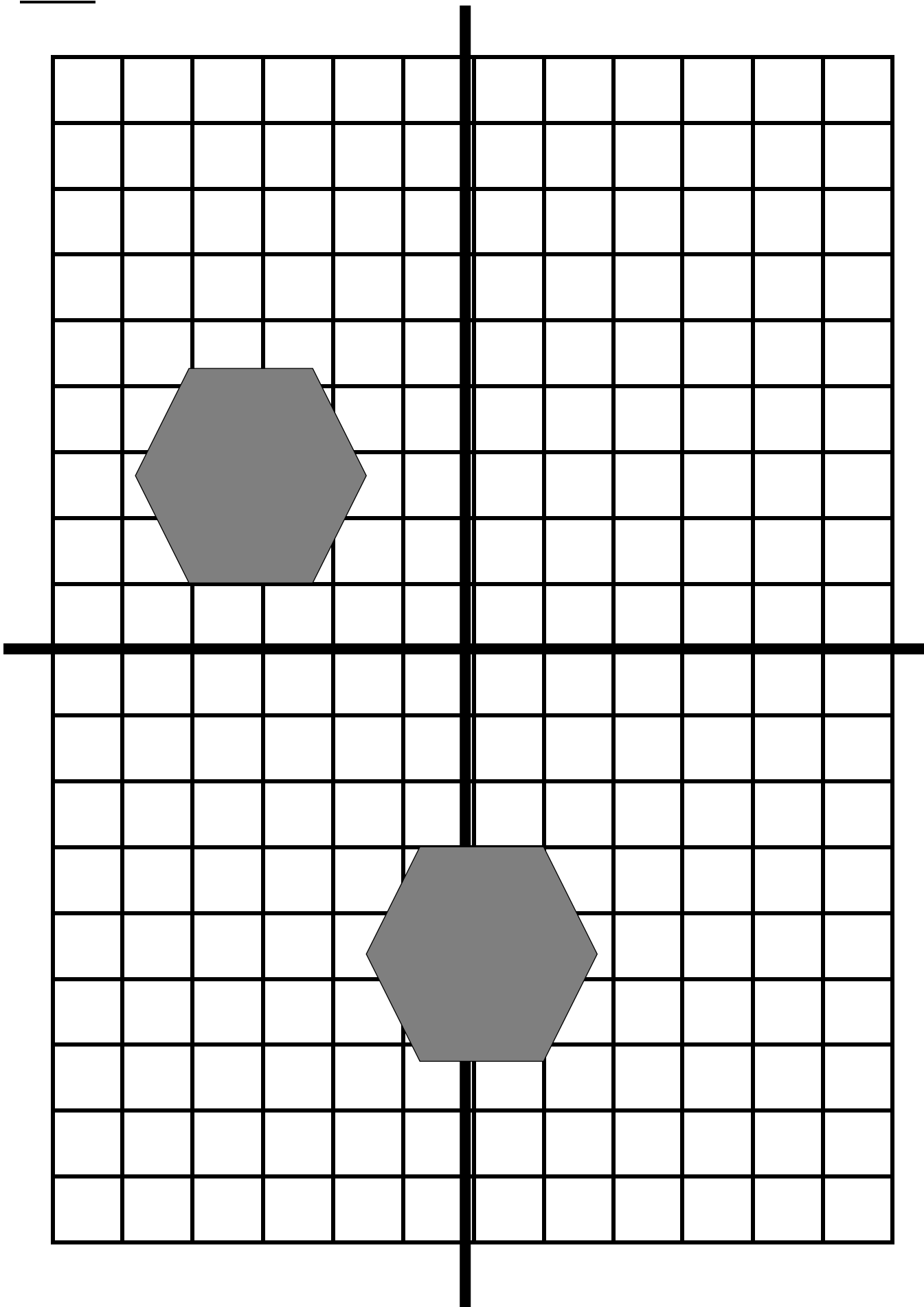


Task 2


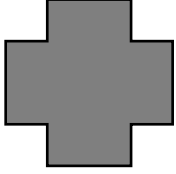
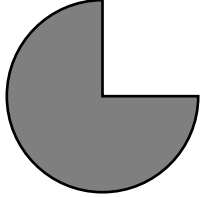
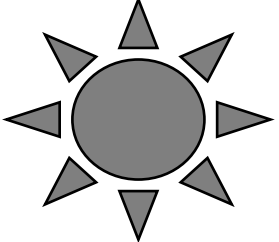

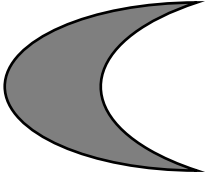
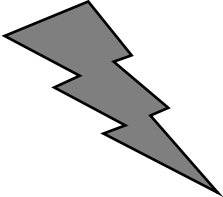





**Task 3**



1.) Determine whether these shapes have a line of symmetry. HINT: Some of these shapes have more than one line of symmetry. How many lines of symmetry are there for each shape?

			
Number of Lines of Symmetry: <b>4</b>	Number of Lines of Symmetry: <b>4</b>	Number of Lines of Symmetry: <b>1</b>	Number of Lines of Symmetry: <b>8</b>
			
Number of Lines of Symmetry: <b>0</b>	Number of Lines of Symmetry: <b>1</b>	Number of Lines of Symmetry: <b>0</b>	Number of Lines of Symmetry: <b>1</b>

2.) Draw a shape that has:

Rotational Symmetry <b>Eg. Equilateral triangle, square, circle etc</b>	2 Lines of Symmetry <b>Eg. Rectangle, oval etc</b>
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