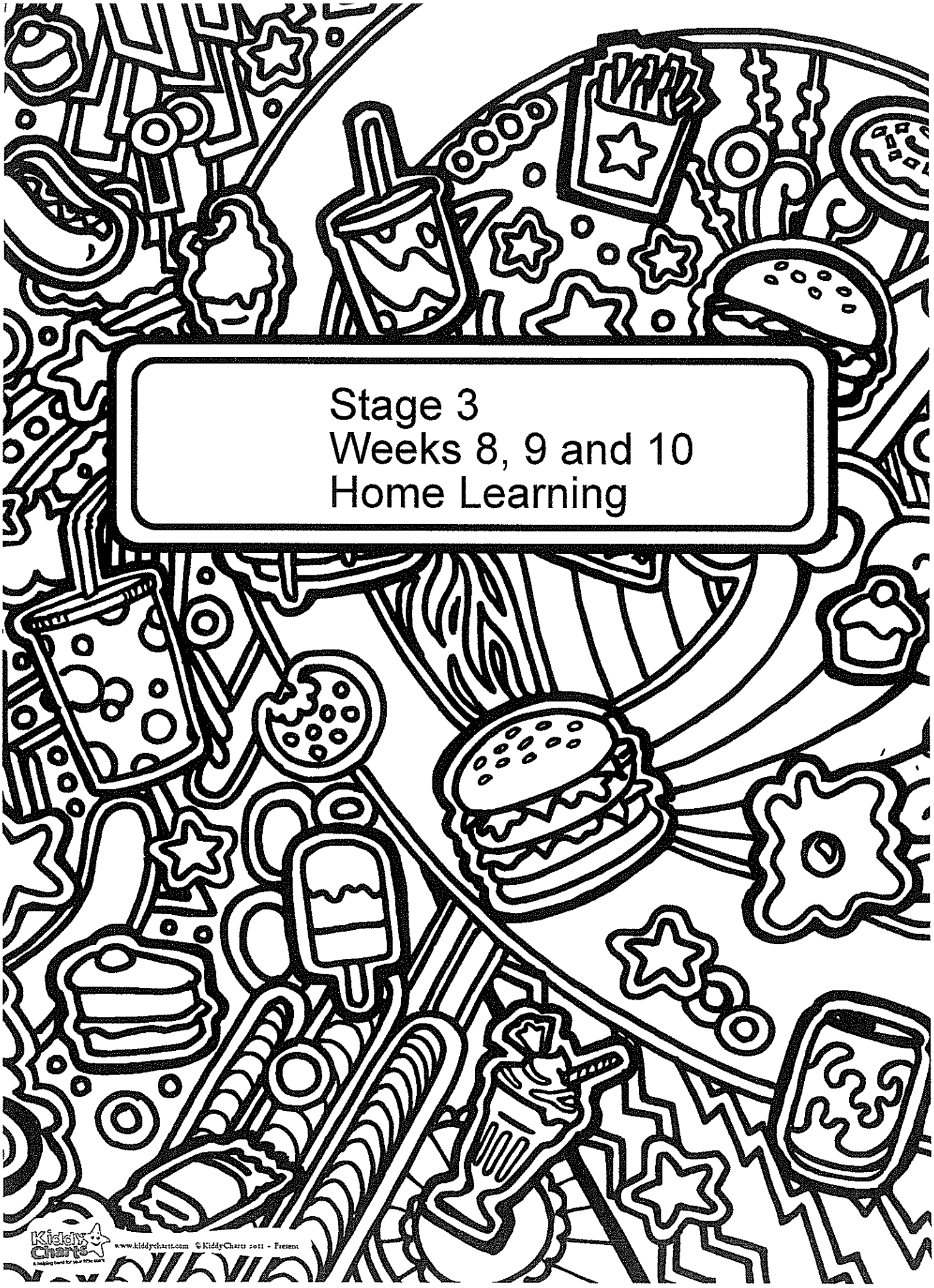


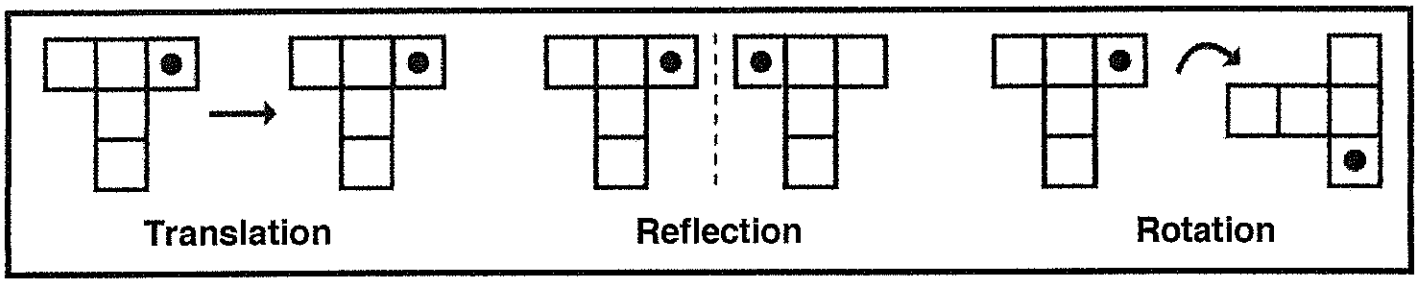
Maths, Science, P.D.H.P.E, History, Drama & Ar

MATHS YEAR 5 WEEKS 8, 9 & 10

Name : _____ Score : _____

Teacher : _____ Date : _____

Translation, Rotation, and Reflection



Identify each shape as translation, rotation, and reflection.

1) _____

2) _____

3) _____

4) _____

5) _____

6) _____

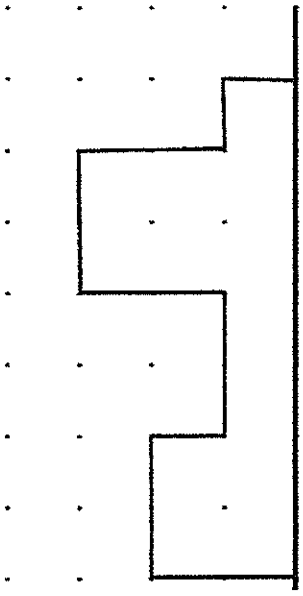
7) _____

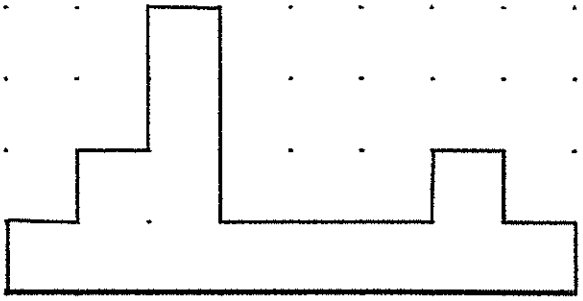
8) _____

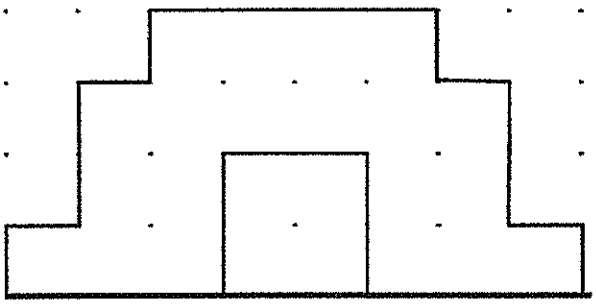
Name Date

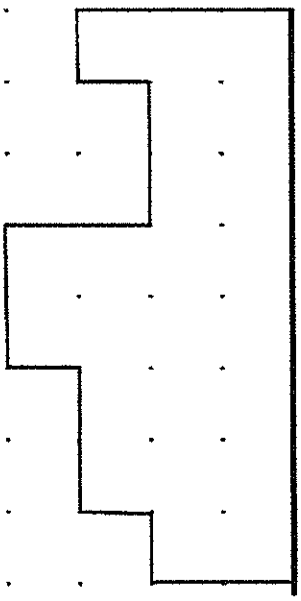
LINE SYMMETRY SHEET 1

Complete the missing half of each of the shapes using the mirror lines.









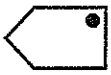
Name : _____ Score : _____

Multiple Choice

Sheet 1

Choose the correct image which shows the transformation of each figure.

1) Reflection of  ?

a)  b)  c) 

2) Translation of  ?

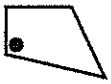
a)  b)  c) 

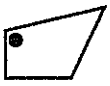
3) Rotation of  ?

a)  b)  c) 

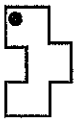
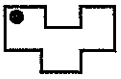
4) Reflection of  ?

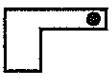
a)  b)  c) 

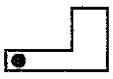
5) Translation of  ?

a)  b)  c) 

6) Rotation of  ?

a)  b)  c) 

7) Reflection of  ?

a)  b)  c) 

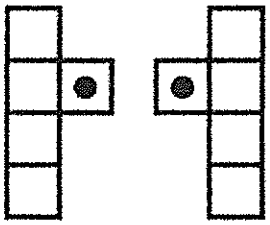
8) Translation of  ?

a)  b)  c) 

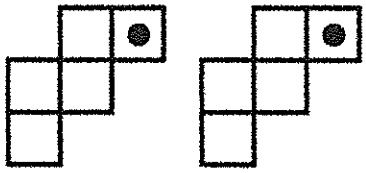
Name: _____

Translation, Rotation, Reflection

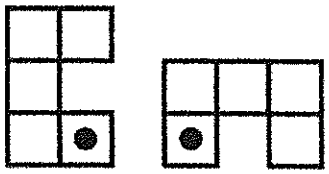
Tell how each figure was moved. Write translation, rotation, or reflection.

a. 

_____

b. 

_____

c. 

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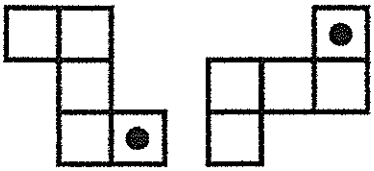
d. 

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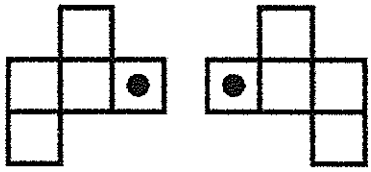
e. 

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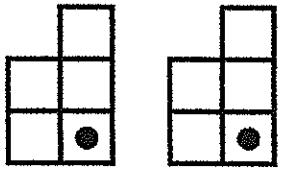
f. 

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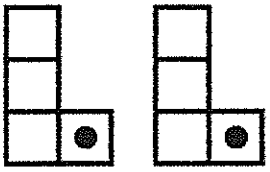
g. 

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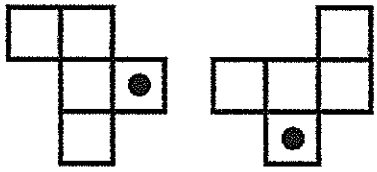
h. 

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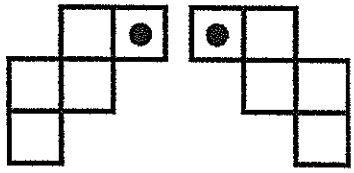
i. 

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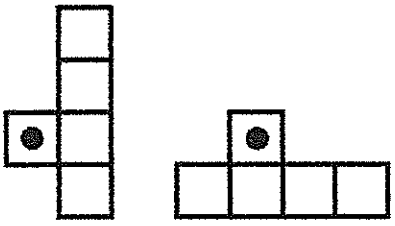
j. 

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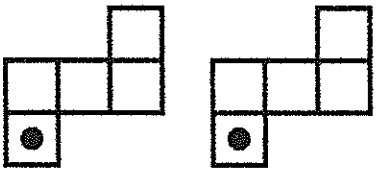
k. 

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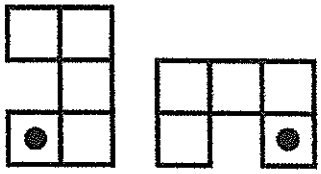
l. 

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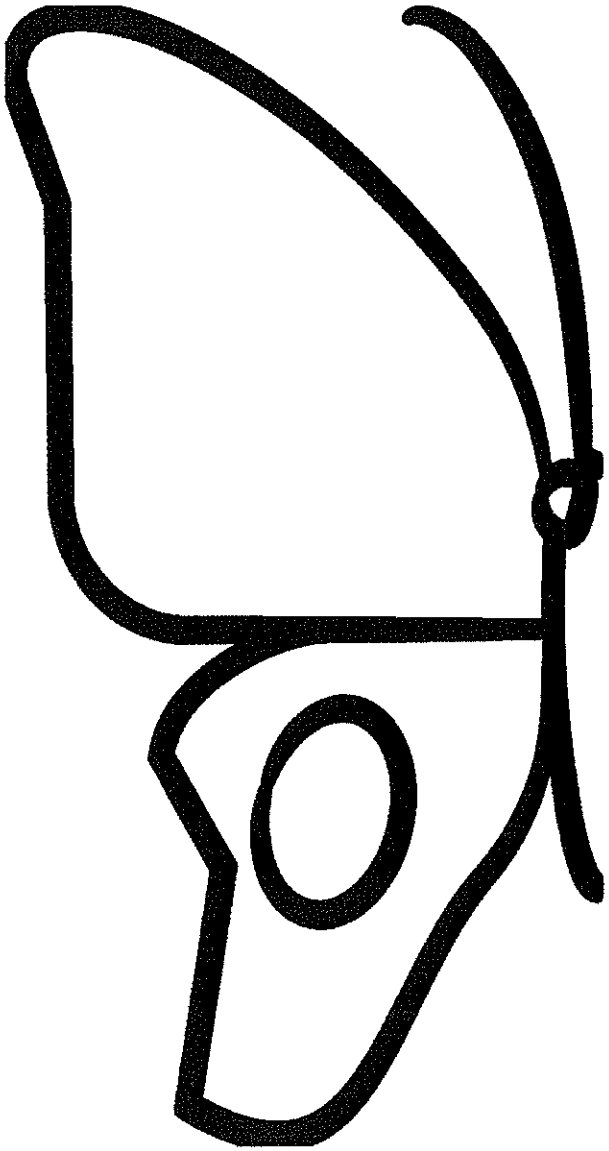
Lines of symmetry

Grade 4 Geometry Worksheet

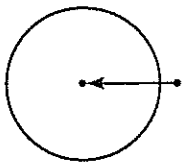
Draw a picture of an object that has at least one line of symmetry. Draw the line(s) of symmetry on your picture.



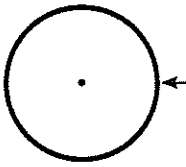
2D shapes – circles

A circle is also a 2D shape. It's a closed curve that has all of its points a fixed distance from the **centre**.

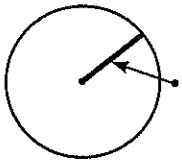
Later on, you will learn about the formal maths of circles – they're more complex than they look! Right now, it's important to recognise the different parts and to explore the relationships between the parts.



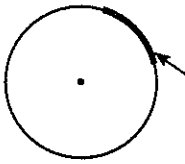
centre – this is the point in the middle



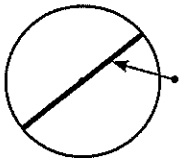
circumference – the distance around the circle



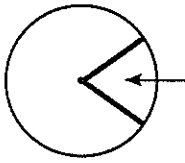
radius – the distance from the centre to the circle's edge



arc – part of the circumference



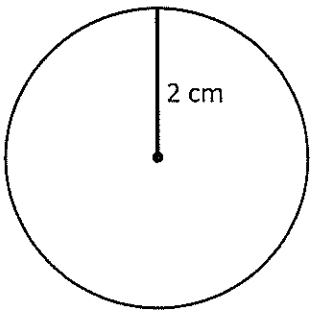
diameter – the distance from the edge of a circle through the middle to the opposite edge



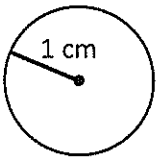
sector – a 'slice' of the circle

1 **Below are some circles. Each radius is marked.**

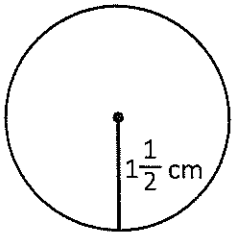
a Extend the radius through the midpoint to the opposite edge of each circle. You have now marked the **diameters**.



diameter ☐



diameter ☐



diameter ☐

b The diameter of each circle is twice its radius. Write the diameter of each circle in the boxes above.

Circle sense

apply

You'll play this game with a partner. You'll each need a copy of this page and it may pay to study the information on the previous page. The aim is to score the highest number of points you can by answering 10 questions. The harder questions score more points but of course, there is a greater risk of getting them wrong!

Read the questions below and choose the 10 questions you think will score you the highest number of points. Once you've decided on your questions, tick them. They're now locked in.

Once you and your partner have both finished, ask your teacher or the designated checker to check your answers. As Game Master, their decision is final. Who won?

FOR 5 POINTS

What is the distance around a circle called? _____

What is the name given to a small part of the distance around a circle? _____

Name the distance from the centre of a circle to its edge. _____

What is the distance from the edge of a circle through the middle to the opposite edge called? _____

What is the point in the middle of a circle called? _____

What do we call a slice of a circle? _____

Name a 3D object that is circular. _____

FOR 10 POINTS

Is the radius of a circle twice its diameter? _____

Every part of a circle's circumference is an equal distance from its centre. Is this statement correct? _____

Name a 3D object that wouldn't work if it wasn't circular and explain why. _____

Is a circle a polygon? Why or why not? _____

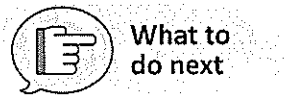
Another name for the circumference of a circle is its perimeter. Is this statement correct? _____

A circle belongs to the quadrilateral family. Is this statement correct? _____

If a circle has a diameter of 10 cm, what is its radius? _____

The circumference of a circle is twice its radius. Is this statement correct? _____

If a circle has a radius of 15 cm, what is its diameter? _____

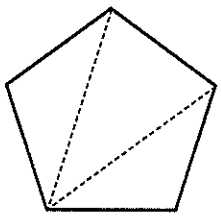


Play again choosing different questions. You can reuse a question if you got it wrong but not if you answered it correctly the first time. If you run out of questions, design some of your own.

How many triangles? investigate

Getting ready

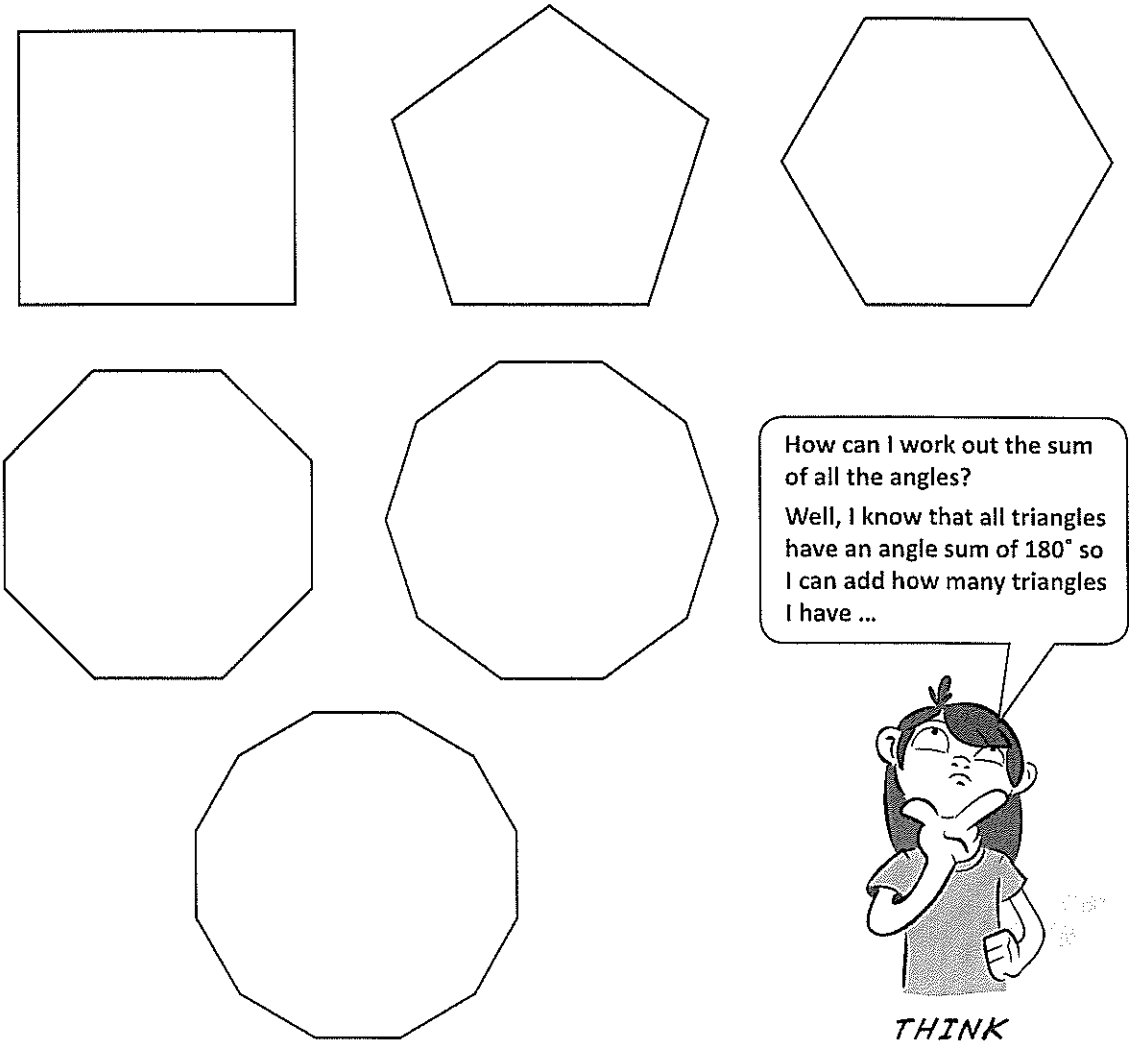
Use the shapes below. Your task is to section each shape into triangles. Your lines must go from corner (vertex) to corner and can't cross over each other.



What to do

Record your findings in the table. Do you see any patterns?

Shape	Number of sides	Number of triangles	Sum of angles
square			
pentagon			
hexagon			
octagon			
decagon			
dodecagon			



How can I work out the sum of all the angles?

Well, I know that all triangles have an angle sum of 180° so I can add how many triangles I have ...

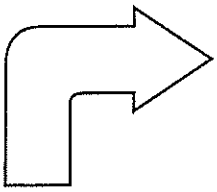
THINK

Transformation, tessellation and symmetry – symmetry

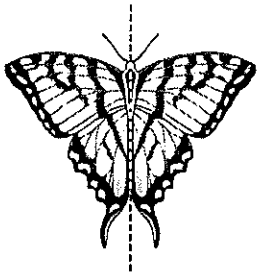
Reflective or line symmetry describes mirror image, when one half of a shape or picture matches the other exactly. The middle line that divides the two halves is called the line of symmetry.

Shapes may have:

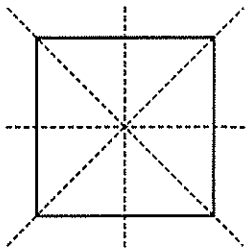
no line of symmetry



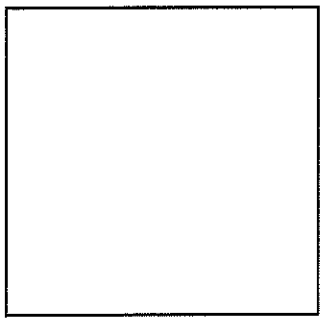
one line of symmetry



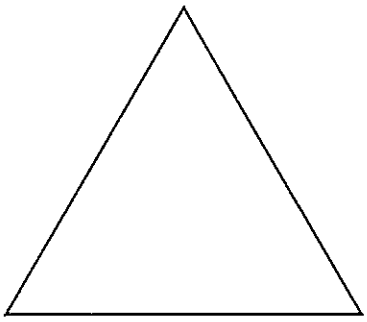
more than one line of symmetry



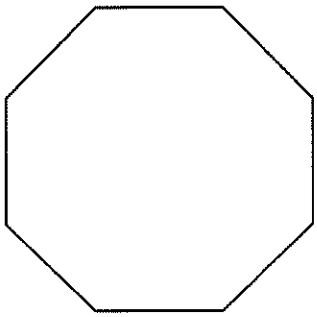
1 **Find and mark any lines of symmetry on these regular polygons. These can be vertical, horizontal or diagonal. If it's easier, cut out copies of the shapes and fold them to test them.**



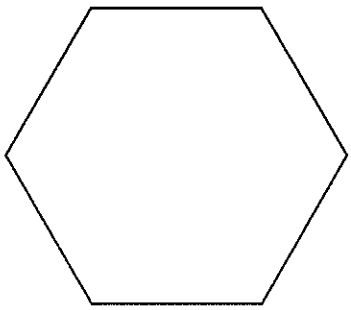
a A square has _____ lines of symmetry.



b An equilateral triangle has _____ lines of symmetry.



c An octagon has _____ lines of symmetry.



d A hexagon has _____ lines of symmetry.

2 **What do you notice about lines of symmetry in regular polygons?**

3 Look at these letters of the alphabet. Work with a partner to decide which ones have lines of symmetry when written in this font. Which ones have more than one? Which ones have none? Record them in the table below:

A B C D E F G H I

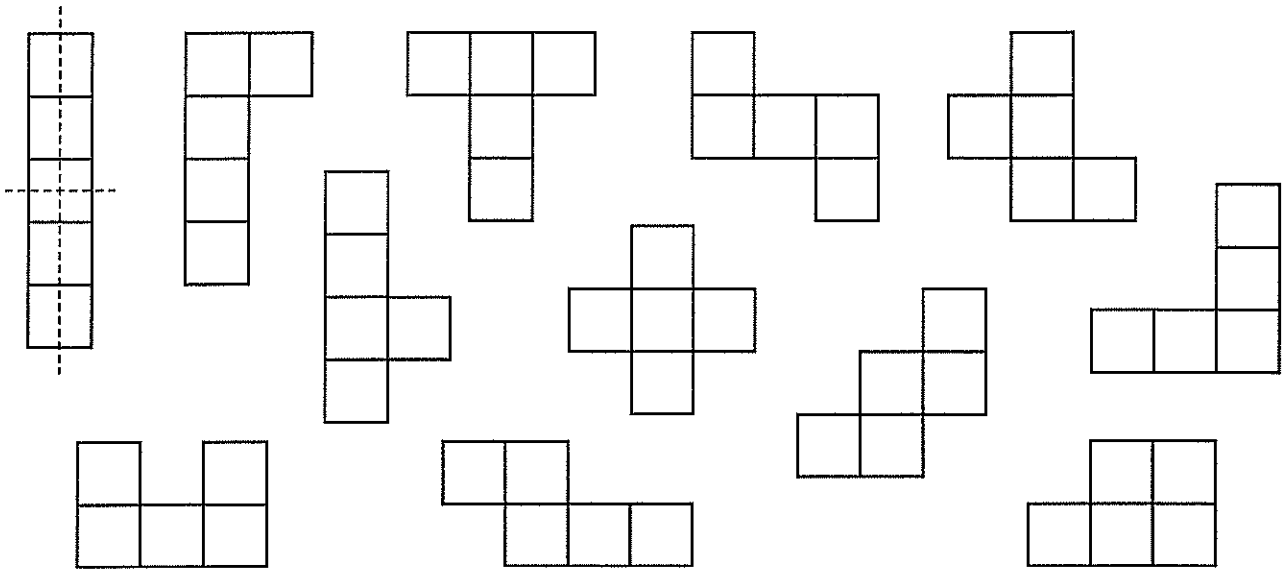
J K L M N O P Q R

S T U V W X Y Z

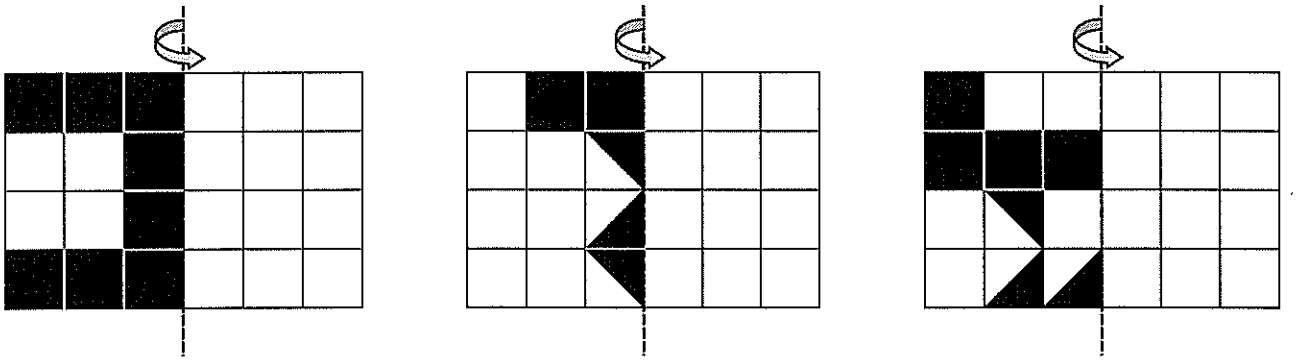
Vertical line of symmetry	Horizontal line of symmetry	More than one line of symmetry	No lines of symmetry

4 Compare your list with that of another group. Do they agree? If there are any letters you disagree on, present your cases to each other and see if you can reach a consensus.

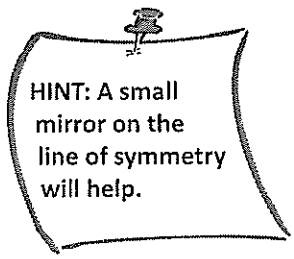
5 These shapes are called pentominoes. Some have lines of symmetry. Draw them in. The first one has been done for you.

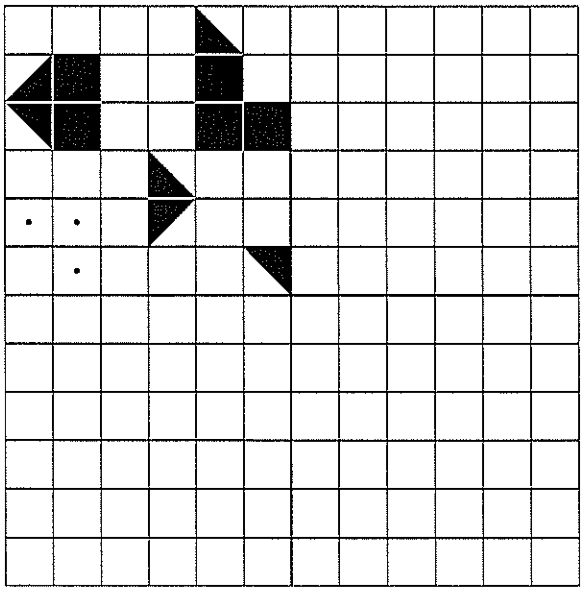


6 Colour the other half of these pictures so that they're symmetrical:

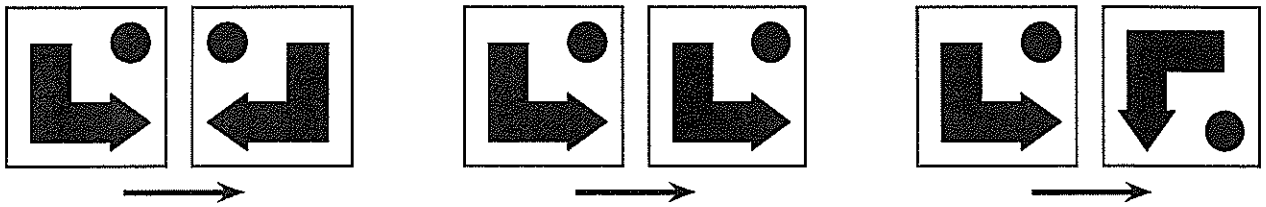


7 Using the vertical line as the line of symmetry, draw the mirror image in the top right square. Now reflect the picture on the other side of the horizontal line of symmetry.





When we move a shape, we **transform** it. This tile shows three ways we can do this:



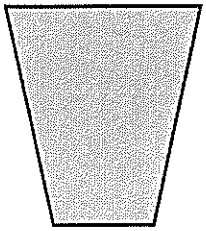
reflect (flip)

translate (slide)

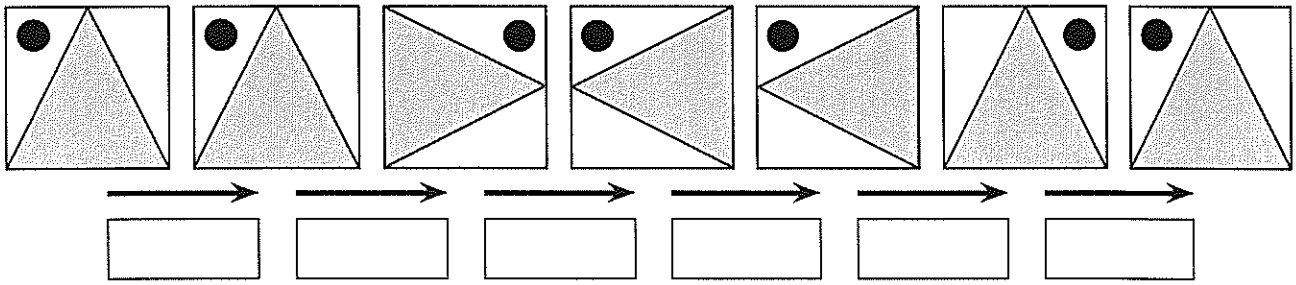
rotate (turn)

When we're asked to flip, slide or turn, it helps to visualise the move in our heads.

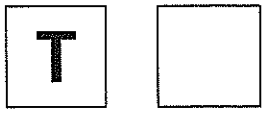
1 **Look at this trapezium. Flip it in your head and then record what it looks like. Then turn it 180° clockwise (a half turn) in your head and record what it looks like now. Turn it another 90° clockwise (a quarter turn) and record.**

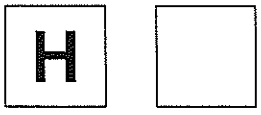


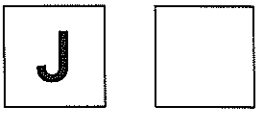
2 **What has been done to this tile? Describe each transformation as either a flip, slide or turn:**

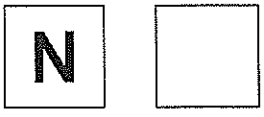


3 **Transform these letters:**

a 
T
turn 90° clockwise

b 
H
flip

c 
J
slide

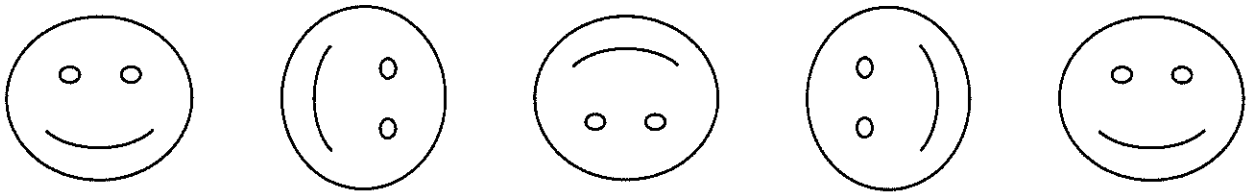
d 
N
flip

e 
Q
flip

f 
W
turn 180°

4 **Think of the name of a capital city somewhere in the world. Disguise its name by choosing to either flip, slide or turn each capital letter. Ask a partner to decode it. For example, PARIS could be disguised as ꟼ⋗ЯIS.**

These are common rotations:

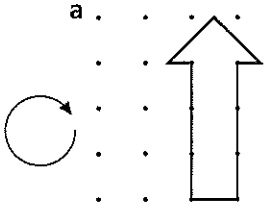


original position | quarter turn 90° | half turn 180° | three quarter turn 270° | full turn 360°

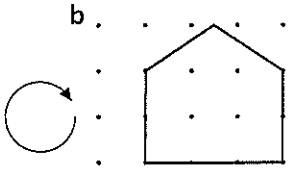
What do you notice about a full turn?

5 **Rotate each shape and record the new position. Starting from the original position each time, rotate each shape by a quarter turn, half turn, three quarter and full turn and record each new position.**

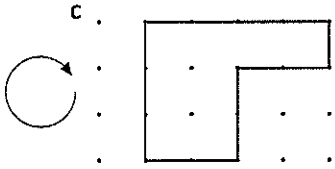
a



b



c



Tessellation comes from the Greek word, *tessere*, which means square tablet. It means covering a surface with a pattern of 2D shapes with no gaps or spaces. When we tessellate a shape, we often flip or turn the shapes so that they fit together.

Some shapes will tessellate on their own. We call this regular tessellation.

Some shapes tessellate when you use 2 shapes in the pattern. We call this semi-regular tessellation.

Tessellation is closely linked with art. Mosaics, patchwork and paving use tessellation. Can you think of others?

1 **We bet you've been tessellating with pattern blocks since you were a little kid. Now we want you to work out which shapes tessellate and which don't.**

a Work with a partner and use pattern blocks to find 3 regular polygons that tessellate on their own. Remember, a regular polygon has sides of equal length. Record your proof below:



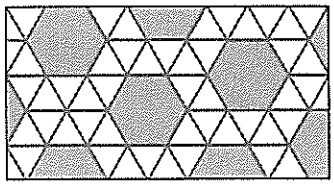



b Which of the 3 regular polygons tessellated without flipping or turning? _____

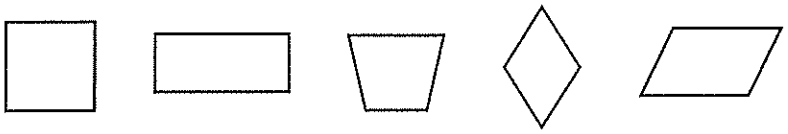
c Which regular polygons do you need to flip or turn to get them to tessellate?

_____

2 **Use pattern blocks to find shape pairs that tessellate. Record them here. How many can you find? Here's one to get you started:**



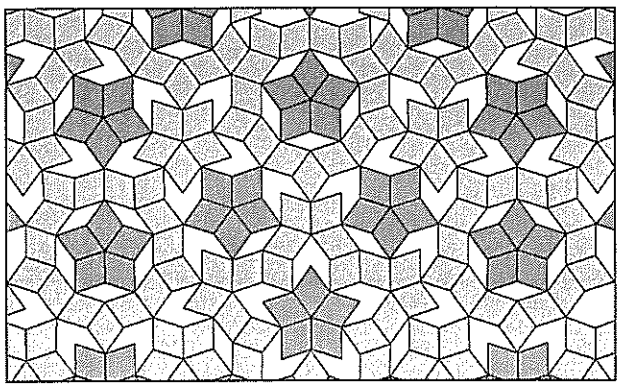
3 It's said that all quadrilaterals tessellate. Is this true? Work with a partner to test this theory out. Use blocks or tessellation shapes such as those below. Record your findings below then tick the ones that tessellate once you know:

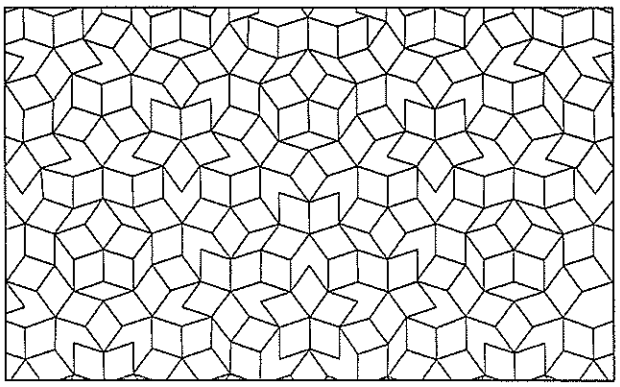


4 Do you agree with the statement that all quadrilaterals tessellate? Why or why not?

5 Tessellations usually involve creating a pattern and repeating it over and over. A famous mathematician named Roger Penrose was obsessed with finding a tessellation that was created without repeating any large patterns. It took him a while but he got there. It's often called "Kites and Darts" as the two parallelograms in the pattern resemble these.

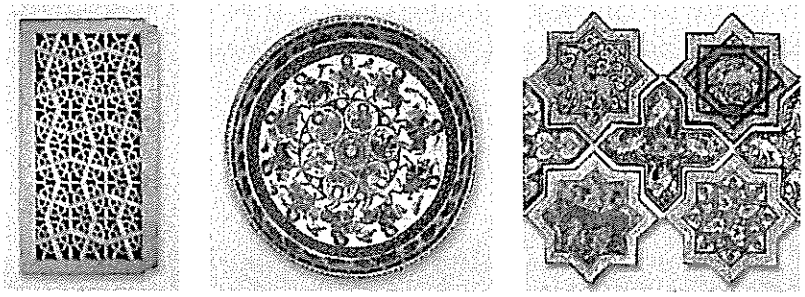
Colour the pattern in colours of your choice on the right to recreate his discovery. While you're doing that, check – can you see any large repeated patterns?





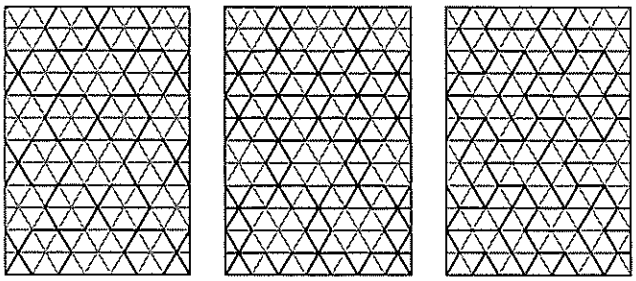
Getting ready

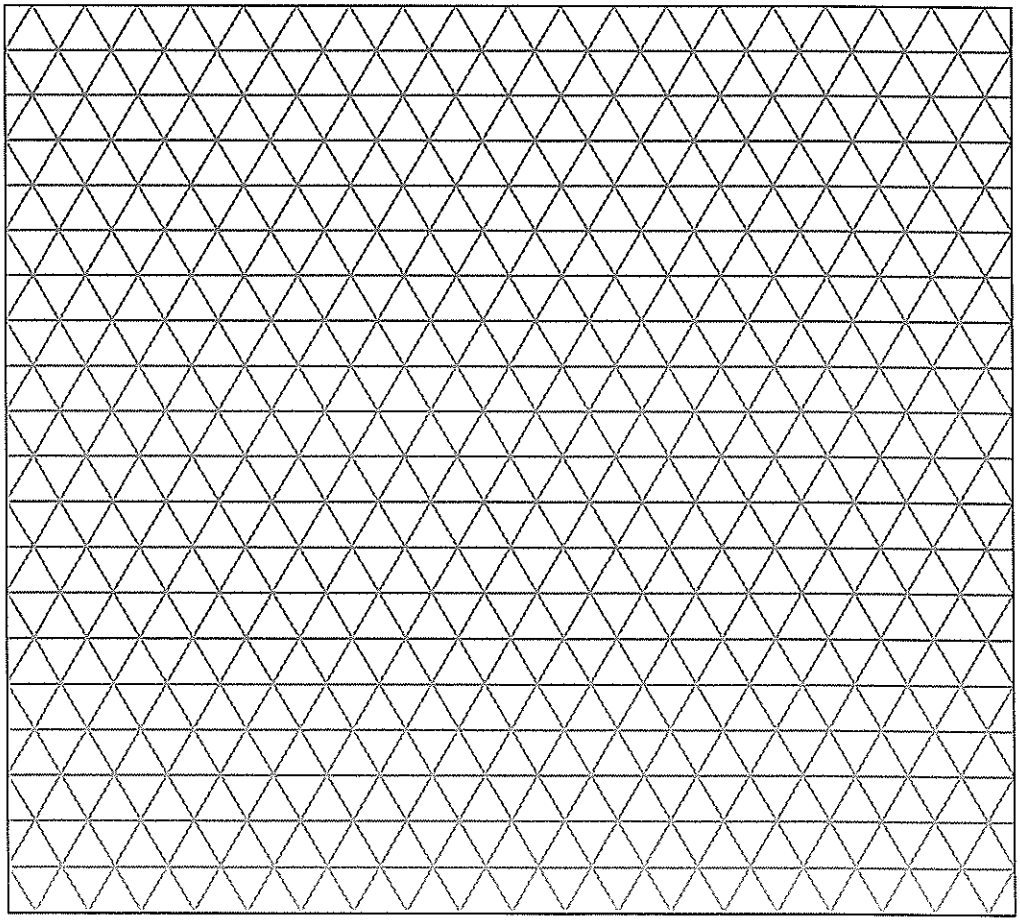
Many cultures and art styles use tessellations as a basis for creating intricate and beautiful patterns. Islamic art is one such art form. Look at the examples below.



What to do

Recreate one of the designs below by ruling over certain lines. Pick a colour scheme and complete your design.





Dig it, Dr Jones

create

Getting ready

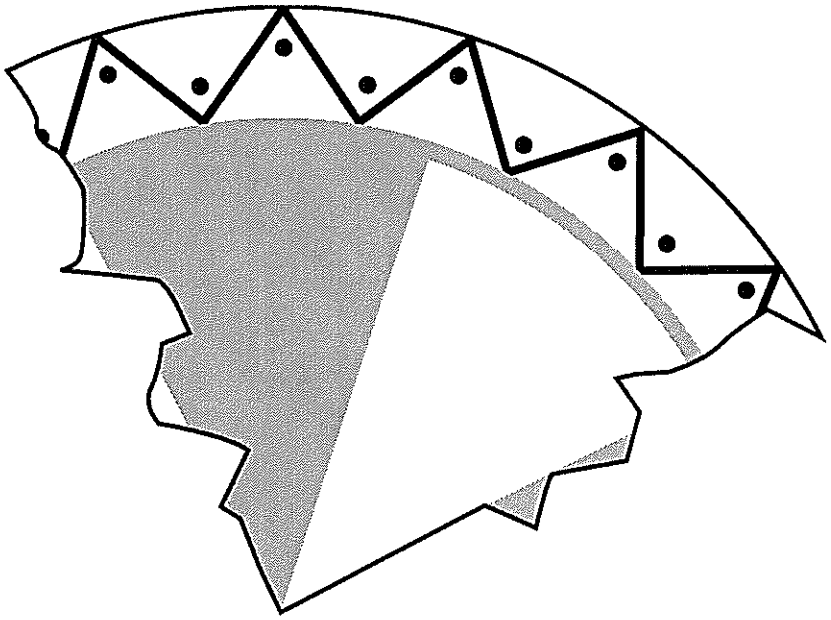
While working on an archaeological dig with the famous Dr Jones, you come across a portion of a beautiful old plate.

Dr Jones thinks it may be $\frac{1}{4}$ of the Lost Plate of Icarus, a priceless find. He asks you to recreate what you think the entire plate may have looked like.

What to do

You have $\frac{1}{4}$ of the plate. You need to find a way to recreate the rest of it. How will you do this? Would a compass help? How will you find the right centre point?

Then, use your knowledge of symmetry and tessellation to complete the design.

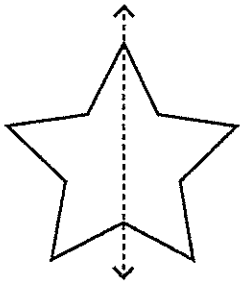


Name : _____ Score : _____

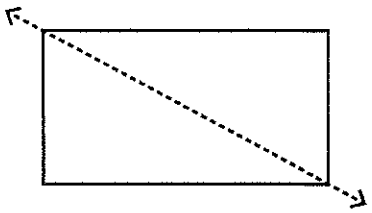
Recognize the line of symmetry

Sheet 1

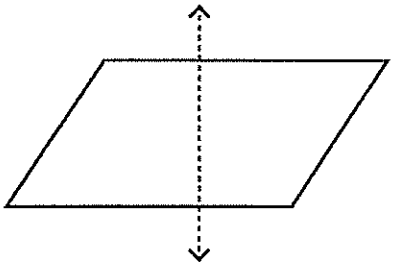
Is the dotted line on each shape a line of symmetry? Write yes or no.

1) 

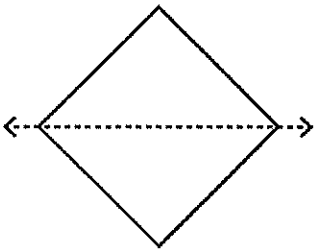
_____

2) 

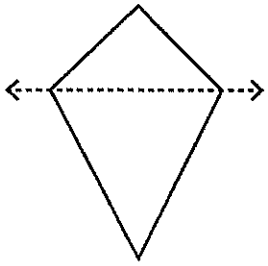
_____

3) 

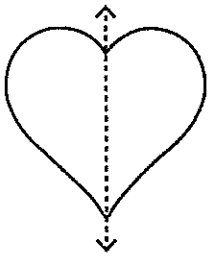
_____

4) 

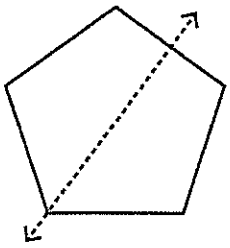
_____

5) 

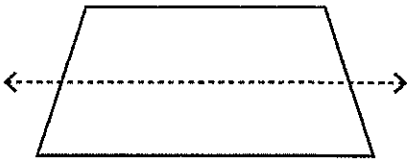
_____

6) 

_____

7) 

_____

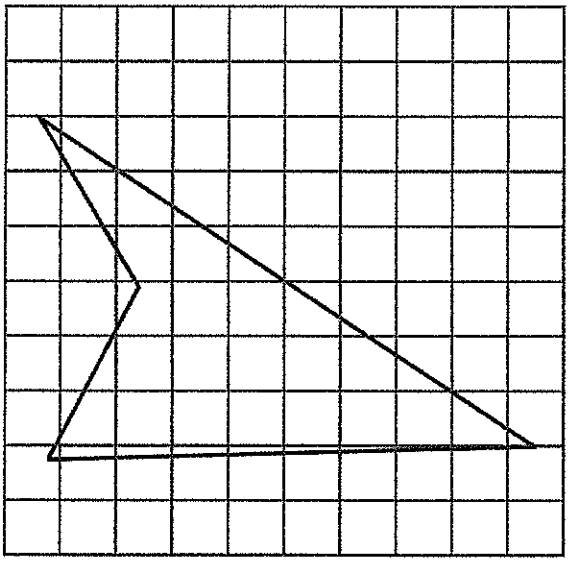
8) 

_____

Shape Enlargement Transformation Investigation

I can use a grid system to enlarge an image and explore the properties of the enlarged image compared to the original. (ACMMG115)

Practise enlargement tranformations by using the grid squares to help you copy the smaller shape illustration into the larger grid.



Shape Enlargement Transformation Investigation

Questions

1. Has the shape design changed? How/why?

2. How did you complete this activity?

3. What made this activity easy/difficult?

Shape Enlargement Transformation Investigation

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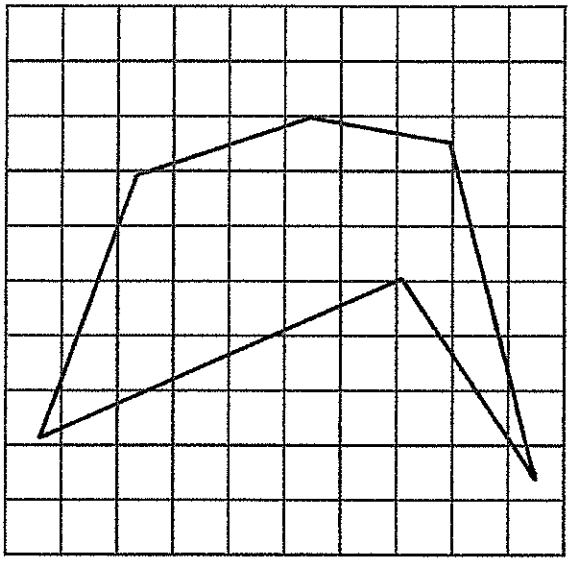

Shape Enlargement Transformation Investigation Questions

1. Has the enlarged image changed compared to the original? How?

2. Why do you think the enlarged image changed/didn't change compared to the original?

3. What resources did you use to complete the enlargement?

4. What made this enlargement easy/difficult?

Shape Enlargement Transformation Investigation

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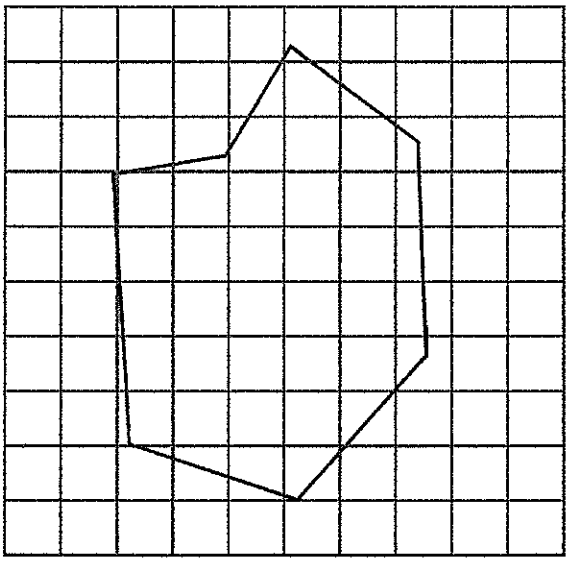

Shape Enlargement Transformation Investigation

Questions

1. Has the enlarged image changed compared to the original? How?

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3. What resources did you use to complete the enlargement?

4. What made this enlargement easy/difficult?

5.

MATHS
YEAR 6
WEEKS
8, 9 & 10

Name:_____ Date:

LABEL THE CIRCLE

Your Task: Label the different parts of a circle. Present your work either as a slideshow or in your math book.

Question 1 - What is the circumference of a circle? Find a picture online or draw a diagram to show this.

Question 2- What is a semi-circle? Find a picture online or draw a diagram to show this.

Question 3 - What is the radius of a circle? Find a picture online or draw a diagram to show this.

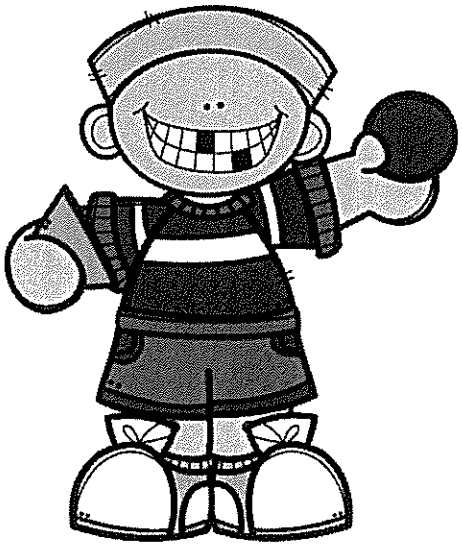
Question 4 - What is the diameter of a circle? Find a picture online or draw a diagram to show this.

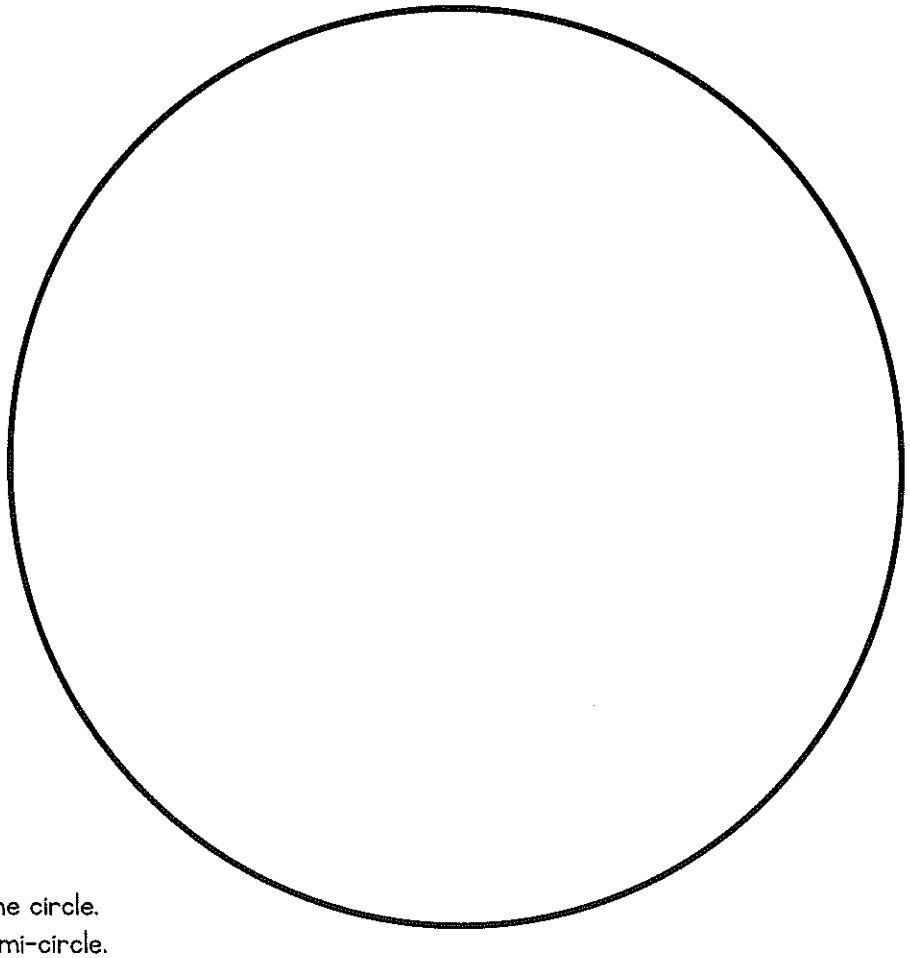
Question 5 - What is a sector? Find a picture online or draw a diagram to show this.

Question 6 - What is a quadrant? Find a picture online or draw a diagram to show this.

Question 7 - What is an arc? Find a picture online or draw a diagram to show this.

Question 8 - Draw a circle and label as many parts as you can.





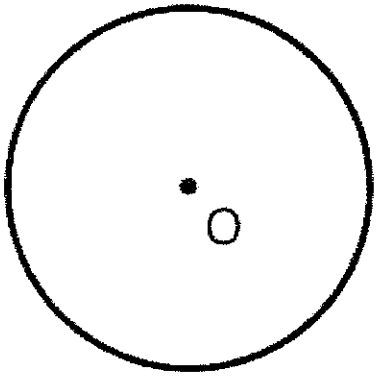
REFLECTION

On the circle label the following:

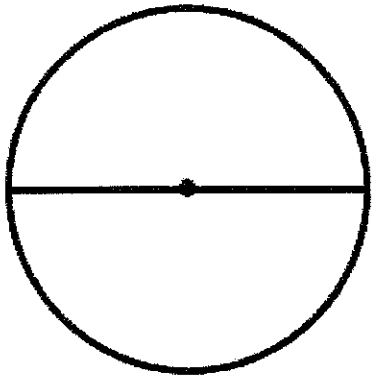
- Circumference
- Radius
- Center
- Diameter
- Draw, shade, and label a quadrant on the circle.
- Draw, shade, and label a sector on the circle.
- On the back of this page, draw a semi-circle.

Parts of a Circle

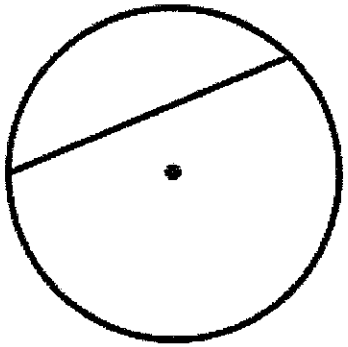
Directions: Drag and drop the word to match the picture which displays the part of the circle.



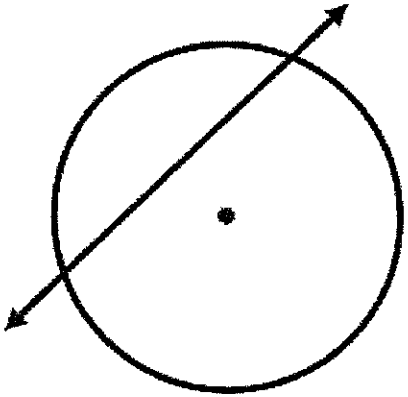
Place word here



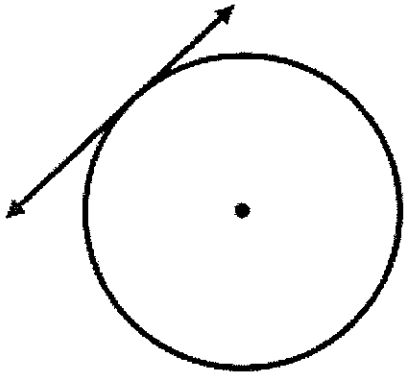
Place word here



Place word here

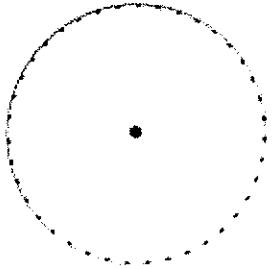


Place word here



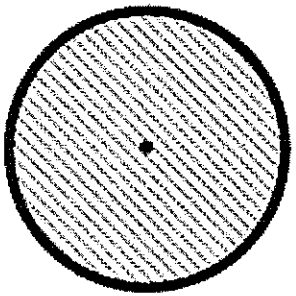
Place word here

The yellow AROUND the circle measures....

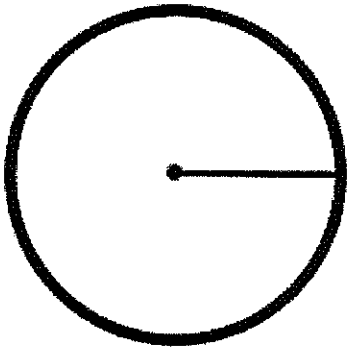


Place word here

The BLUE strips measure the....



Place word here



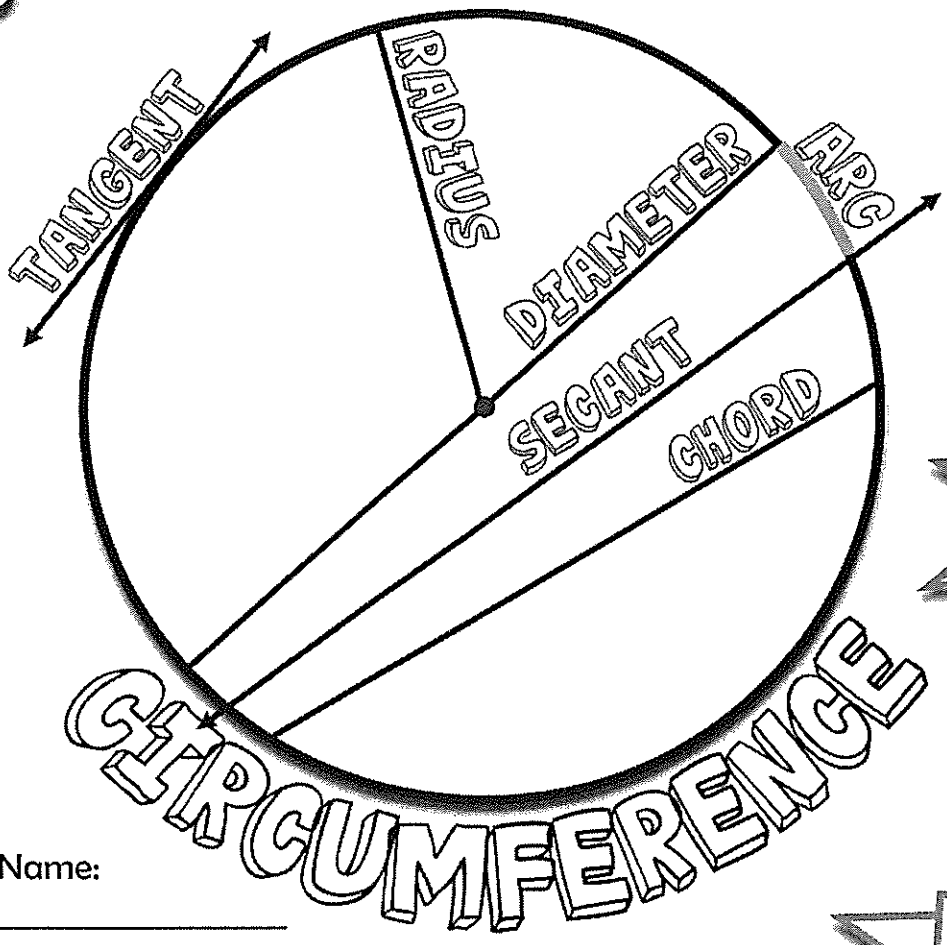
Place word here

Tangent | Chord | Radius | Area

Diameter | Center | Secant | Circumference

The word "circle" comes from the Latin word "circulus," which means "_____."

PARTS OF A CIRCLE



Doodles "To Do" List:

- ❑ Label a "sector."
- ❑ Label a "segment."
- ❑ Draw an arrow to show that "circumference" goes all the way around.
- ❑ Label the "center."
- ❑ Complete the definitions.
- ❑ Fill in each formula.
- ❑ Highlight & embellish key ideas!

FORMULAS

d =

C =

A =

Name: _____

DEFINITIONS

a line segment that passes through the center and has endpoints on the circumference

a line segment that has both endpoints on the circumference

a portion defined by a chord and an arc

a line segment that has 1 endpoint at the center and the other on the circumference

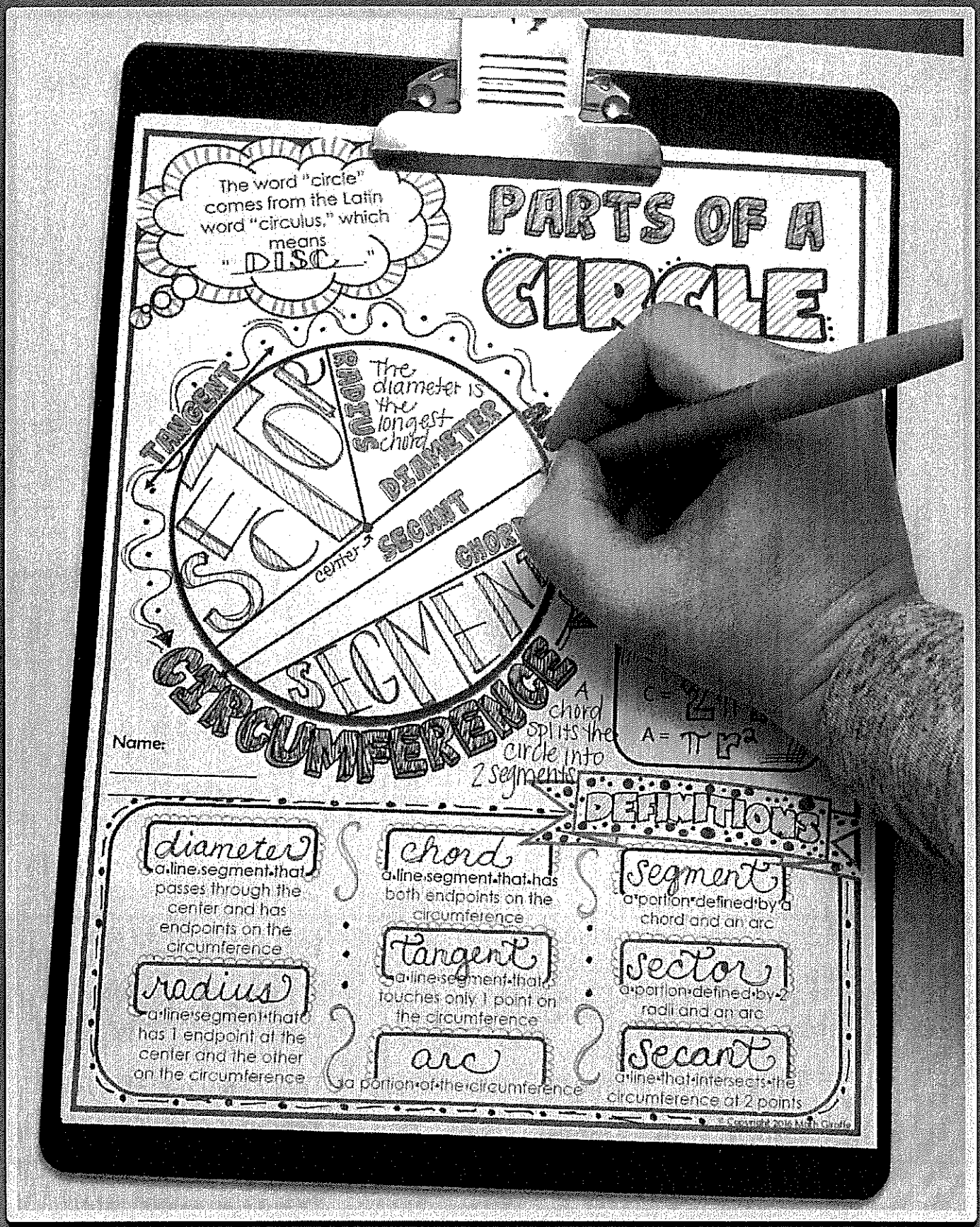
a line that touches only 1 point on the circumference

a portion defined by 2 radii and an arc

a portion of the circumference

a line that intersects the circumference at 2 points

SAMPLE


The word "circle" comes from the Latin word "circulus," which means "DISC."
PARTS OF A CIRCLE
TANGENT
RADIUS
The diameter is the longest chord
DIAMETER
center
SECANT
CHORD
SECTOR
SEGMENT
CIRCUMFERENCE
A chord splits the circle into 2 segments
C = 2πr
A = πr²
Name:
DEFINITIONS
diameter
a line segment that passes through the center and has endpoints on the circumference
radius
a line segment that has 1 endpoint at the center and the other on the circumference
chord
a line segment that has both endpoints on the circumference
tangent
a line segment that touches only 1 point on the circumference
arc
a portion of the circumference
segment
a portion defined by a chord and an arc
sector
a portion defined by 2 radii and an arc
secant
a line that intersects the circumference at 2 points
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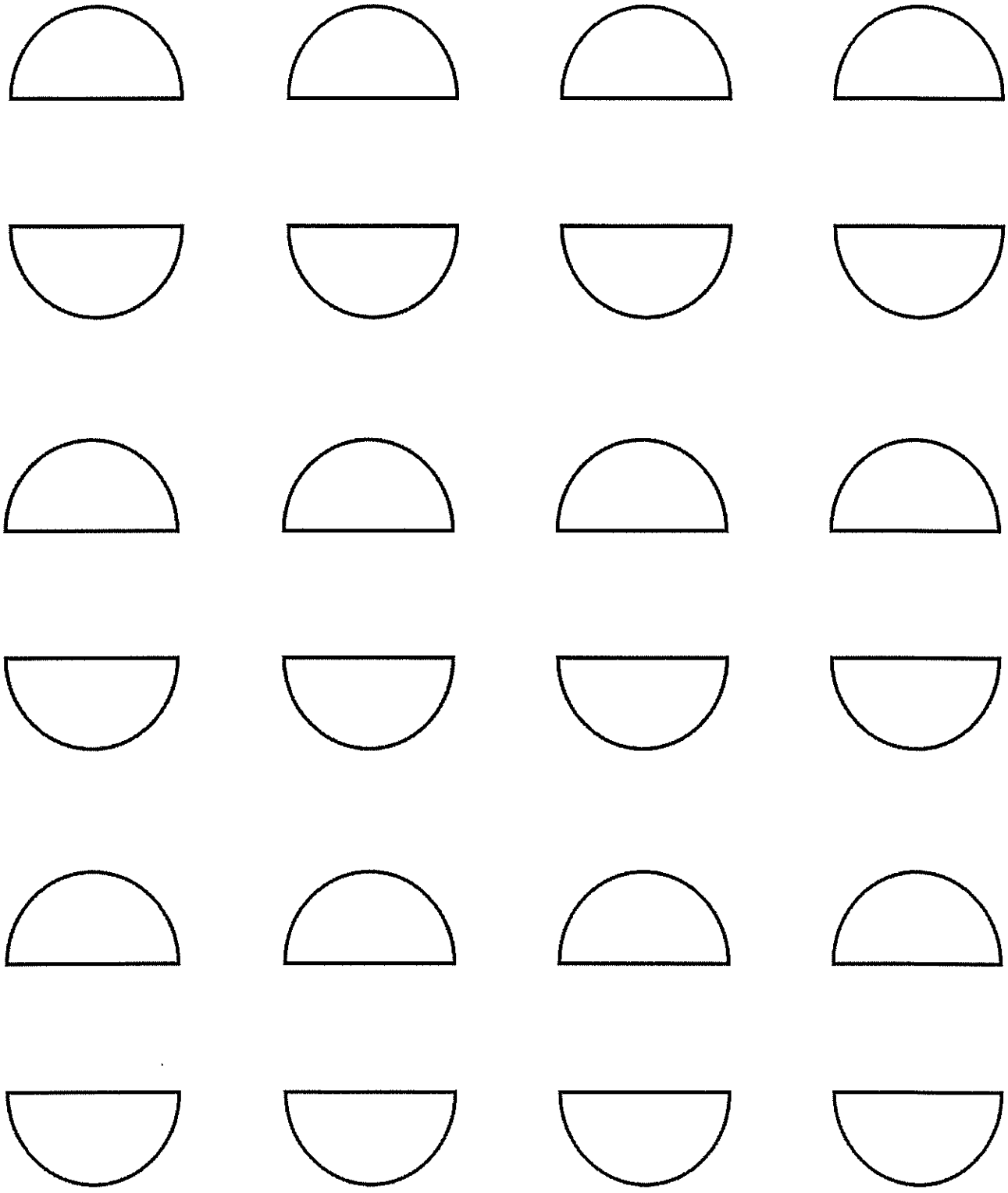
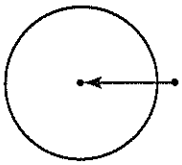
Semi Circle Challenge – What can these shape be?



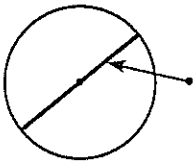
Semi Circle Challenge – Here are some examples:

2D shapes – circles

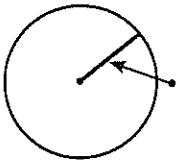
A circle is also a 2D shape. It is a curve with its points a fixed distance from the **centre**.



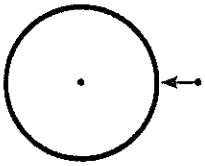
centre: this is the point in the middle



diameter: the distance from the edge of a circle through the middle to the opposite edge



radius: the distance from the centre to the circle's edge



circumference: the distance around the circle

1 **Using a compass, draw 3 circles with different radii (radiuses). Measure their radii and diameters and label them.**

2 **From this, what do you notice about the relationship between the radius and the diameter of circles?**

3 **Follow the instructions to create this circle pattern. On a separate piece of paper, draw a line like the one below, in the middle of the page.**

a Place the compass point on the dot on the line and draw a circle.

b Using the intersection points on the line as the centre, draw a same sized circle either side of the first circle.

c Add 4 more circles using the new points of intersection as your compass point. Make sure they are also the same size.

d Colour the design you've made.

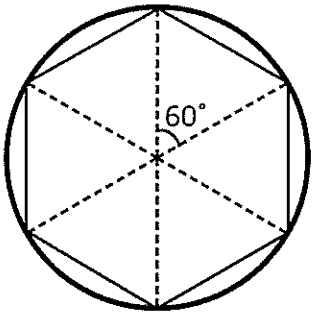
Getting ready

We can construct regular shapes inside circles. You will use what you know about angles and degrees to help you. You'll also need a protractor and a compass.

How many degrees are there in a circle? There are _____.

What to do

We are going to make a regular hexagon inside this circle.



How many sides and angles do hexagons have? They have 6 sides and 6 angles. We will therefore need to divide the angles in the circle by 6.

_____° ÷ 6 = 60°

So, from the centre we draw 6 lines, each with angles of 60° between them. Extend the lines to the edge of the circle.

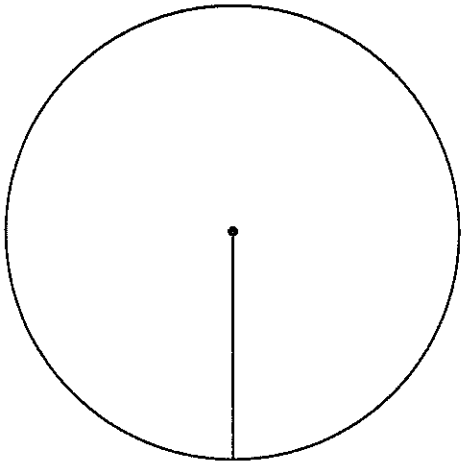
Now, join the points where the lines meet the circle edge. Ta da!

What to do next

It's your turn. Use the circles below to make a regular octagon and a regular decagon. How many angles will you need for each shape? What will their angle size be?

Place your protractor along the line in the circle with the centre point of the protractor on the dot. Measure the angle needed and draw your next line. Repeat this process until all lines are drawn.

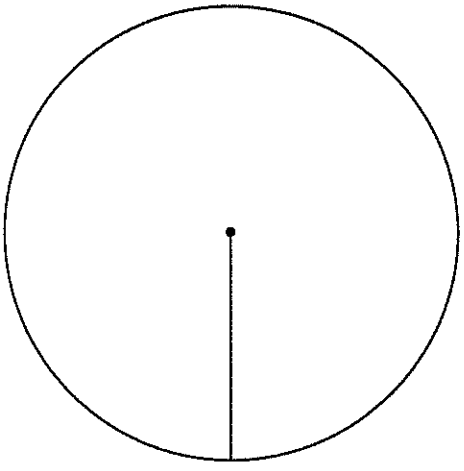
Join the points where the lines meet the circle. Has it worked?



octagon

lines _____

angle _____



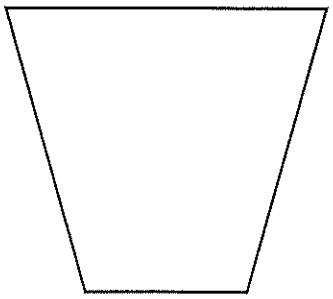
decagon

lines _____

angle _____

Getting ready

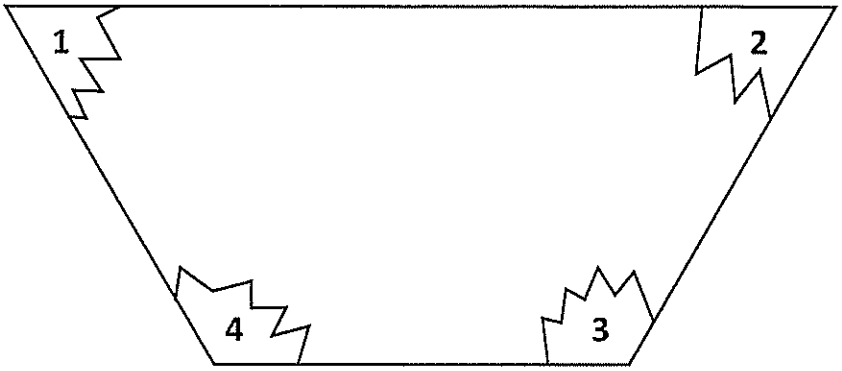
It is said that all quadrilaterals have an angle sum of 360°. Your job is to prove it without using a protractor.



What to do

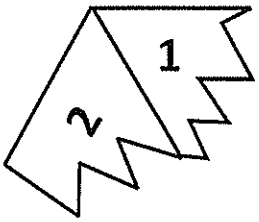
On a separate piece of paper, draw a quadrilateral such as a square, rectangle, trapezium or rhombus.

Number each corner and then tear the corners out as shown below:



Join the torn corners with the points touching like this.

What do you find?



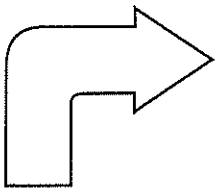
What to do next

Try this experiment with 2 other kinds of quadrilaterals. They can be as irregular as you like.

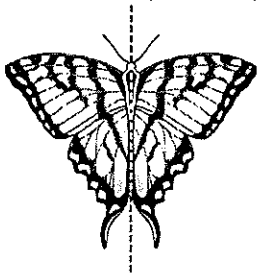
Transformation, tessellation and symmetry – line symmetry

Reflective or line symmetry describes mirror image, when one half of a shape or picture matches the other exactly. The middle line that divides the two halves is called the line of symmetry.
Shapes may have:

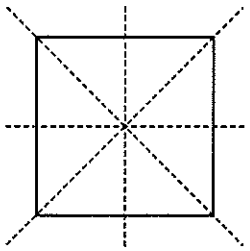
no line of symmetry



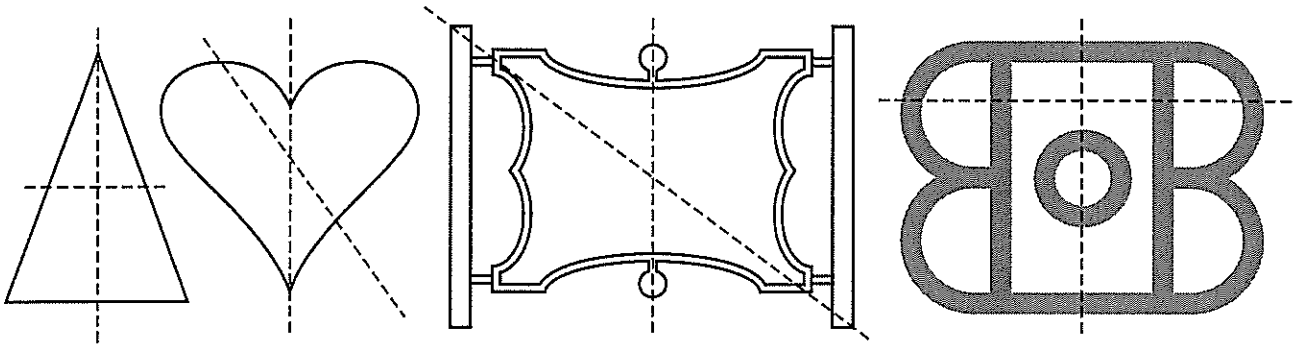
one line of symmetry



more than one line of symmetry

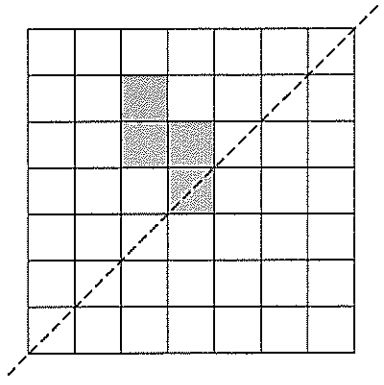


1 **Lines of symmetry have been drawn on these shapes. Trace over the ones drawn correctly. Cross out any that are incorrect. Add any you think have been missed.**

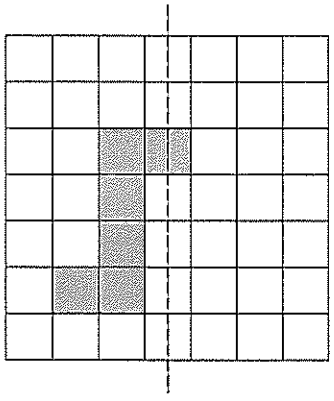


2 **Colour the missing squares to make each line a line of symmetry:**

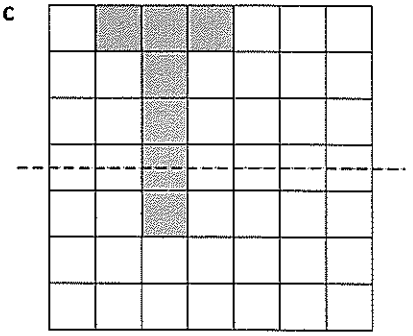
a



b

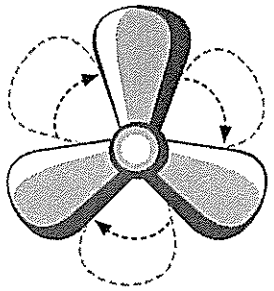


c



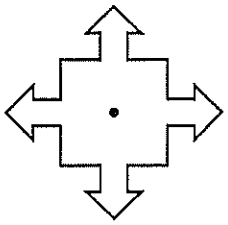
A shape has rotational symmetry if it looks the same in different positions when turned from a central point.

This shape has rotational symmetry of order 3. This means it looks exactly the same in 3 different positions.



1 **Turn these shapes in your head. Do they have rotational symmetry? If so, what is the order?**

a



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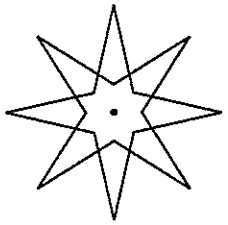
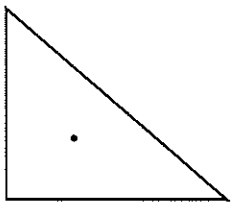
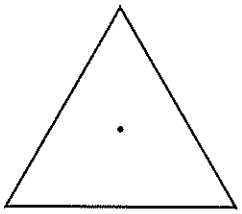


c



d



2 **A great way to understand rotational symmetry is to use the computer. There are lots of programs you can use. These instructions are for a word processing program:**

a Open a new blank document.

b Select a shape from the autoshape menu (in the drawing toolbar) and draw it.

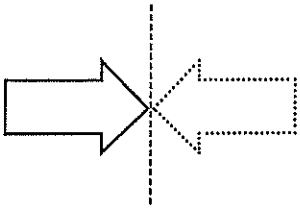
c Select the shape again and you'll see a little green filled circle. This is the rotate tool.

d Turn the shape and watch the dotted lines. Count how many times the shapes match during a full rotation.

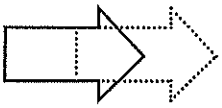
e Draw some of the shapes you created below. Note whether they have rotational symmetry and, if so, what order.

We can transform (move) shapes in many ways. We can:

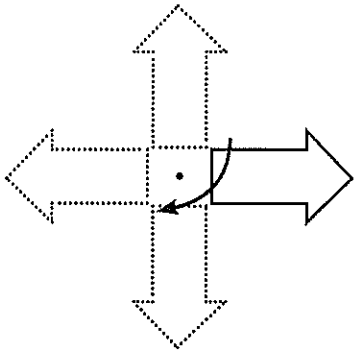
reflect (flip) them



translate (slide) them



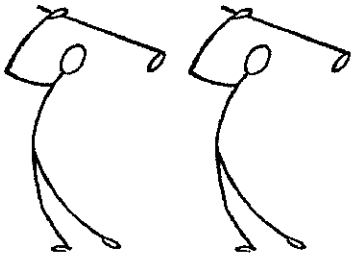
or rotate (turn) them



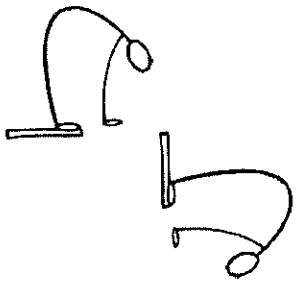
1 **Look at these figures. Decide if each figure has been reflected, translated or rotated:**

a

b



c



2 **When some letters of the alphabet are rotated 180° (in a half circle), they become other letters. (This depends on how you write them of course.) An example of this is d. Turn it halfway around and it becomes p. What other letters can you find that do this?**

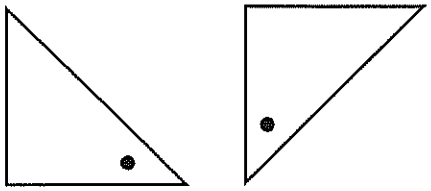
d → p

3 **What is the international three-letter distress symbol? Write it down.**
Now, rotate it 180°, then translate it, write it backwards, and write it upside down. What do you notice?
Pretty handy if you're dangling out of a plane, hey!

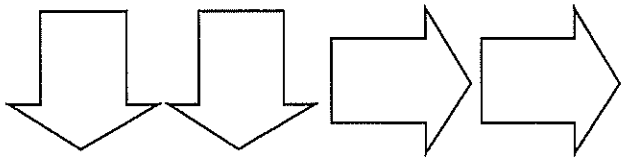
4 Look at the figure. Draw what it will look like if is reflected. Next, draw what the reflected figure will look like when rotated a quarter turn anticlockwise.

5 Find the pattern and continue it:

a



b



6 Some words look the same when they're written backwards. MUM is an example. Can you find some more?

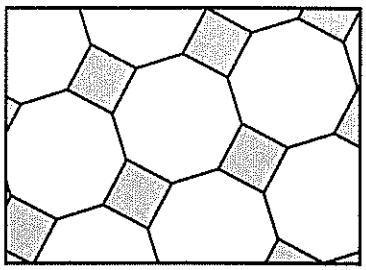
Transformation, tessellation and symmetry – tessellation

Tessellation means covering a surface with a pattern of 2D shapes with no gaps or spaces. When we tessellate shapes, we often flip or turn the shapes so they fit together.

Some shapes will tessellate on their own, some will tessellate if they are teamed with others and some won't tessellate at all.

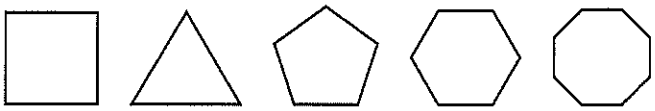
1 **Use pattern blocks to find some shape teams that will tessellate and record them here. There are 7 teams. Can you find them all? Here is one example to get you started:**

- *large octagons, small squares*



large octagons, small squares

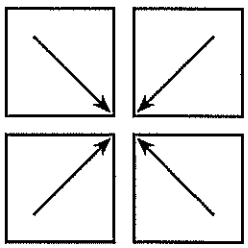
2 **Look at these regular shapes. Which will tessellate on their own? Colour them. Use pattern blocks if it helps.**



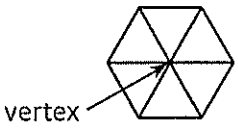
Why will these shapes tessellate? Partly it is because their sides are the same length. But regular pentagons have sides the same length, and they won't. So why is it? The answer is in the vertex.

Look at these 4 squares. The corners that join each have an angle of 90°.

Together these add to 360° – a full turn. They each take up one quarter of a full turn. We can name this pattern as 4, 4, 4, 4.



3 **Look at these tessellations and work out the sum of the angles at the vertex:**



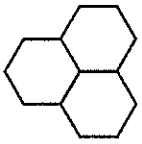
a The angle sum of an equilateral triangle is _____°.

b Each angle measures _____°.

c _____ triangles meet at the vertex.

d Their angle sum is _____°.

e We can name this pattern as 3, 3, __, __, __, __ as there are six 3-sided shapes.



a The angle sum of a regular hexagon is _____°.

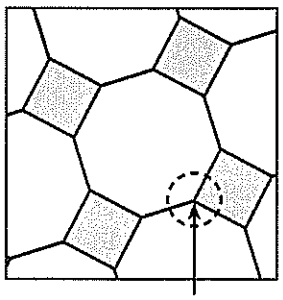
b Each angle measures _____°.

c _____ hexagons meet at the vertex.

d Their angle sum is _____°.

e We can name this pattern as ___, ___, ___ as there are three 6-sided shapes.

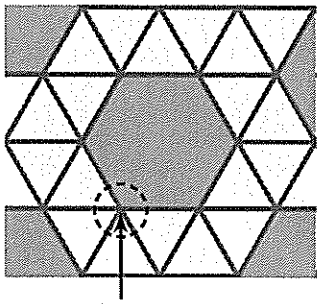
4 **Look at the vertex in this semi-regular tessellation of octagons and squares. How many angles meet? What are their size? Does the 360° rule work? Explain your reasoning.**



This is the vertex

copy

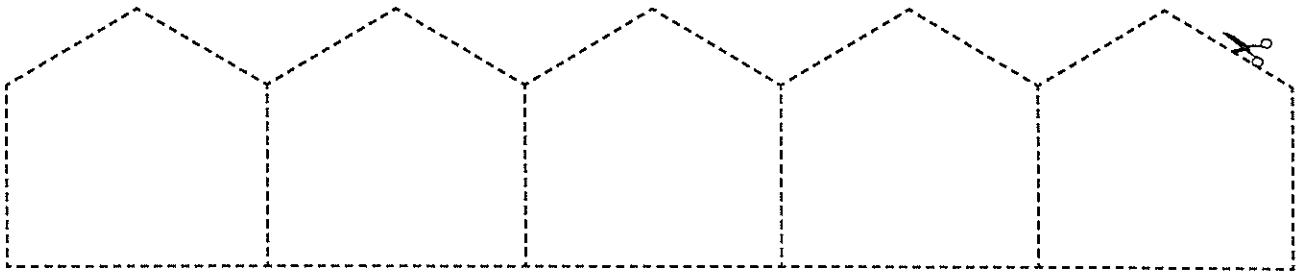
5 **What about this hexagon/triangle tessellation? Explain how this works.**



This is the vertex

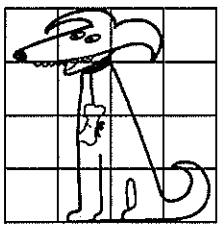
6 **The angle size of a <u>regular</u> pentagon is 108°. These won't tessellate because 108° + 108° + 108° + 108° + 108° = 540°**

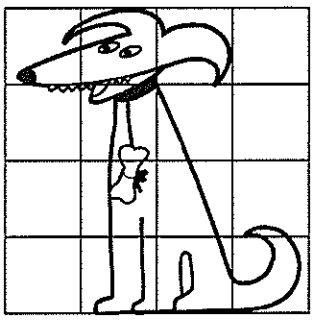
What if we use an irregular pentagon? One with 5 sides but with unequal sides and angles? Cut out these pentagons and find a way to tessellate them. Work out what each angle must be. Remember the angles at the join must equal 360°.



Transformation, tessellation and symmetry – enlargement and reduction

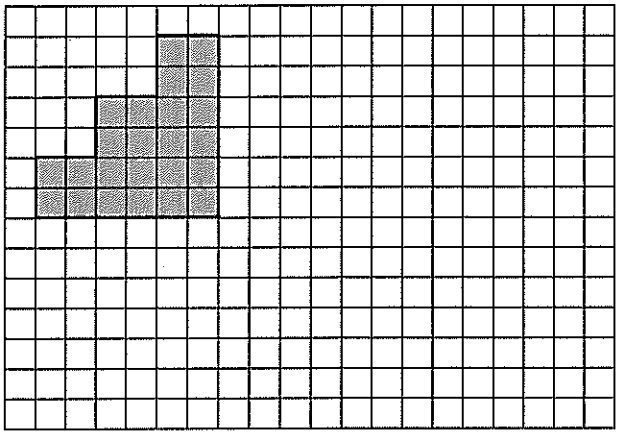
We can use grids to help us enlarge or reduce pictures. We do this by changing the size of the grid or the number of cells a picture uses.



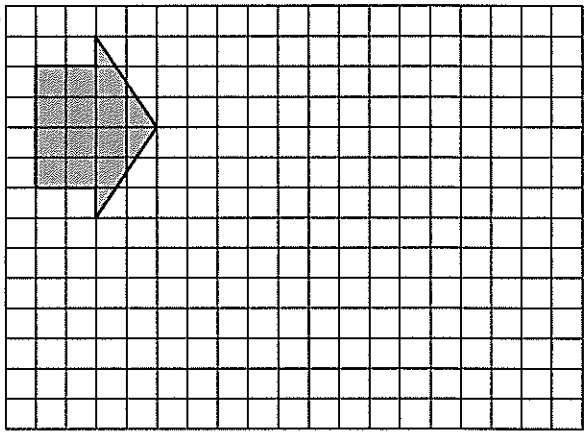


1 **Enlarge or reduce each shape:**

a



b



2 **Compare the pictures below and answer the following questions:**

a Look at the outline of the 2 pictures. How much longer is Picture 2 compared to Picture 1 (from top to bottom)?

_____

b Have the angles changed?

_____

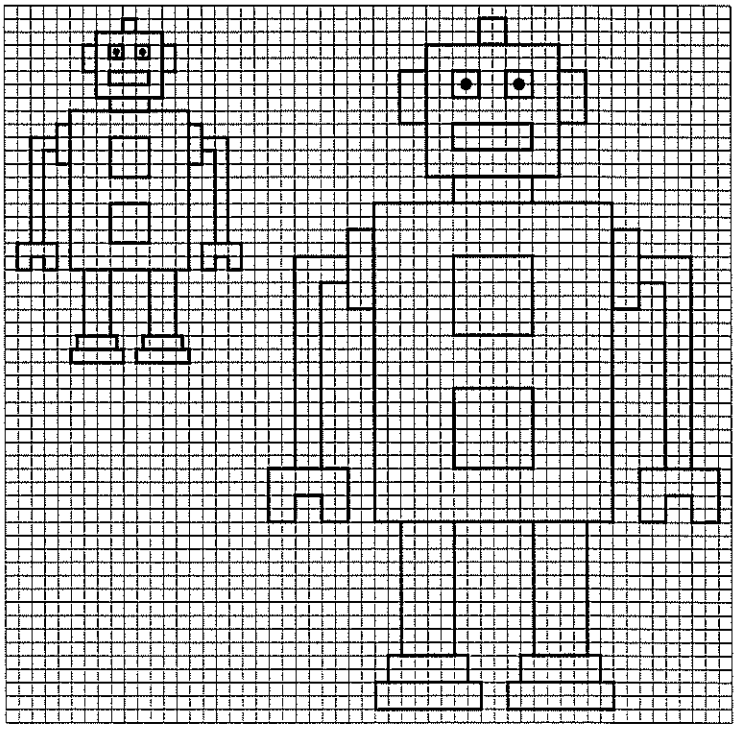
c Has the shape been rotated?

_____

d Has the area changed?

_____

Picture 1 **Picture 2**



Picture perfect

create

Getting ready

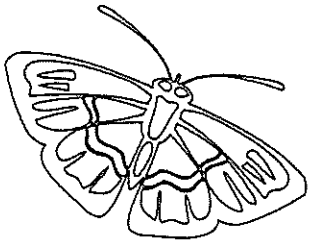
You're going to draw a picture for a partner on the small grid. You'll then swap pictures with your partner and enlarge each other's pictures.

What to do

Choose a picture to create. Keep it simple and decide if you want to colour it or keep it black and white. You may want to sketch it on scrap paper first.

What to do next

Switch pictures with your partner and recreate their masterpiece as a larger masterpiece.

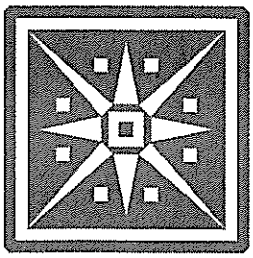


Design diva

create

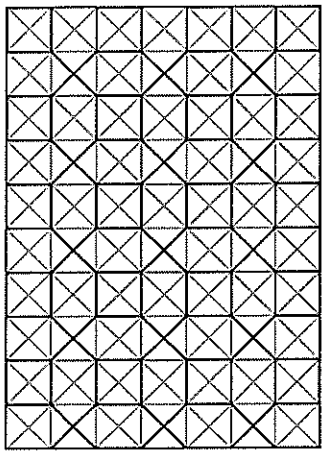
Getting ready

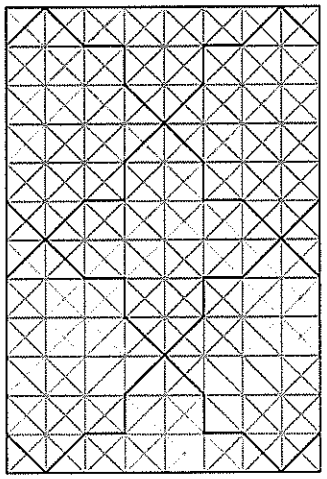
Many cultures and art styles use tessellations as a basis for creating intricate and beautiful patterns. You will use this tessellated grid as a basis for your own eye-catching design.

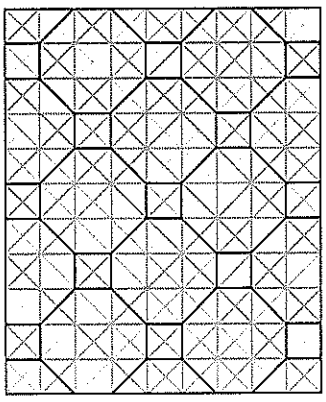


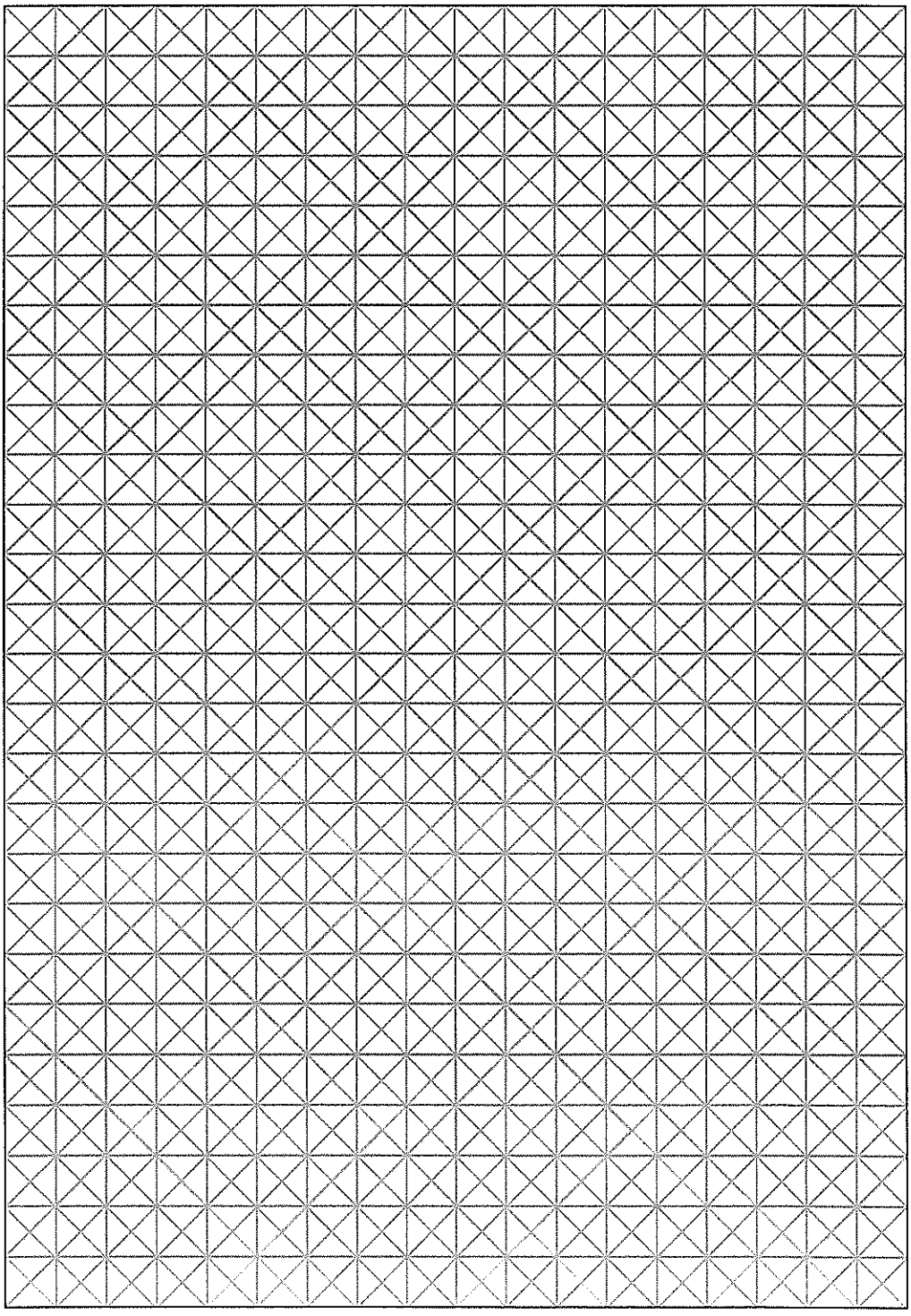
What to do

Choose one of the designs on the left to recreate on this grid ***or*** create one of your own:







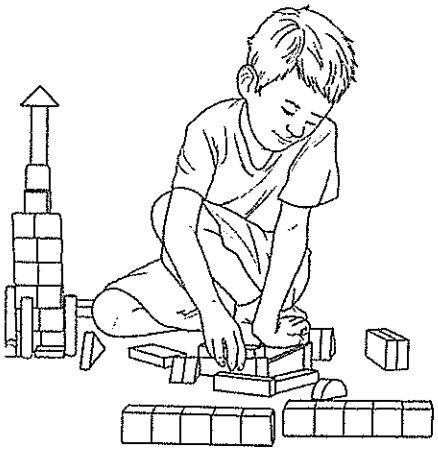


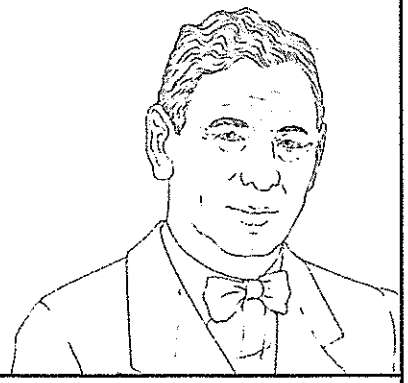
SCIENCE WEEKS 8, 9 & 10

Design Your Own Rube Goldberg Machine

Rube Goldberg was a cartoonist and inventor. He was well known for designing incredibly complex machines that did very simple jobs. His name was turned into an entry in a dictionary which meant 'accomplishing by complex means what seemingly could be done simply'. Today, people have fun creating Rube Goldberg machines that do a very simple, short task in a complicated long way. Design your own Rube Goldberg machine that has lots of different parts to it. It could be a dog feeding machine, a machine to turn on a TV or change channel, a machine to put on socks and shoes or a machine to make a cup of tea.

Use your imagination and have fun designing your machine.





Using scientific language, describe how your machine works.

Challenge! Can you make a part of your machine using everyday objects?

Popping Yeast Balloon

You will need:

ballon	packet of baker's yeast	$\frac{1}{2}$ cup of water	tablespoon of sugar	funnel

Steps

1. Use the funnel to add the packet of baker's yeast into the balloon.
2. Add a tablespoon of sugar and the water into the balloon as well.
3. Tie a knot in the opening of the balloon.
4. Find a warm place that would be suitable for a bit of a mess when the balloon pops.
5. Observe the balloon grow and finally pop.

Safety Note

Make sure you observe the balloon from a safe distance.

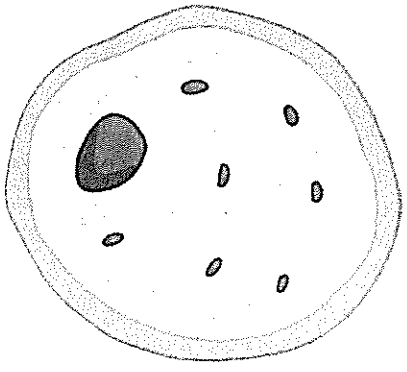
Explanation

Yeasts are tiny microscopic organisms, or micro-organisms that people often use to make bread rise, or alcohol, especially beer. Yeasts help in in the bread making process because of what they eat and turn their food into. They feed on sugars and starches then they turn this food into energy which releases carbon dioxide gas. This fermentation process helps make a slice of bread soft and spongey.

In this experiment the fermentation process has meant the yeast has started to eat the sugar turning it into energy. This has created carbon dioxide gas which was captured inside the balloon. The more gas it produced the bigger the balloon became until it couldn't grow anymore and popped.

Can You Answer?

- What happens to the balloon during the reaction?
- What is the name of the gas that is being produced?
- What are two products in which yeast is used as an ingredient?
- How does yeast act as a raising agent when making bread?

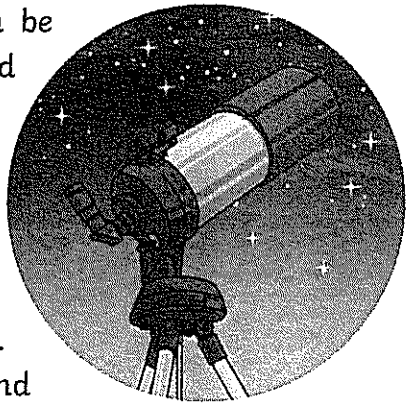


Major Star Constellation

Fact Cards

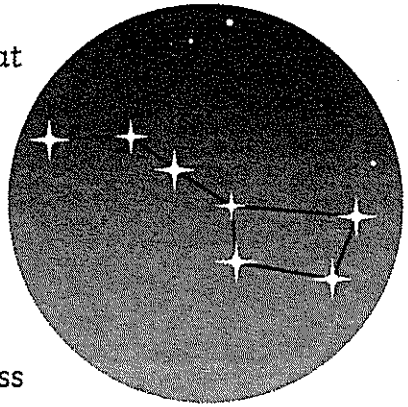
twinkl

There are 88 major star constellations found in our skies. Not all of them can be seen all the time. If you want to find some of these constellations make sure you pick a clear night and are away from the bright lights found in cities. It can take your eyes up to 20 minutes to adjust to the dim light from the night sky. Make sure to bring a compass and some binoculars or a telescope with you.



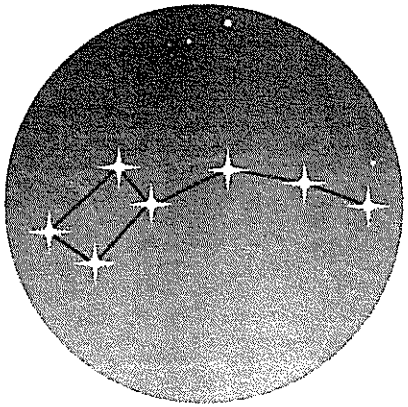
Ursa Major

Ursa Major is also known as the Great Bear. It contains a smaller set of seven stars which are known as 'The Plough' or 'The Big Dipper'. The Plough points towards Polaris, which is also known as the North Star. The North Star shows you which way is North, like a compass would and can help people to navigate if they are lost.



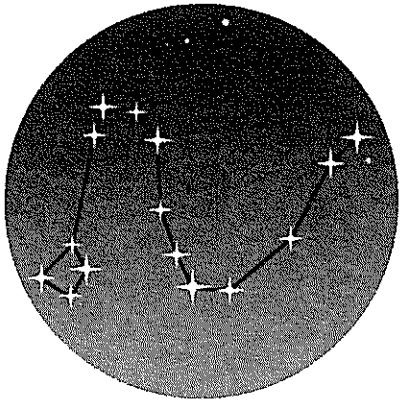
Ursa Minor

Ursa Minor is also known as the Little Bear. Polaris, or the North Star, is located within Ursa Minor. The two stars at the other end of Ursa Minor are known as the Guardians of the Pole.



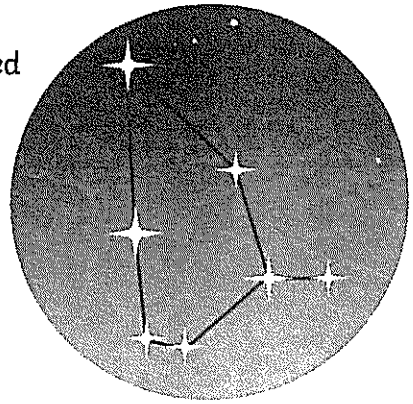
Draco

The name of this constellation is Latin for dragon. It wraps around Ursa Minor. The head of the dragon is a pattern of four stars which are called The Lozenge.



Cepheus

The constellation of Cepheus is named after the king of Ancient Aethiopia from Greek mythology. Cepheus looks similar to the outline you might draw for a house, a square with a triangle on top.

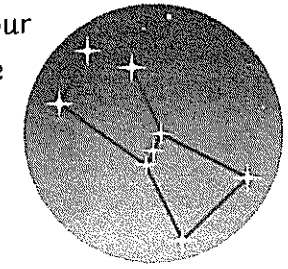


Cassiopeia

This constellation is named after the wife of King Cepheus from Greek mythology. It is shaped like a 'W'. It sits near the constellation Cepheus in the sky and as it moves during the year, it circles the North Star.

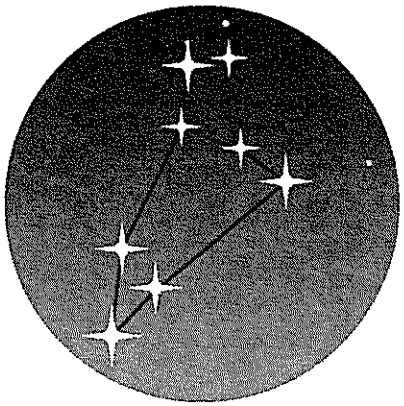
Orion

Orion was a mighty giant and hunter from Greek mythology who claimed he could slay any creature on Earth. The constellation of Orion contains a smaller set of three stars in a line which make up Orion's Belt. Below Orion's Belt, you might find a star that looks fuzzy. This is called a stellar nebula. It is where hundreds of young stars and planets outside our solar system are forming. If you follow the line of Orion's Belt to the left, you will find Sirius, also known as the Dog Star. This star is part of another constellation called Canis Major and it is the brightest star in the night sky.



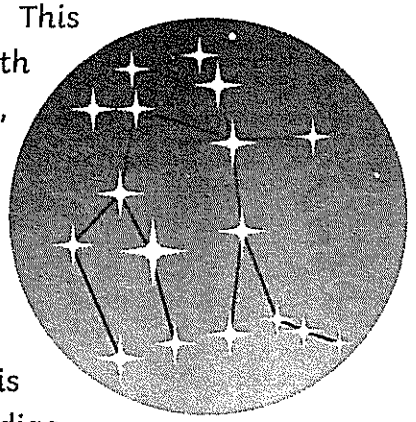
Leo

Leo is known as a lion in many cultures. If you follow what looked like a backwards question mark in the constellation, this is the head of the lion.



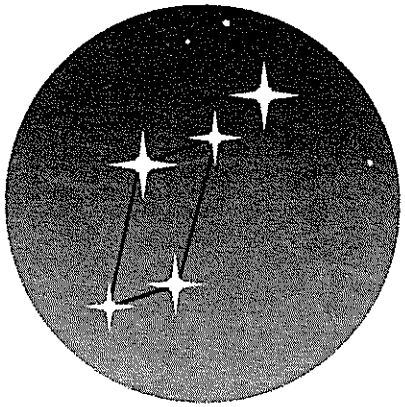
Gemini

Gemini is Latin for twins. This constellation is associated with the twins from Greek mythology, Castor and Pollux. These are also the names of the two brightest stars in this constellation and appear to be the heads of the twins. This constellation looks like two stick people holding hands. It is one of the constellations of the zodiac, which we know as star signs.



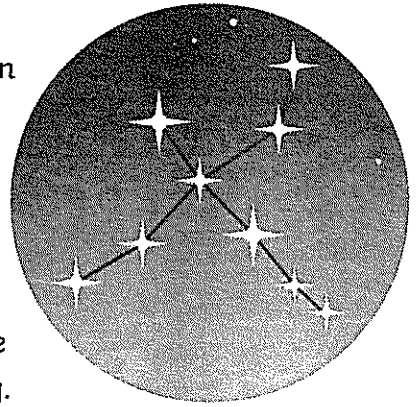
Lyra

Lyra means the Harp. One of the stars in this constellation is called Vega. This is one of the brightest stars in the night sky. It became the first star, other than the Sun, that was photographed.



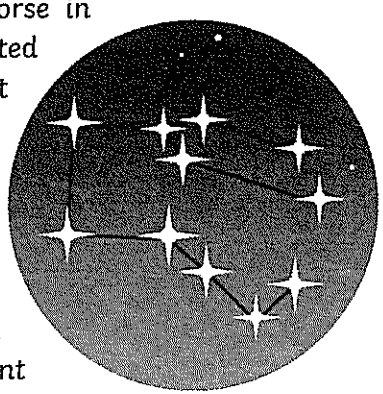
Cygnus

Cygnus is named after the Latin word for swan. There is a smaller set of stars in this constellation known as the Northern Cross as it looks like a cross in the sky. The rest of the constellation look like the wings of a swan when they are spread out, as if the swan is flying.



Pegasus

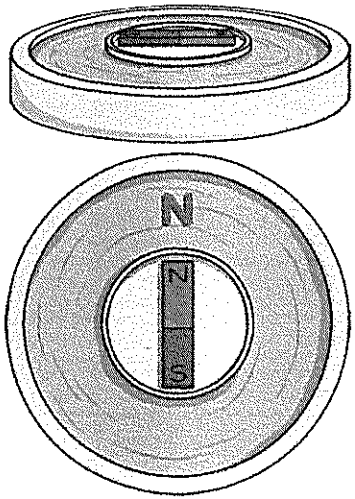
Pegasus was known as the winged horse in Greek mythology. Pegasus is easily spotted by the four stars creating the Great Square of Pegasus. The number of stars you can see within this square shows how clear and dark your night sky is. If you can see between four and thirteen stars, your sky is good, clear and dark. If you can see more than thirteen stars then it indicates excellent skies. Pegasus appears to be attached to another constellation called Andromeda.



The Northern Sky

When looking North, Ursa Major, Ursa Minor, Draco, Cepheus and Cassiopeia can be seen all year round.

Lyra and Cygnus can be seen from April to June and Pegasus can be seen from July to September.



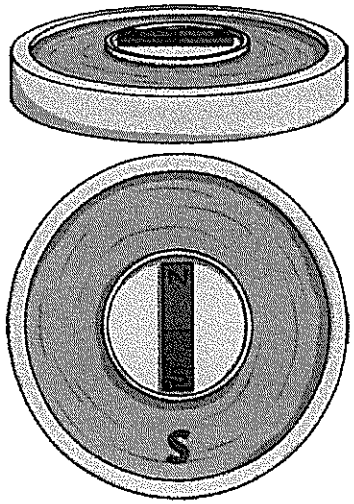
The Southern Sky

When looking South, Gemini and Orion can be seen from January to March.

Leo and Ursa Major can be seen from April to June.

Cygnus and Lyra can be seen from July to September.

Pegasus and Cassiopeia can be seen from October to December.



Q1) What constellation is Latin for dragon?

Q2) What are three facts about the Star Constellation Orion?

1.

2.

3.

Q3) What is the Constellation Ursa Major also known as?

Q4) Where is the Northern Star located?

Q5) How many major star constellations can be found in our skies?

Q6) What are three facts about the star constellation Pegasus?

1.

2.

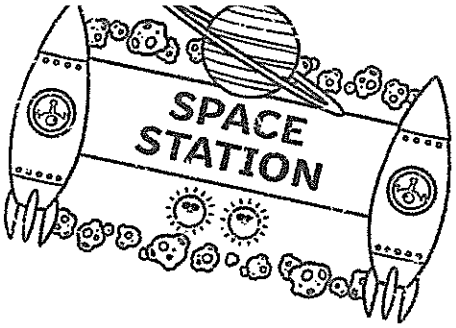
3.

Q7) What is Gemini Latin for?

Q8) Using either playdough, marshmallows or blue tack with pasta create your 3 different Star Constellations. Don't forget to take a picture and share on the Class Dojo!

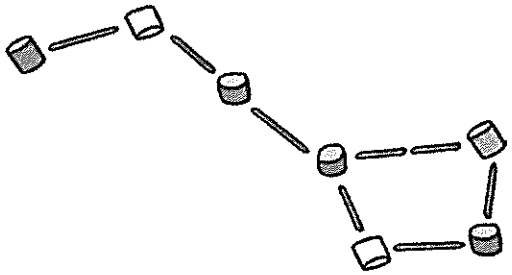
Marshmallow Constellations

Stars are fascinating and on a clear night you might be able to see some constellations in the sky. Have a go at making your own using marshmallows and skewers.



You will need:

- mini marshmallows
- wooden skewers (cut into different lengths, with sharp edges removed)
- Constellation Cards
- scissors



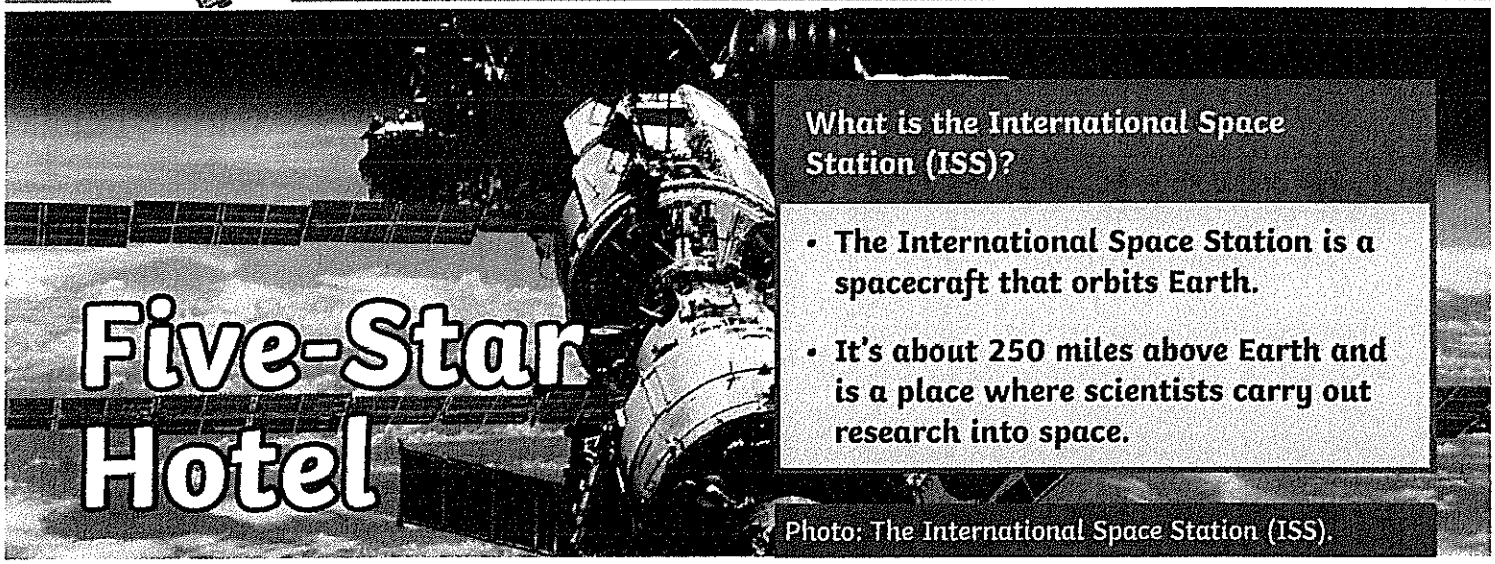
Instructions:

1. Print out or view the constellation patterns.
2. Count how many stars there are in the constellation.
3. Count out the same number of marshmallows.
4. Count how many connectors there are between each marshmallow.
5. Count the same number of wooden skewers. Choose sticks with a similar length to those in the constellation pattern or carefully cut them to size.
6. Lay your marshmallows and sticks out in the same pattern as the constellation.
7. Push the marshmallows onto the ends of the sticks to build up a 3D constellation of marshmallow stars.

Alternatives to try:

- Instead of using marshmallows, use craft clay or playdough.
- Play a guessing game with the completed constellation models – challenge friends or family members to match the 3D constellation models to the correct constellation card.

Daily News
11th June 2019
Science World News



Five-Star Hotel

What is the International Space Station (ISS)?

- **The International Space Station is a spacecraft that orbits Earth.**
- **It's about 250 miles above Earth and is a place where scientists carry out research into space.**

Photo: The International Space Station (ISS).

NASA to Let Guests Stay on ISS

NASA is allowing a new form of tourism by offering guests the chance to stay at the International Space Station (ISS).

The ISS is a spacecraft that orbits the Earth. It's a place where astronauts carry out research about space. They come from all over the world to work on the station. Since 2000, there have always been scientists working there.

Now, tourists will be able to stay on the station! The trip won't be cheap — guests will pay $35,000 (£27,500) per night. Before this story, NASA only allowed professional astronauts to visit the ISS.

From 2020, there will be two missions to the ISS per year for tourists. Guests will fly to the destination on an American spacecraft for a 30-day mission. Two American companies, SpaceX and Boeing, are now developing spacecraft to take guests to the space station.

Buying a ticket doesn't gaurantee you a place. You need to pass medical and fitness tests - the same as for normal NASA crew members. This is because they will experience a completely different environment. But what will tourists be able to see on their voyage? Visitors will be able to look down on Earth and travel around it every 90 minutes. All this happens at speeds of 17,500mph.

The news comes as NASA seeks to find ways to pay for its research. It wants to explore our Solar System and send another mission to the Moon by 2024.

While few people will be able to go at first, today's news may change the way we travel.

Glossary

NASA	National Aeronautics and Space Administration in the USA.
tourism	The business of organising holidays and travel.
orbits	To travel round a star, planet or moon.
gaurantee	To say that something is certain to happen.

Questions

1. How much will a night on the ISS cost?

   - ○ £27,500
   - ○ £2,700
   - ○ £27,000
   - ○ £27,550

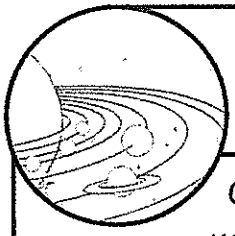
2. How do you think professional astronauts will react to this news? Explain your answer.

3. It will be a big decision to go on the trip to the ISS. Find a piece of evidence that supports this.

4. Why do you think the first customers will have to do fitness tests before they travel into space?

5. Do you think more people will travel in space in the future?

6. Summarise the story in 15 words or fewer.



Researching Planets

Choose one of the planets in our solar system. Use books or the Internet to do your own research and find out some interesting facts about that planet.

Draw a picture here of the planet.

Name:

_____

Diameter:

_____

What is the planet made of?

_____

Does the planet have rings?

_____

How long is a day?

_____

How long is a year?

_____

Does the planet have any moons?

_____

Have we explored the planet?

_____

_____

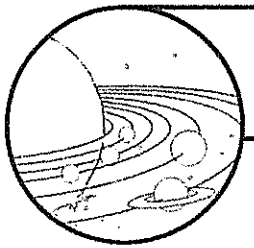
What else can you find out about the planet?

_____

_____

_____

_____



How Do Planets Move around the Sun?

Can you explain how the planets orbit the Sun? Use the key words in the box to help you fill in the blanks.

The Sun is a _____ in the middle of our solar system. There are eight planets in the _____. Every planet in the solar system orbits around the _____, which means that they move in a _____ around the Sun. Each planet's orbit is nearly the shape of a _____.

The planets orbit the Sun because of the Sun's _____ force. Without the pull of the Sun's _____, the planets would stop following their paths around the Sun.

Although each planet _____ the Sun, most planets are also orbited by smaller objects. For example, Earth is orbited by the _____. Some _____ are orbited by many moons – Saturn has _____ moons!

Key Words

planets	gravity	orbits	gravitational
circle	solar system	Sun	
Moon	star	curved path	82

DRAMA WEEKS 8, 9 & 10

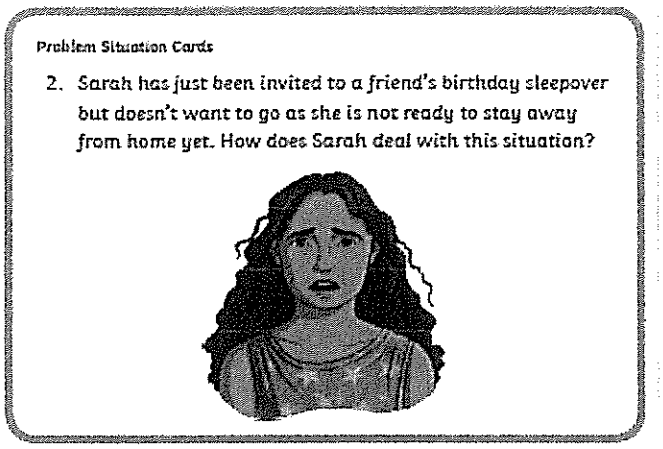
DRAMA ACTIVITY- 1

Situation Mimes

Task: Choose a situation task card and act out a mime to go with it.

Get you family, or maybe you friends on Facetime, to help you act out a little play using the situation card as the theme. If this isn't possible, write a script below, that goes with the card.

For example:



Sarah: Mum, Louise has asked me to go to her birthday sleepover!

Mum: That's great honey.

Sarah: Not it's not! I'm still too scared to sleepover at someone's house!

Mum : But isn't she your best friend?

Sarah:

DRAMA- CHARADES

Click on the slide and view the list of topics for charades. Gather your family together to play Charades. (If this isn't possible, perhaps FaceTime a group of friends whose parents give permission and play Charades with them!)

If you have access to a printer at home, print out the Charades starters list. Cut them out and pop them into a container. Each person has a turn by selecting a starter from the container and act it out. If they aren't printed out, just choose one and keep the starter to yourself. Now act out the chosen starter and see if you audience can guess what it is.

You can also do Charades in teams if you have enough people. Here is a YouTube clip for some background.

https://www.youtube.com/results?sp=mAEB&search_query=how+to+do+charades

Reflection: Please write your answers to the following questions:

1. Did you enjoy playing Charades?

2. Who did you play with?

3. What topics did you use?

4. Were you able to act out the topic so that your audience could 'get it'?

5. Did you try doing teams Charades?

Drama Activity – Character Walk

Instructions

- This game should be played in a space where there is room to walk and move about.
- The children walk around the space freely. When the teacher calls out on the cards, the children must become that character.
- This can be played in group or whole class setting.

Walk like a lion hunting his prey.	Walk like a tourist in a new city.
Walk like a toddler.	Walk like a famous football player.
Walk like a fashion model.	Walk like you have just lost €1,000
Walk like a busy principal.	Walk like an elephant.
Move like a snake.	Move like a thunderstorm.
Move like a bird of prey.	Move like a bee.
Walk like a clown in a circus.	Walk like a dog.
Walk like a teacher.	Walk like an elderly person.
Walk like a dancer.	Move like seagull.
Move like a butterfly.	Walk like a business man/woman.
Walk like a giraffe.	Walk like a doctor.
Walk like you have just won the lottery.	Walk like an actor/actress.
Walk like you cannot find your car keys.	Move like snow.
Walk like a soldier.	Walk like a hairdresser
Move like the wind.	Move like fireworks.
Move like water.	

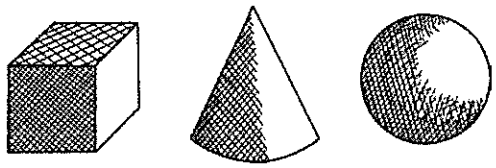
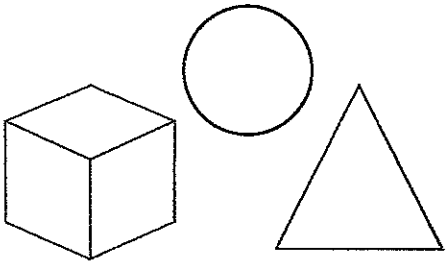
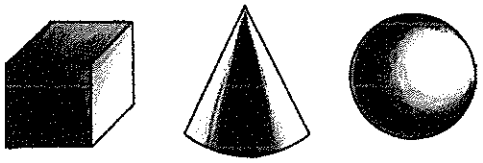
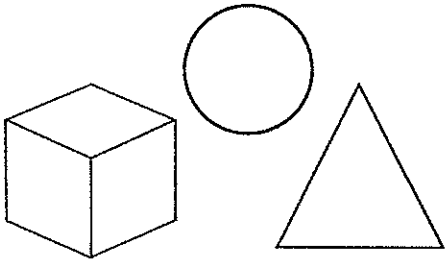
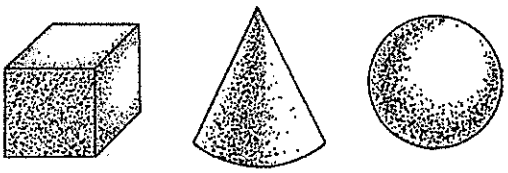
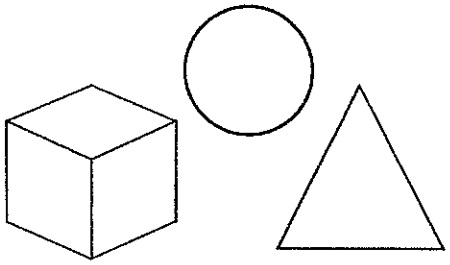
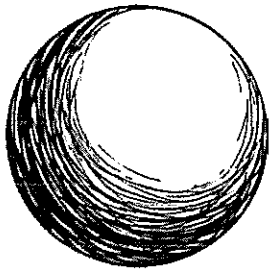
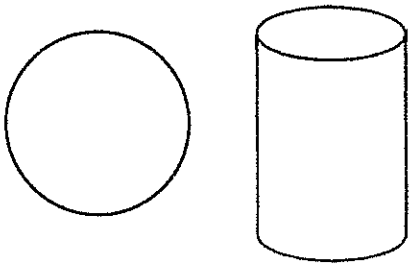
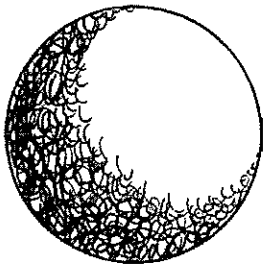
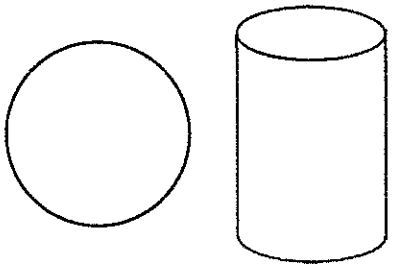
milking a cow	giving a haircut
changing a tyre	ironing a pair of trousers
mowing the lawn	putting on a wash
scoring a goal	winning an Olympic medal
playing hurling	diving with sharks
washing the windows	making a pizza
landing an airplane	going to mass
making a sandwich	blow drying your hair
making the bed	changing a nappy
making a cup of tea	landing a helicopter
wrapping a present	loading the dishwasher
putting a plaster on	walking the dog
visiting the dentist	writing down your homework
catching the bus	painting a picture
playing tennis	putting on your pyjamas
knitting a jumper	brushing your teeth
going to the cinema	climbing over a high wall
washing the dishes	shearing a sheep
flying a kite	collecting blackberries
catching a butterfly	dealing a deck of cards
playing musical statues	playing snap
buying a newspaper	opening a birthday card
using a pottery wheel	dancing in a show
packing a suitcase	playing the drums in a band
playing hopscotch	grooming a dog
riding a bike	making a pancake

ART WEEKS 8, 9 & 10

Tonal Shading

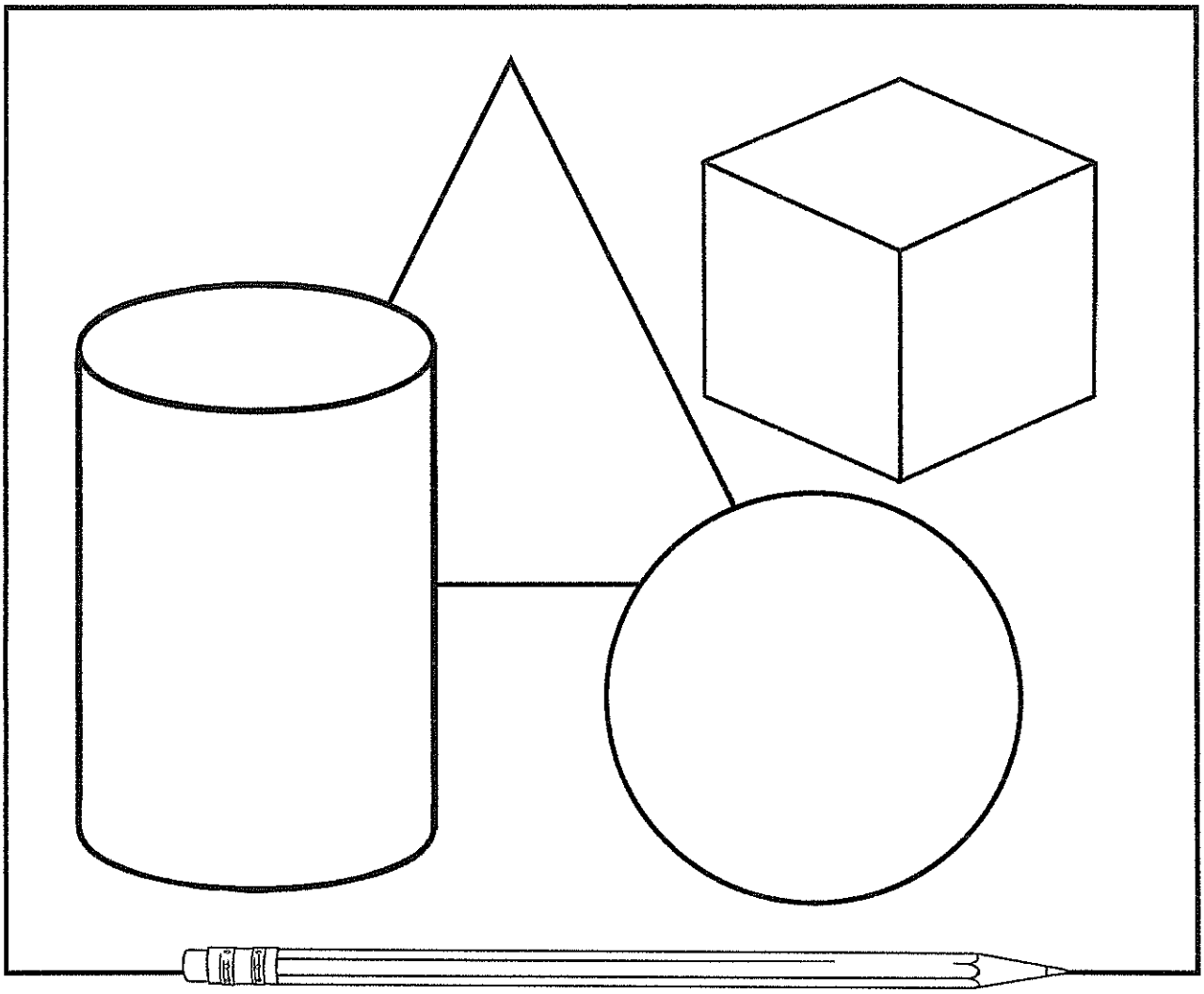
Your task today is to develop your tonal shading skills using the techniques of cross-hatching, blending, stippling, contour-hatching and scumbling.

Using pencil, apply these techniques to the series of basic shapes and forms below.

Technique	Example	
Cross-Hatching		
Blending		
Stippling		
Contour-Hatching		
Scumbling		

Extension Task

Using one or more of the tonal drawing techniques, apply these to the composition below:



Peer Assessment

Swap your tonal shading activity sheet with your partner for a peer assessment task.

Thinking about the success criteria below, give your partner two positive comments about their work and one thing they could improve upon.

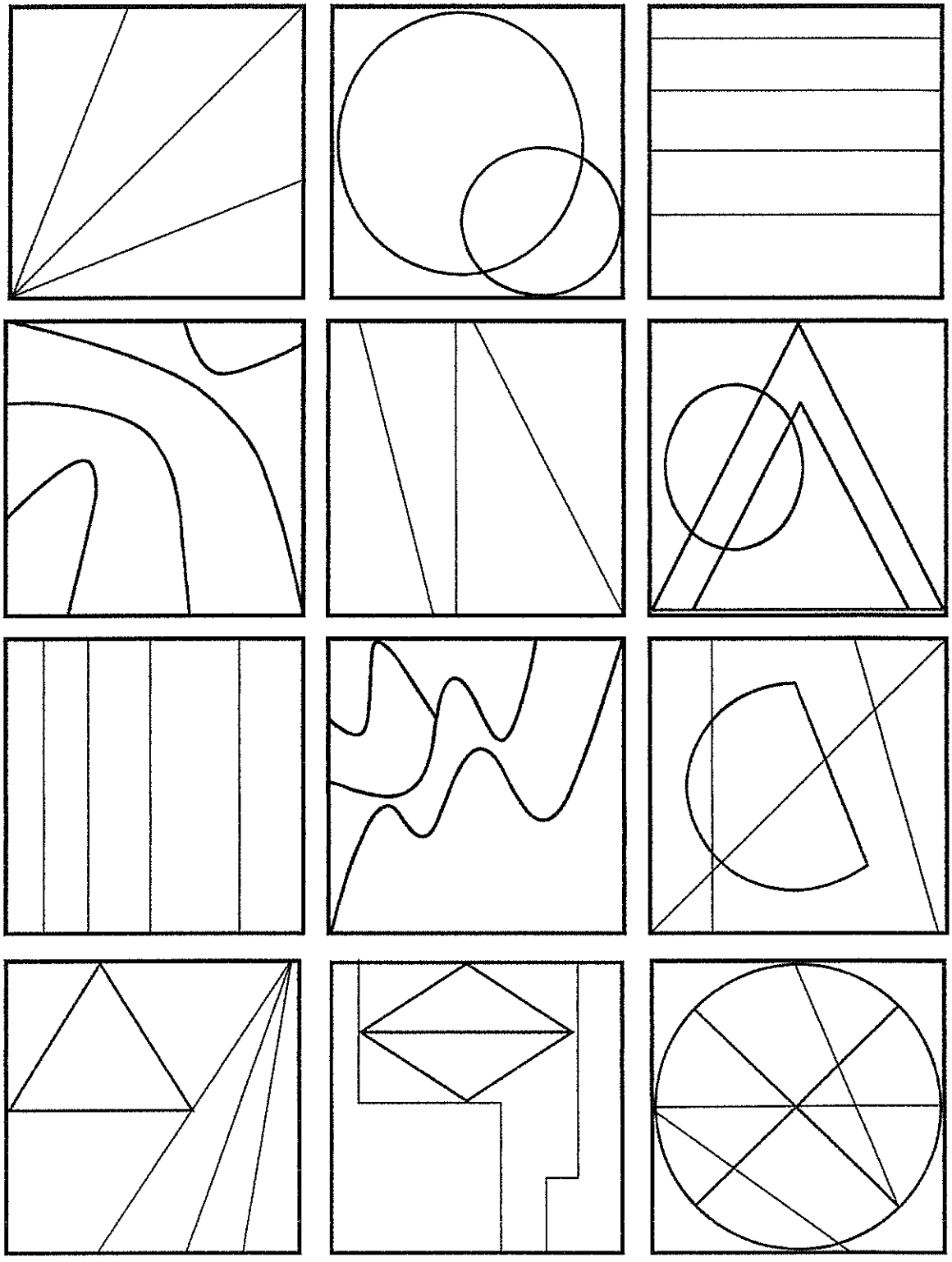
- To create light, medium and dark tones with pencil.
- To experiment with cross-hatching, blending and stippling.
- To apply these techniques to make an object appear 3D.
- _____
- _____

You can improve your work by _____

_____

Tonal Shading

Use pencil to create light, medium and dark tone in the variety of different shapes below. Think about where you place your tones to produce creative sections of tonal shading, blending the tones together to achieve a smooth graduation.



Extension Task

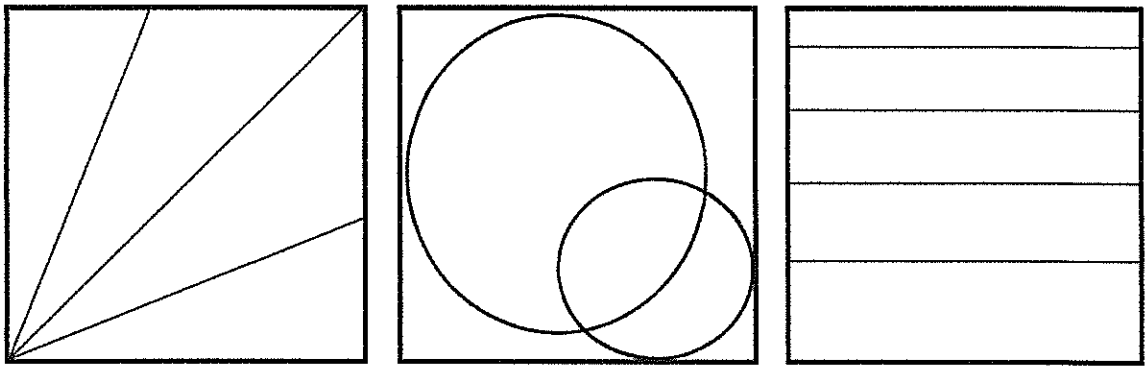
Using a coloured pencil, blend light to medium to dark tones in the rectangle below.

Light **Medium** **Dark**

Practice blending one colour into another; for example, red and yellow blended together to create orange.

Red **Orange** **Yellow**

Finally, using pencil crayon, add light, medium and dark tones to the three sections below.

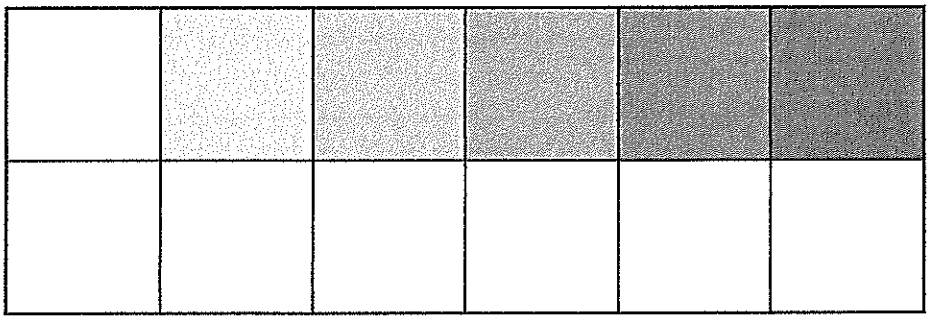


What have you learnt today?

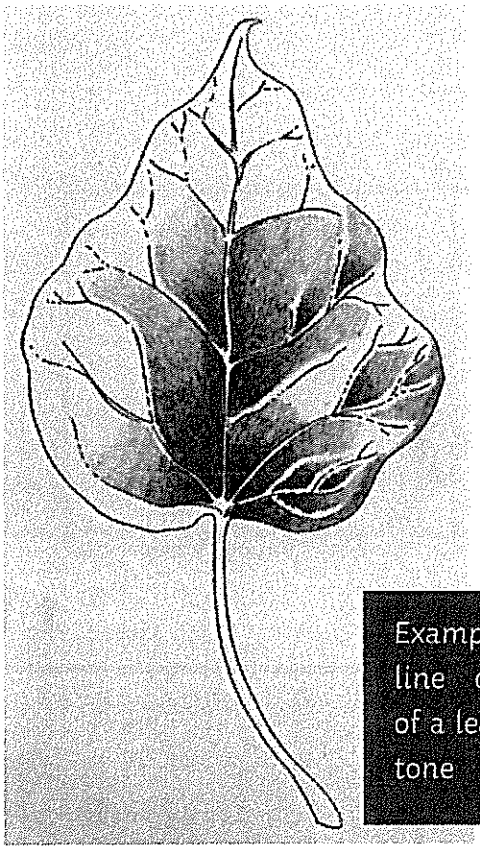
If you were to explain what tone is to another person and describe how you achieve different tones, what would you say?

Applying Tone to a Line Drawing

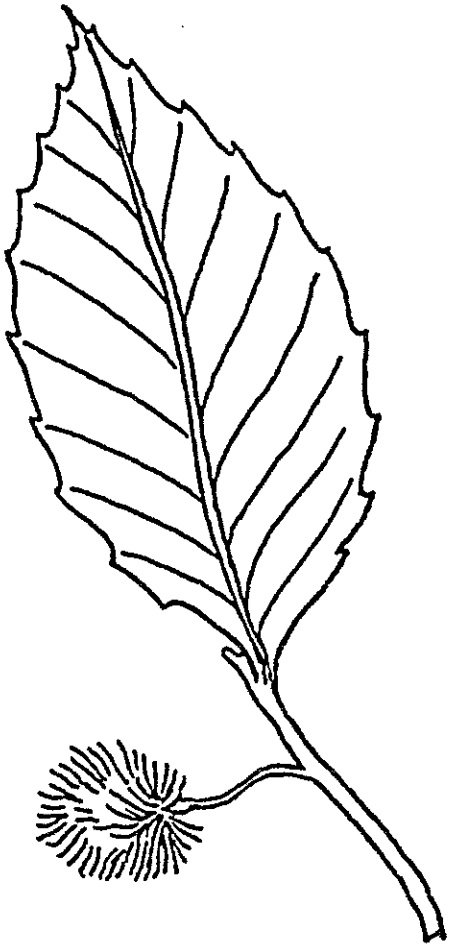
Your task today is to apply light, medium and dark tones to a variety of leaves. Before you begin, warm up by showing off your blending skills in the boxes below.



Now try shading the leaf below, using dark tones at the centre and blending to lighter tones at the edges. Remember you can use the tip of your finger or a blending tool to smooth your tones together



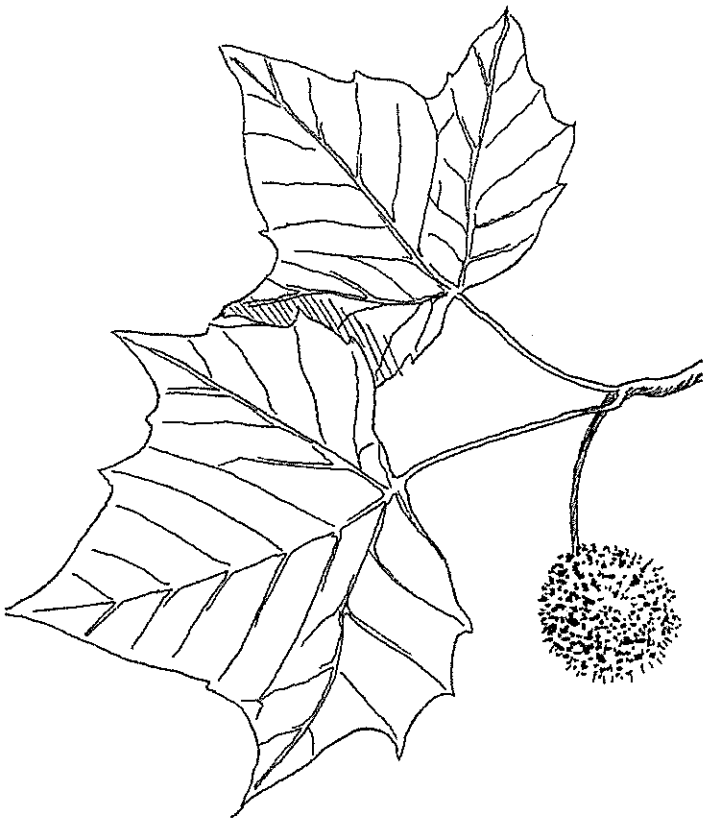
Example of a line drawing of a leaf using tone

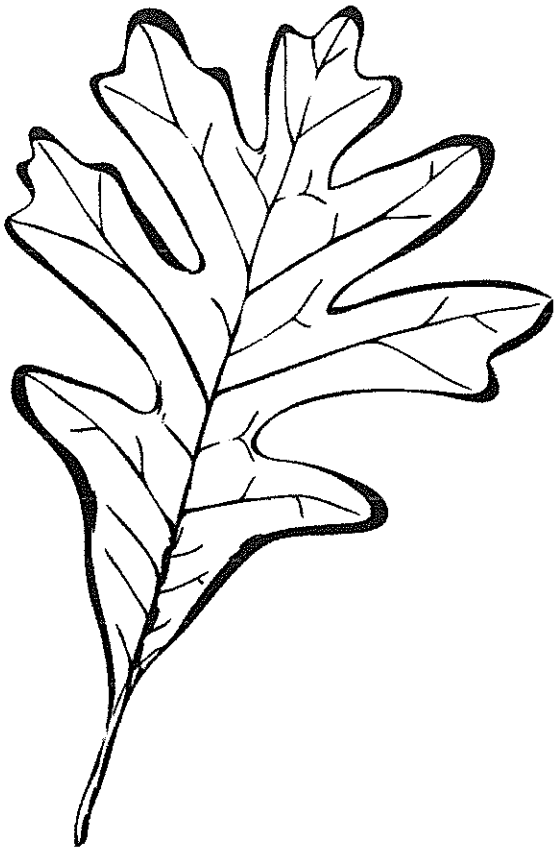


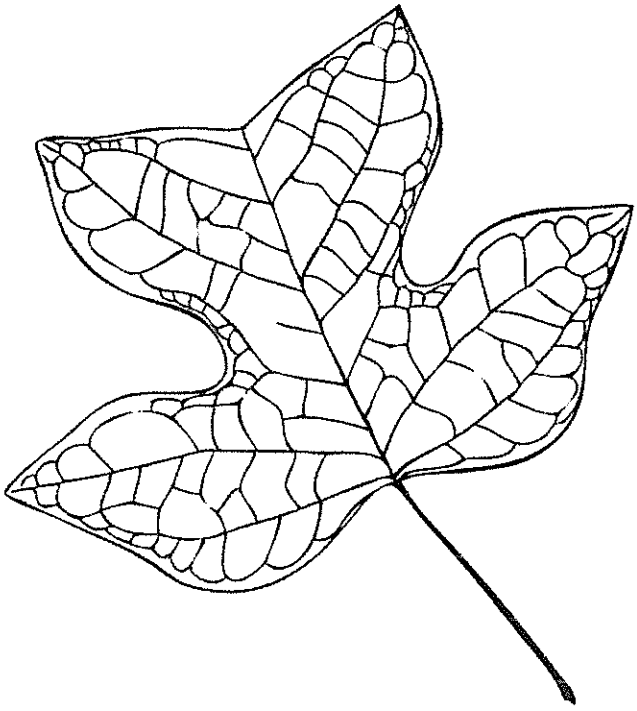
Task Two

Extension Task

Add colour to the leaves below using red and orange pencil crayon. Blend the two colours together.







What have you learnt today?

List three things you have learnt this lesson:

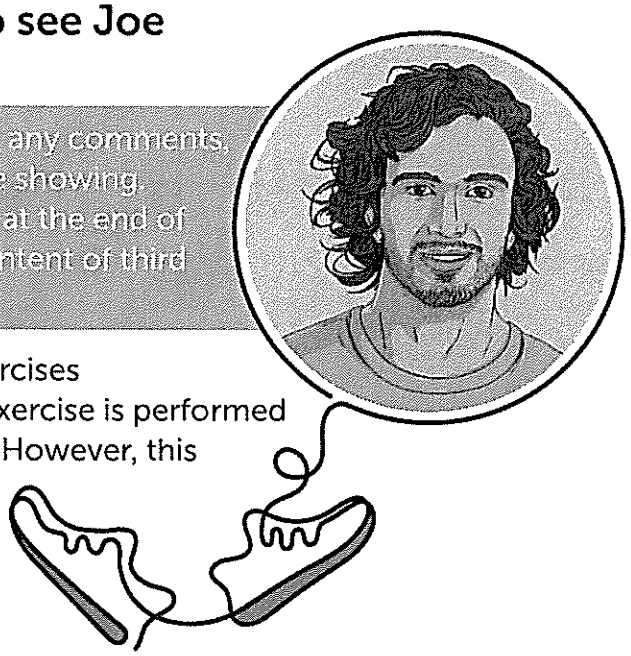
1. _____
   _____
2. _____
   _____
3. _____
   _____

PDHPE WEEKS 8, 9 & 10

Joe Wicks: Active 8-Minute Workout 2

View the linked video content here to see Joe demonstrate the workouts.

Please check that the content in this link, including any comments, is suitable for your educational environment before showing. Please do not let the next video automatically play at the end of the clip. Twinkl accepts no responsibility for the content of third party websites.



These cards have been created to illustrate the exercises demonstrated by Joe in the workout video. Each exercise is performed for 35 seconds, with a 25-second rest in-between. However, this can be changed to suit your class. The cards can be used with or without the video to support children who need help performing each movement; to create workouts of different lengths or to complete their exercises outdoors.

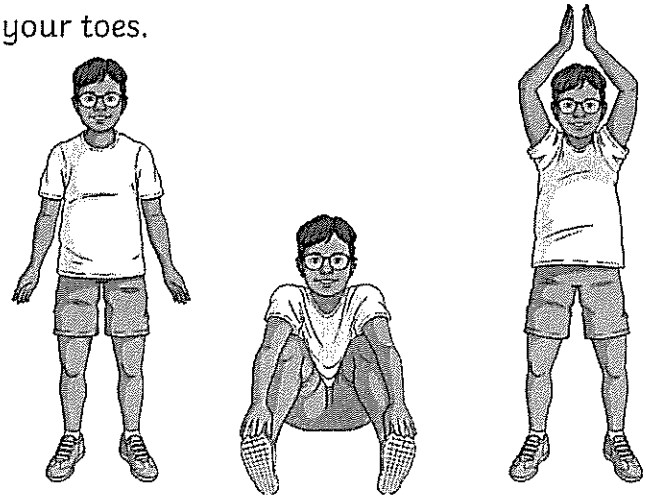
Joe Wicks: Active 8-Minute Workout 2
Running and Punching

1. Run on the spot with forward punches.
2. Punch the opposite arm with the opposite leg running.

How quickly can you go? Try sprinting for the final 10 seconds.

Joe Wicks: Active 8-Minute Workout 2
Sit down, Touch Toes, Stand up, Clap

1. Sit down.
2. Put your legs out in front of you and touch your toes.
3. Stand up.
4. Clap your hands above your head.
5. Repeat.



Joe Wicks: Active 8-Minute Workout 2

Star Jumps

Make sure you have enough room for this exercise!

1. Stand straight with your arms by your side and feet shoulder-width apart.
2. Jump upwards, bringing your arms and legs out to make a star shape as you land.
3. Jump upwards again to bring your feet and arms back to the starting position.

How many star jumps can you do in 35 seconds?

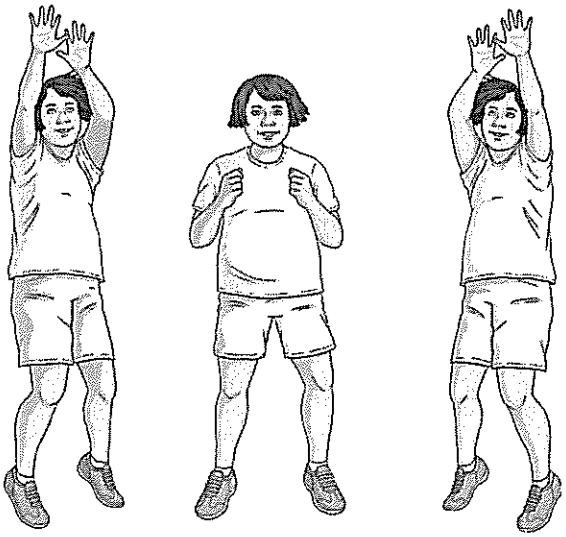
Try turbo star jumps!

Joe Wicks: Active 8-Minute Workout 2

Basketball Throws

1. Shoot an imaginary basketball at an imaginary basketball hoop.
2. Shuffle along a few steps and shoot another hoop!
3. So, it's shoot – shuffle – shoot – shuffle back – shoot and so on.

This is a great exercise for the leg muscles.



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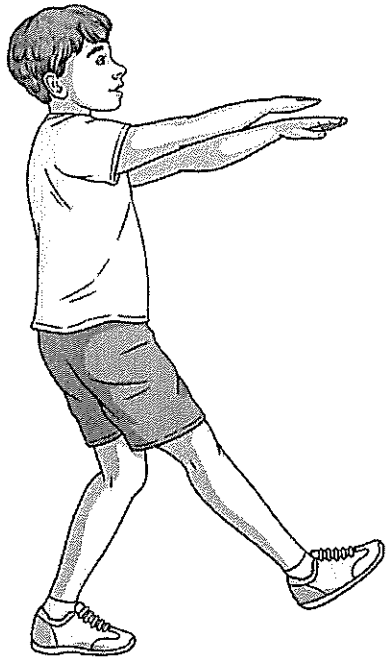
Official Education Partner

Joe Wicks: Active 8-Minute Workout 2

Mummy Kicks



1. Put your arms out in front of you and cross your hands over each other.
2. As you do this, begin kicking your feet out in front of you as well.
3. Continue crossing your hands, one above the other, alternating the hand on top, as you kick your feet.

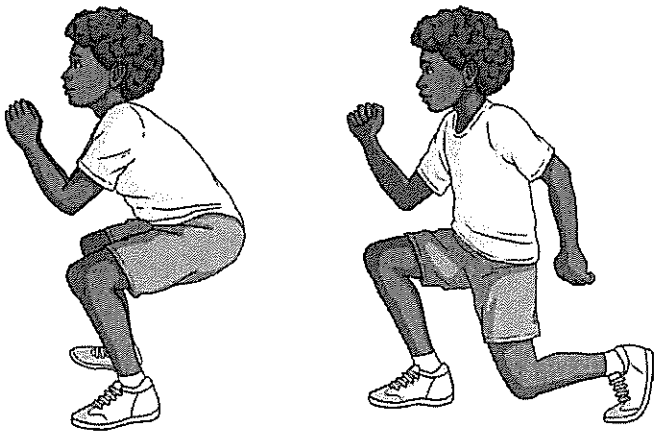
This is a great one for your coordination!

Joe Wicks: Active 8-Minute Workout 2

Squat, Squat, Lunge, Lunge

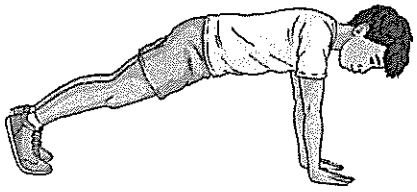
1. Start with your feet a bit wider than shoulder-width apart.
2. Squat down twice.
3. Lunge back with one leg, return to standing and then lunge back with the other leg.
4. Repeat.

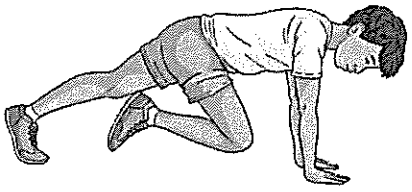
Try to stay balanced throughout the exercise.

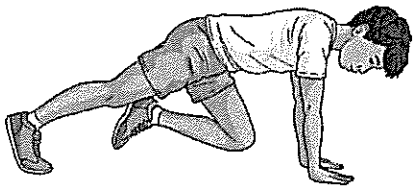


Joe Wicks: Active 8-Minute Workout 2

Mountain Climbers







1. Start on the floor in a press-up position.
2. Bring each knee up to your chest one at a time.

You will feel this in your arms and upper body!

Stop and shake it off for a few seconds if it gets too hard! You've got this!

Joe Wicks: Active 8-Minute Workout 2

Sprinting on the Spot

1. Sprint on the spot as fast as you can.
2. Pump with your arms at the same time.

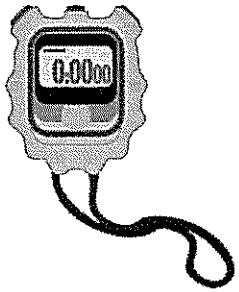
Can you alternate between low, fast sprinting and high-knee sprinting?

8 Minute Work out Challenge!

Each exercise is performed for 35 seconds, with a 25-second rest in-between. The cards can be used with or without the video to support you

nttps://youtu.be/uqLNxJe4L2I

Remember to have fun



Number 1: SQUATS 1. Start with your feet a bit wider than shoulder-width apart. 2. Squat down as if you're sitting on a chair. 3. Stand up tall again. 4. Keep a straight back	**Number 3: BACKWARDS LUNGES** 1. Start with your feet together. 2. Step backwards with one foot and touch the ground with your hand at the same time. 3. Return to a standing position. 4. Repeat with the other foot stepping back and the other hand touching the ground.	**Number 5: KNEE TO ELBOW** 1. Imagine you are marching on the spot. 2. Lift up one knee and bring it towards the opposite elbow. 3. Repeat with the other knee and the opposite elbow. 4. Keep a straight back.	**Number 7: MOTION BURPEES** 1. Start with your feet shoulder-width apart. 2. Bend your knees and place your hands down on the floor in front of you. 3. Step back with one leg and then the other so that they are both straight. 4. Step forwards with one leg and then the other leg. 5. Stand up tall, stretching your arms above your head.
Number 2: RUNNING ON THE SPOT 1. Run as fast as you can on the spot. 2.Remember to pump your arms as you are running. 3. Try facing different compass directions, such as north, south, east and west.	**Number 4: CLIMBING THE ROPE** 1. Imagine a rope is hanging down from the ceiling. 2.Reach up with one hand and pull the rope down towards your tummy. 3.Reach up with your other hand and pull it down towards your tummy. 4.Run on the spot and climb the rope at the same time	**Number 6: FROG JUMPS** 1.Start with your feet a bit wider than shoulder-width apart. 2.Squat down and touch the ground with both hands – bend from the knees not from the back. 3.Jump up high with your hands in the air. **Can you jump like a frog?**	**Number 8: SQUAT HOLD WITH PUNCHES** 1. Start with your feet a bit wider than shoulder-width apart. 2.Squat down as if you're sitting on a chair. 3. Hold the position and punch forwards with your arms one at a time. **Can you feel it in your legs?**

HEALTH AND PHYSICAL EDUCATION

BEING HEALTHY, SAFE AND ACTIVE

Draw an illustration of a special place in your life. Write a paragraph which explains why you feel a sense of connectedness and belonging in this place.

HEALTH AND PHYSICAL EDUCATION

BEING HEALTHY, SAFE AND ACTIVE

You have questions about some of the changes associated with puberty. Make a list of reliable resources that could assist you with your questions.

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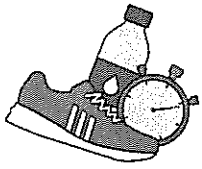
HEALTH AND PHYSICAL EDUCATION

BEING HEALTHY, SAFE AND ACTIVE

You just watched a television advertisement warning about the dangers of smoking. Write a list of criteria that you could apply to the advertisement to determine whether the information is reliable and factual.



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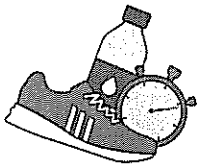
HEALTH AND PHYSICAL EDUCATION

BEING HEALTHY, SAFE AND ACTIVE

A friend is encouraging you to drink alcohol, but you refuse. Write the conversation which might take place between you and your friend.



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HEALTH AND PHYSICAL EDUCATION

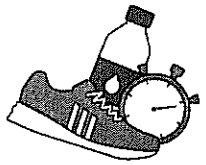
HEALTH AND WELLBEING

A good friend has started to exhibit controlling behaviours which are making you feel very uncomfortable. Make a list of strategies you can draw upon to balance the power within the friendship.

HEALTH AND PHYSICAL EDUCATION

HEALTH AND WELLBEING

Write about a time you had an argument with a friend. What emotions did you experience? How did you manage these?



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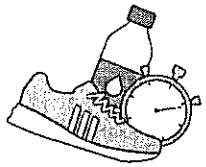
HEALTH AND PHYSICAL EDUCATION

HEALTH AND WELLBEING

Choose a celebrity or public figure that you admire. Write a paragraph to describe this person. Explain the ways in which they influence your thoughts and actions.



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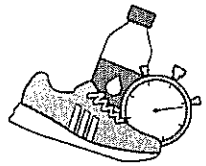
HEALTH AND PHYSICAL EDUCATION

HEALTHY AND ACTIVE COMMUNITIES

Create a mind map of activities you can do each day to keep your body and mind healthy e.g. playing outside, meditating, doing a kind action.



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HEALTH AND PHYSICAL EDUCATION

HEALTHY AND ACTIVE COMMUNITIES

Write about a time that you connected with other members of your local community. Explain how this influenced your sense of wellbeing.

HEALTH AND PHYSICAL EDUCATION

HEALTHY AND ACTIVE COMMUNITIES

Create a poster explaining how to make your school a safe and inclusive environment for students from minority backgrounds.

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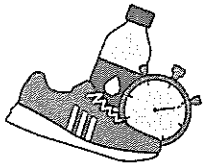
HEALTH AND PHYSICAL EDUCATION



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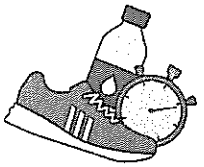
HEALTH AND PHYSICAL EDUCATION



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How can we solve problems when moving?

PDHPE Stage 3Student workbook

Name:

Class:

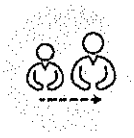
Overview of lessons 1 and 2

Students will:

- Refine throwing skills to perform specialised movements related to target games (lessons 1-2).
- Recognise and consider a number of solutions to target games and justify which solution is most appropriate or effective (lessons 1-2).
- Explain the rationale for particular rules, strategies and tactics (lesson 2).

Resources

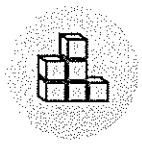
Lessons 1-2



- help from an adult
- a soft object to throw (for example, soft ball, pair of socks, soft toy, scrunched-up paper)
- 3 objects or landmarks to create targets for objects to hit (for example, bucket, a long piece of string laid in a circle, an 'X' formed by two pieces of tape/material, a t-shirt laid on the ground, a chair/bench, a wall, a tree)
- 3 or more different unbreakable objects to act as an obstacle

- Refer to 'Throlf' game card for suggestions of what this activity could look like (Sport Australia, 2019. Playing for life)

Lesson 1 – Obstacle golf - intro



1. Create 3 targets that you can safely throw a soft object towards. Choose a 'starting point' where you will throw the object from. Place each target at different distances from the 'starting point'.

2. Choose or create at least one object that will act as an obstacle. The obstacle needs to be placed between the 'starting point' and the target.

3. Discuss with your teacher or parent/caregiver the type/s of throw you plan to use so you can hit the target in as few throws as possible. Predict which type of throw you think will be most effective. Example throwing styles include overarm, underarm, two-hand overhead, two-hand underhand, shoulder throw, your own throwing style.

4. Explain your decisions.

Target 1 -

_____

_____

_____

Target 2 -

_____

_____

_____

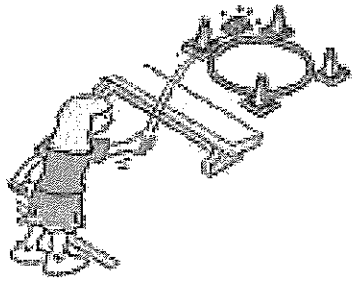
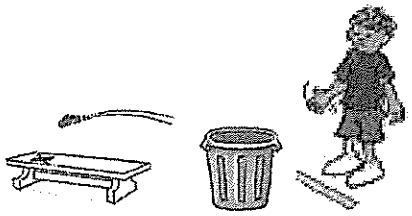
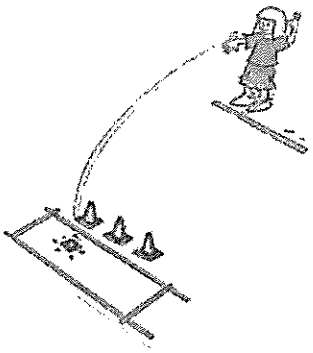
Target 3 -

_____

_____

_____

5. Throw the object towards the target. You should aim to hit the target. Pick up the object from where it landed and throw the object again until the target has been hit.

Obstacle golf examples		
 Sport Australia 2019, Playing for life		

6. Record how many throws it took to hit the target.

Table 1 Obstacle golf intro

How many throws did you it take to hit the target?	Attempt 1	Attempt 2	Attempt 3	Attempt 4	Attempt 5
Target 1					
Target 2					
Target 3					

7. Repeat the challenge 5 times for each of the 3 targets

8. Explain how you refined your throwing during the game of 'Obstacle golf' to effectively throw your object to the target.

Target 1 -

Target 2 -

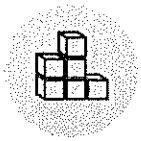
Target 3 -

Resources

- A soft object to throw (for example, soft ball, pair of socks, soft toy, scrunched-up paper).
- 3 objects or landmarks to create a target for the object to hit (for example, bucket, a long piece of string laid in a circle, an 'X' formed by two pieces of tape/material, a t-shirt laid on the ground, a chair/bench, a wall, a tree).
- 3 or more different unbreakable safe objects to act as an obstacle.

Lesson 2 – Obstacle golf - advanced

1. Create 3 targets that you can safely throw a soft object towards. Choose a 'starting point' where you will throw the object from. Place each target at different distances from the 'starting point'.



2. Choose or create at least one object that will act as an obstacle. The obstacle needs to be placed between the 'starting point' and the target.

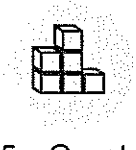
3. Discuss with your teacher or parent/caregiver your strengths when playing obstacle golf. For example, "I am very consistent when throwing underarm at a target over a short distance" or "I am very good at judging the appropriate amount of force to apply to my throws" or "I am very good at rebounding the ball off the wall to avoid the obstacle."

4. Explain what you have identified as your strengths while playing 'Obstacle golf'.

_____

_____

_____



5. Create or change at least one rule that will challenge your strength. Explain the rule you have created or changed. Explain your rule.

_____

_____

_____

6. Create a different scoring system. For example, "The amount of throws you record for each attempt is halved if you throw with your non-dominant hand" or "The amount of throws you record for each attempt is doubled if you use object 1 as opposed to object 2."

Remember: in obstacle golf, the fewer the throws used the better. Your dominant hand is the one you prefer to use when throwing. Non-dominant hand is the other hand.

Explain your new scoring system and how points are scored for easier and more difficult challenges.

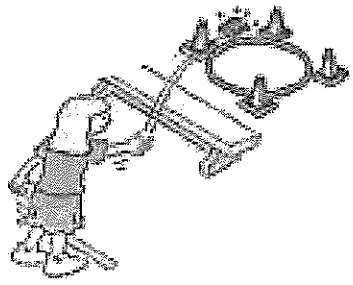
_____

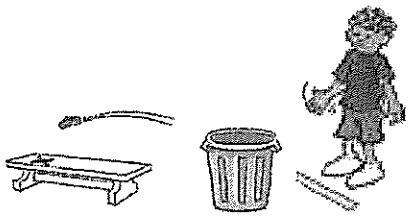
_____

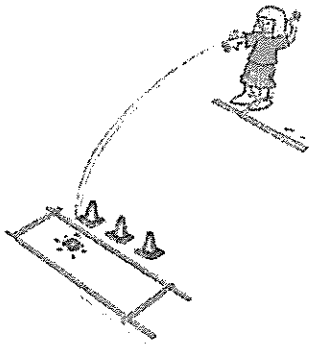
_____

7. Throw the object towards the target. You should aim to hit the target. Pick up the object from where it landed and throw the object again until the target has been hit.

Obstacle golf examples





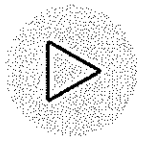


Sport Australia 2019, Playing for life

8. Record how many throws it took to hit the target.

Table 2 Obstacle golf advanced

How many throws did you it take to hit the target?	Attempt 1	Attempt 2	Attempt 3	Attempt 4	Attempt 5
Target 1					
Target 2					
Target 3					



9. Repeat the challenge 5 times for each of the 3 targets

10. Explain how you refined your throwing during the game of 'Obstacle golf' to effectively use the new rules and scoring system.

Target 1 -

_____

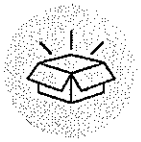
_____

_____

Target 2 -

_____

Target 3 -

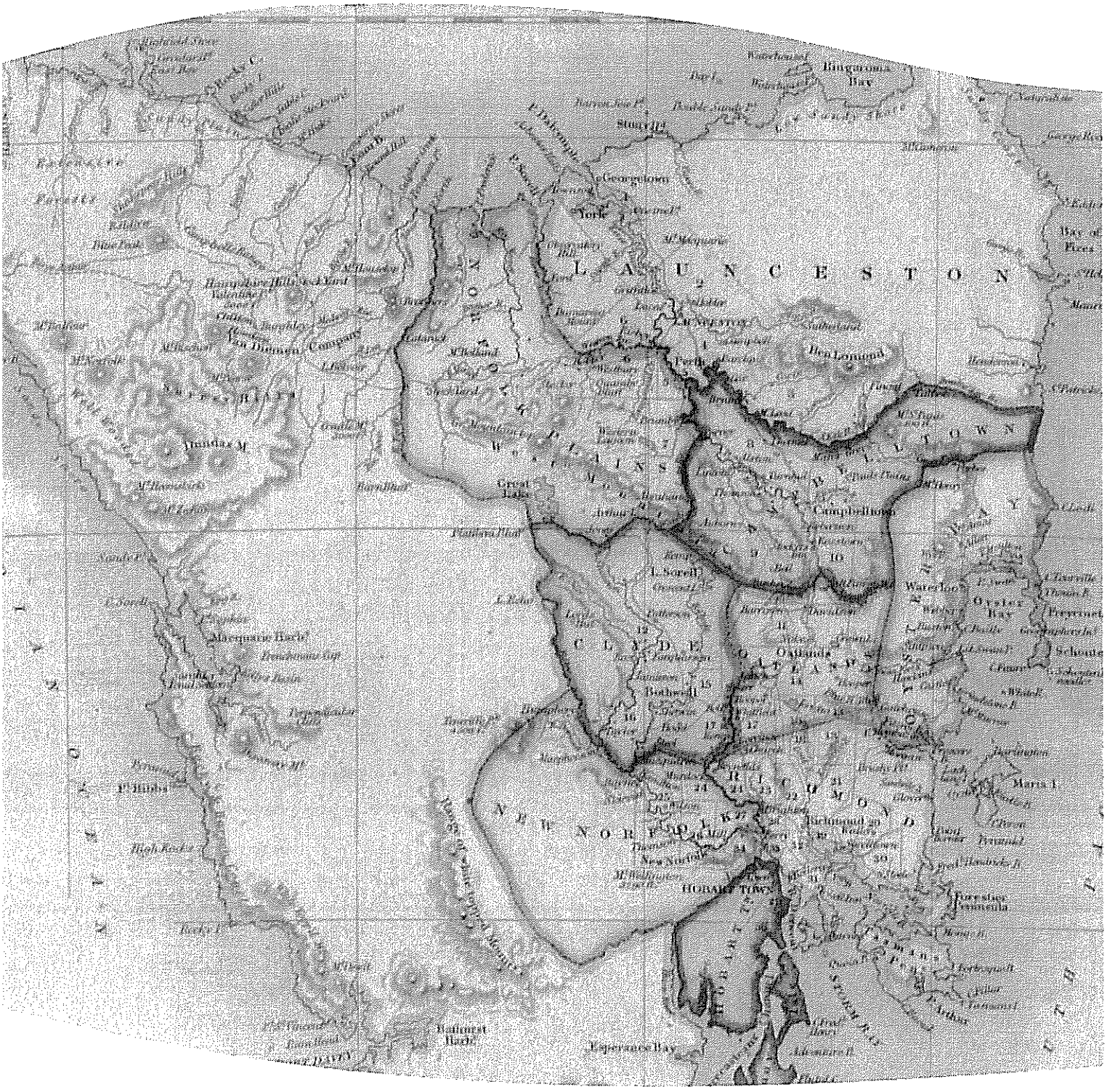


Resources

- A soft object to throw (for example, soft ball, pair of socks, soft toy, scrunched-up paper).
- 3 objects or landmarks to create a target for the object to hit (for example, bucket, a long piece of string laid in a circle, an 'X' formed by two pieces of tape/material, a t-shirt laid on the ground, a chair/bench, a wall, a tree).
- 3 or more different unbreakable objects to act as an obstacle.

HISTORY WEEKS 8, 9 & 10

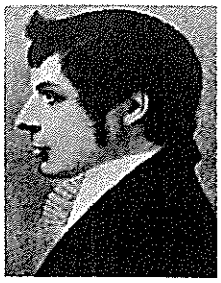
Why and how did an Australian colony develop in the 1800s?



Why and how did an Australian colony develop in the 1800s?

1 A colonial case study

The site of Port Macquarie was first visited by Europeans in 1818 when John Oxley (Surveyor General of the NSW colony) reached the Pacific Ocean from the interior, after his journey to explore inland New South Wales. He named the location after the Governor of New South Wales, Lachlan Macquarie.



John Oxley's notebook entry is an example of a primary source of information.

a Listen to the Word Professor's definition of primary and secondary sources.

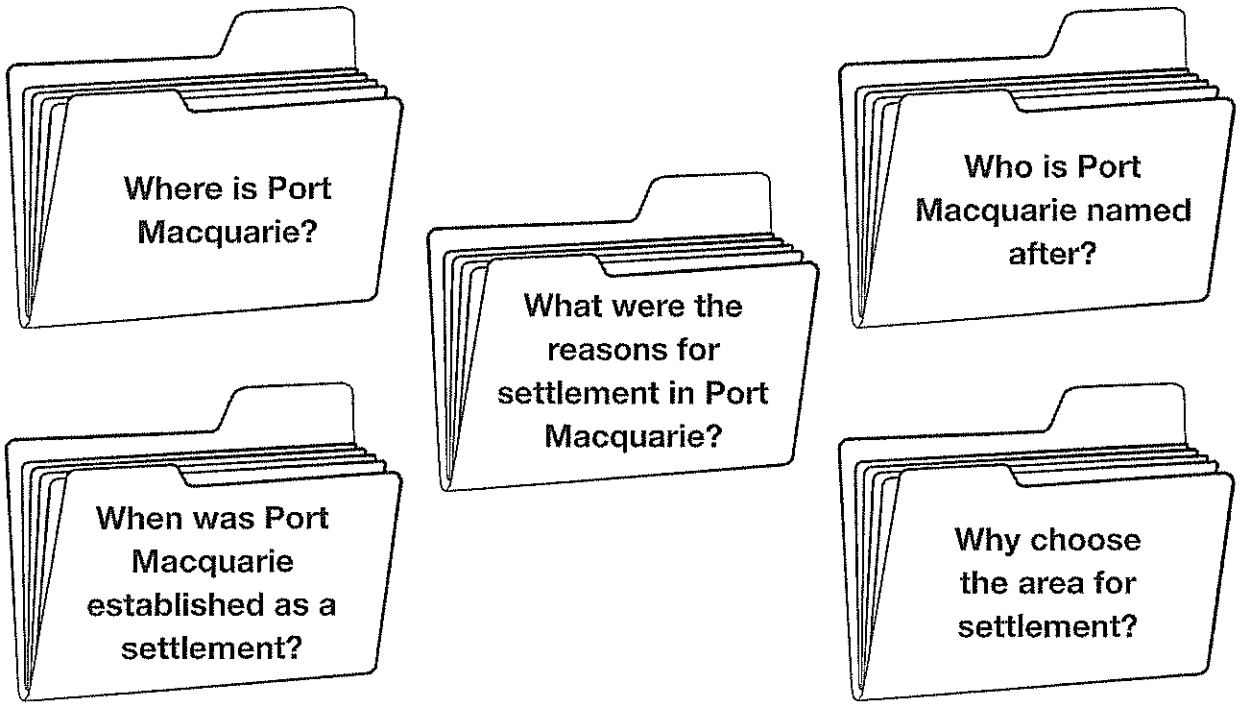
b Read the extract from John Oxley's notebook. Underline or highlight significant pieces of information.

'the port abounds with fish, the sharks were larger and more numerous than I have ever before observed. The forest hills and rising grounds abounded with large kangaroos and the marshes afford shelter and support to innumerable wild fowl. Independent of the Hastings River, the area is generally well watered, there is a fine spring at the very entrance to the Port'.

c Why did John Oxley recommend this area as an appropriate site for settlement? List your reasons in order of significance (importance).

d Port Macquarie Fast facts

Go to the websites about the history of Port Macquarie.
You may also use other sources of information to answer the fast facts.

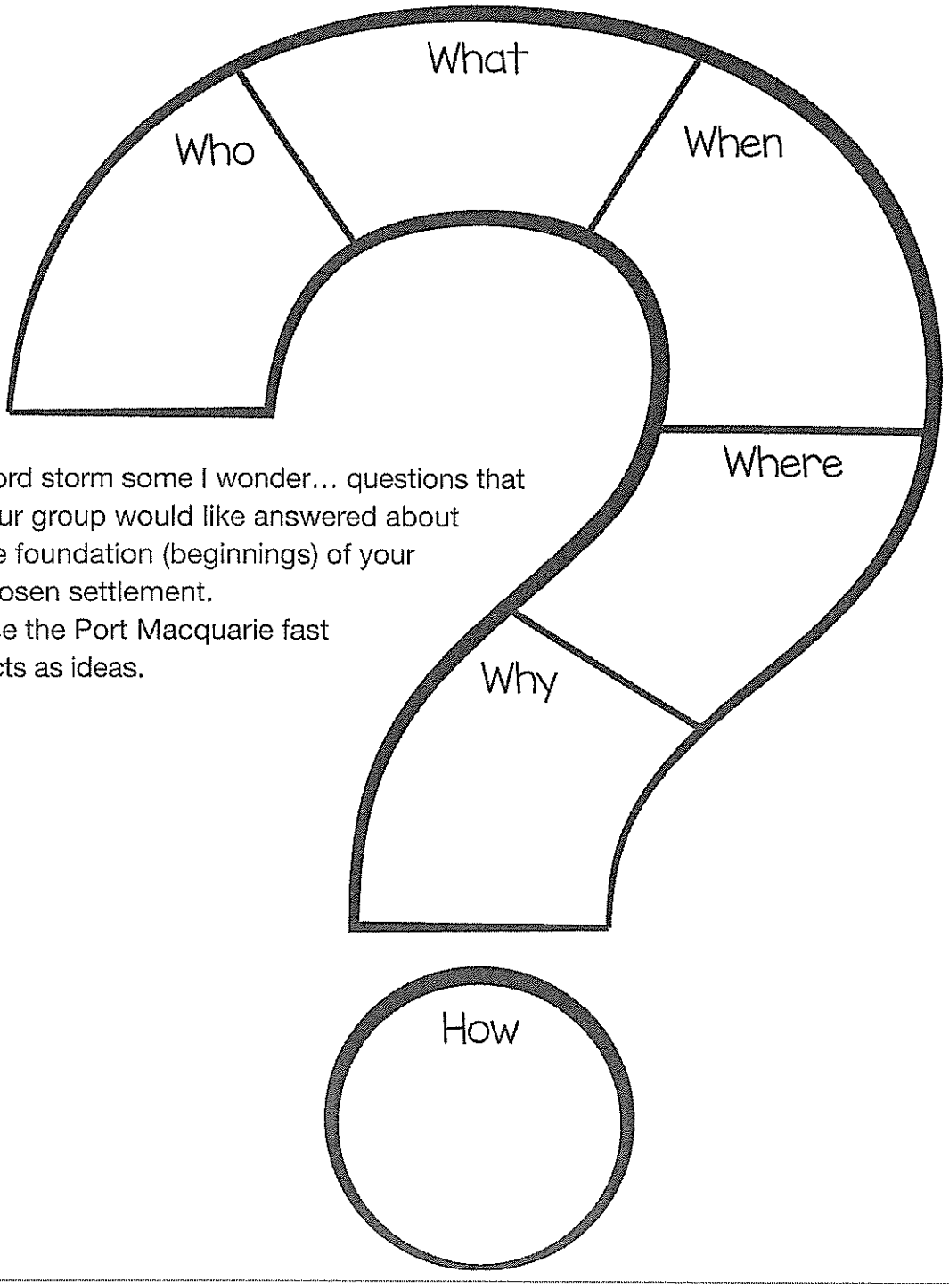


Write your answers here:

2 Colonial Settlement Investigation task

a With your group (four or five students), choose an early colonial settlement to investigate. Each group must choose a different settlement.

- Van Diemen's Land
- Moreton Bay
- Adelaide
- Palmerston (Darwin)
- Port Phillip
- Swan River Colony
- Norfolk Island
- Port Darwin



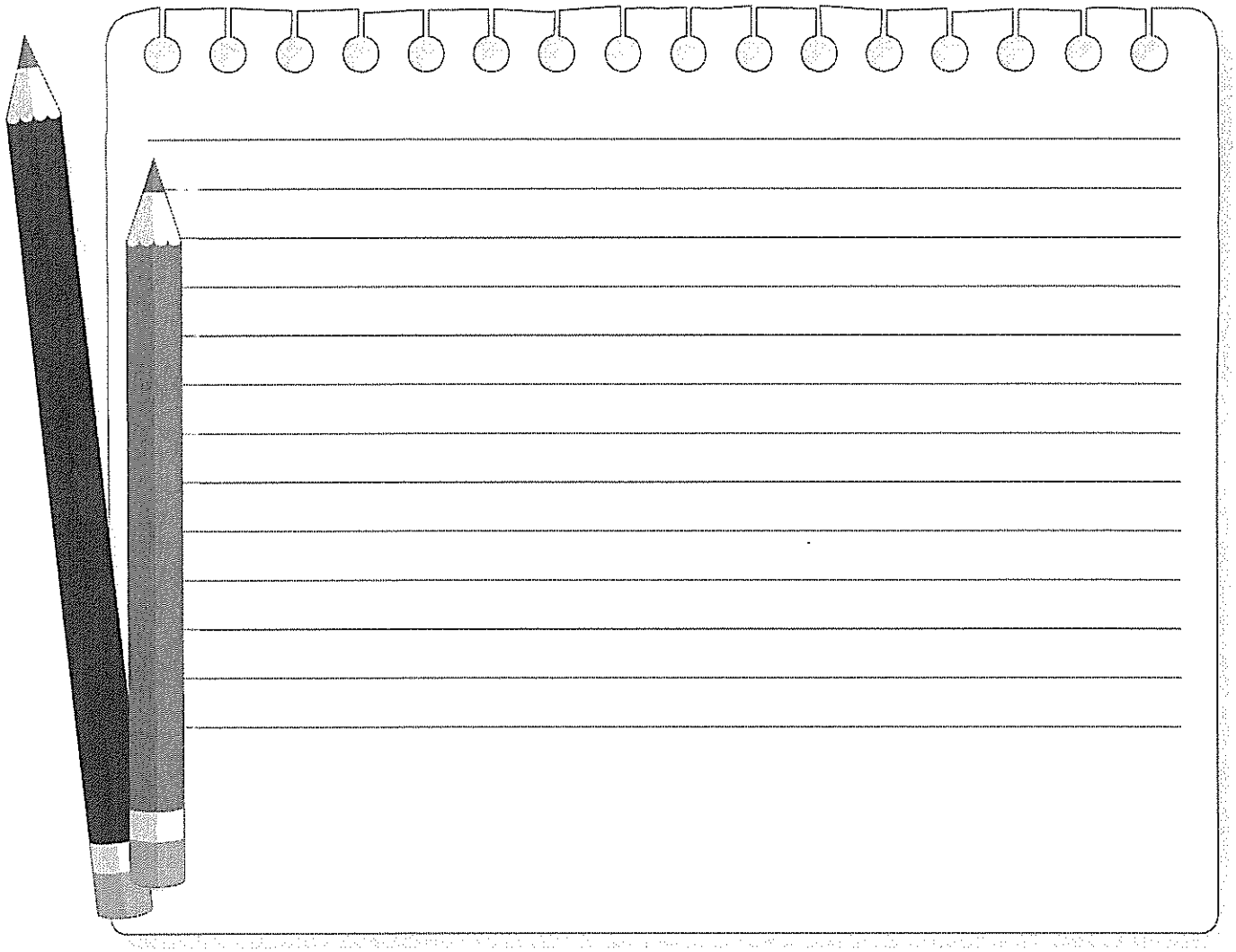
b Word storm some I wonder... questions that your group would like answered about the foundation (beginnings) of your chosen settlement.
Use the Port Macquarie fast facts as ideas.

c Each member of your group must choose a different I wonder... question to research and report back to your group. Use library resources and the internet to complete your research.

d My I wonder Question:

I wonder... _____

Keep your case notes here:



List some of the sources and references you used under:

Primary Sources

Secondary Sources

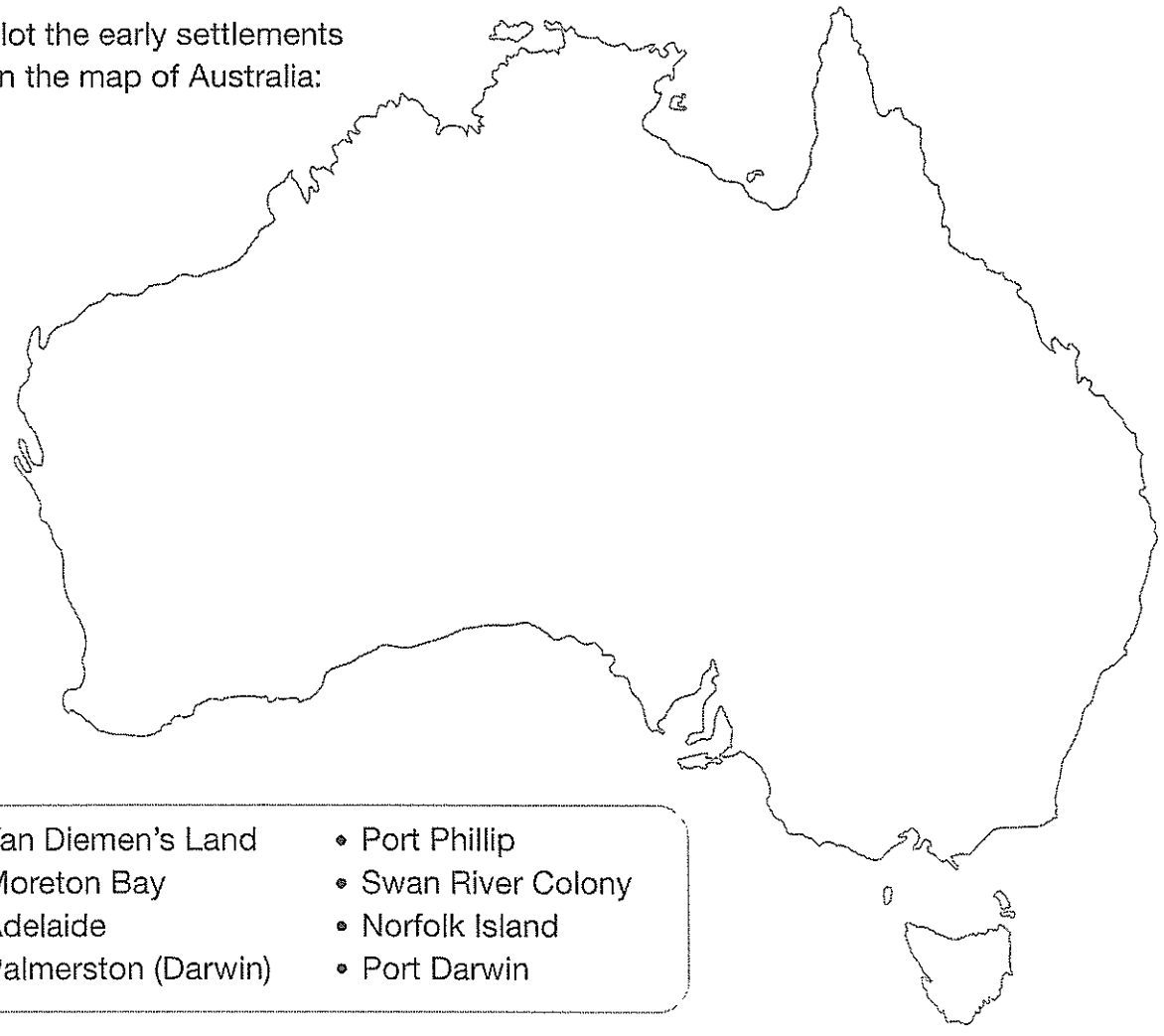
3 Collate (gather) your information to create a presentation.
This may be an oral or written presentation; the choice is yours.

4 Take a road trip around your class presentations.

a Write the top 5 facts you have learnt about other early colonial settlements.

b

c Plot the early settlements on the map of Australia:



- Van Diemen's Land
- Moreton Bay
- Adelaide
- Palmerston (Darwin)
- Port Phillip
- Swan River Colony
- Norfolk Island
- Port Darwin

5 Back to the Future!

What does your assigned settlement look like now? Create an interactive fact file on your modern town or city e.g. a wiki or google slides project. Write the name of your settlement and its population. Record your ideas in the spaces below.