

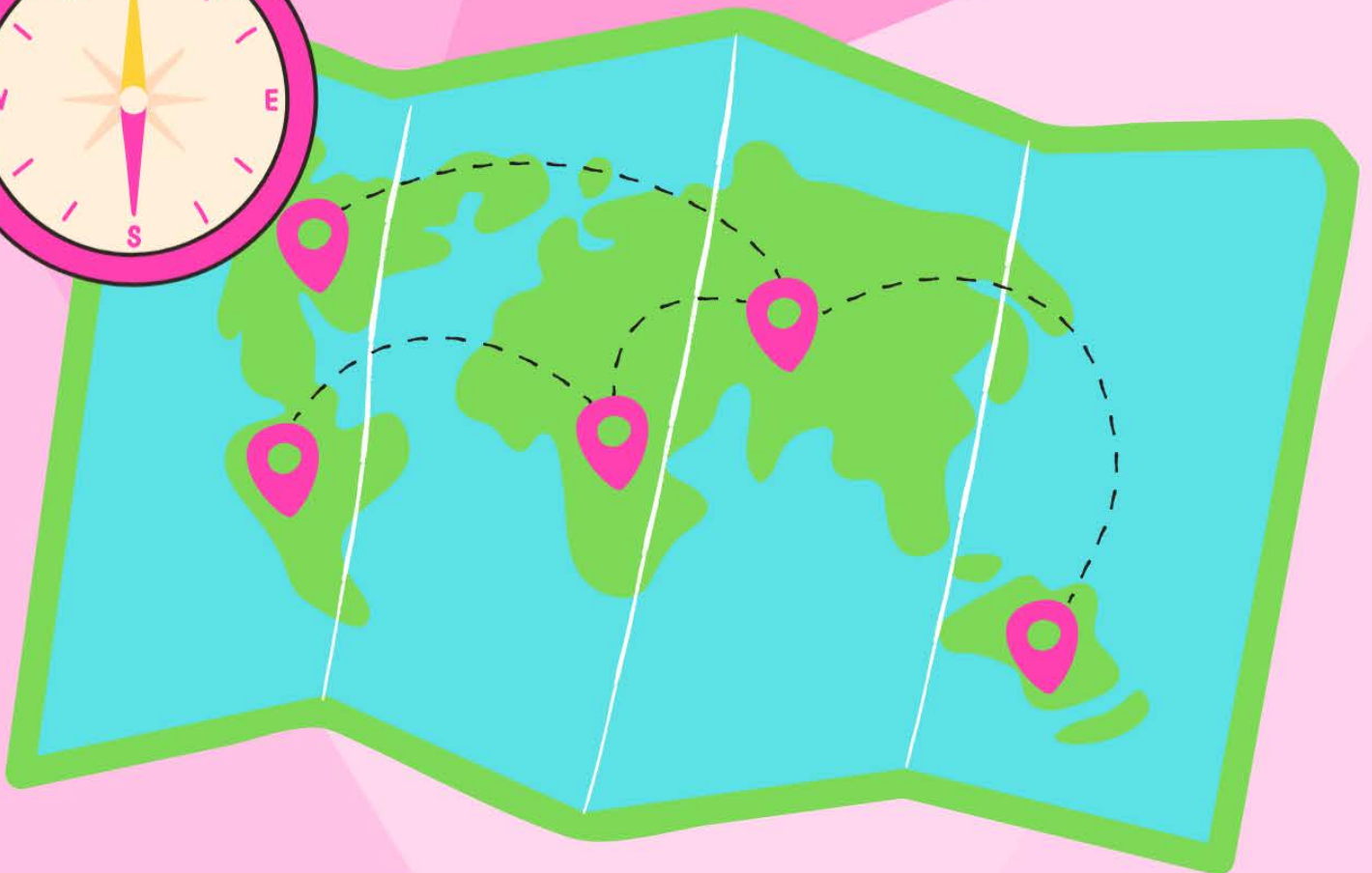


LEVEL
2

Spatial Awareness

Student Worksheets

Sample!





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SPATIAL AWARENESS VOCABULARY

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- H. Clockwise and Anticlockwise
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MOVEMENT OF OBJECTS AND BODY

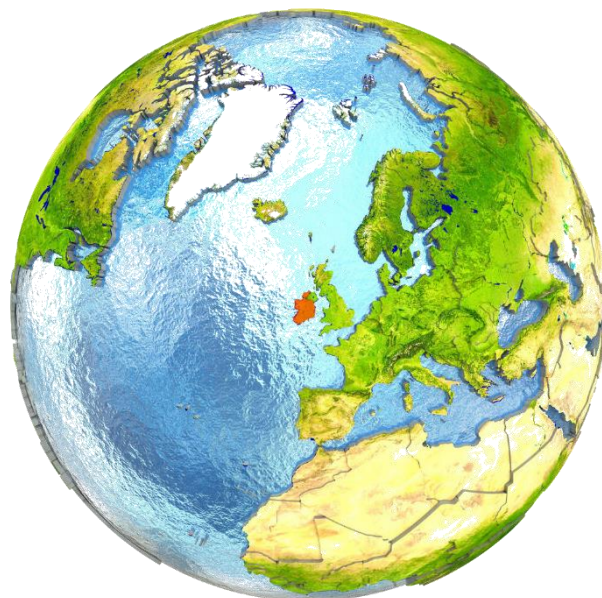
- A. Movement in Everyday Life
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MAPWORK SKILLS

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Appendices

Mapping of Learning Outcomes





SAMPLE

In this chapter, you will:

- Use appropriate vocabulary to describe direction, e.g. clockwise, anti-clockwise, horizontal, vertical, etc.

A. WHAT IS SPATIAL AWARENESS?

I. Read:

Spatial awareness is an awareness of your own body in relation to other objects. It is being able to see and understand the relationship between shapes, spaces and areas. It is also about understanding size, distance, space, direction and movement.



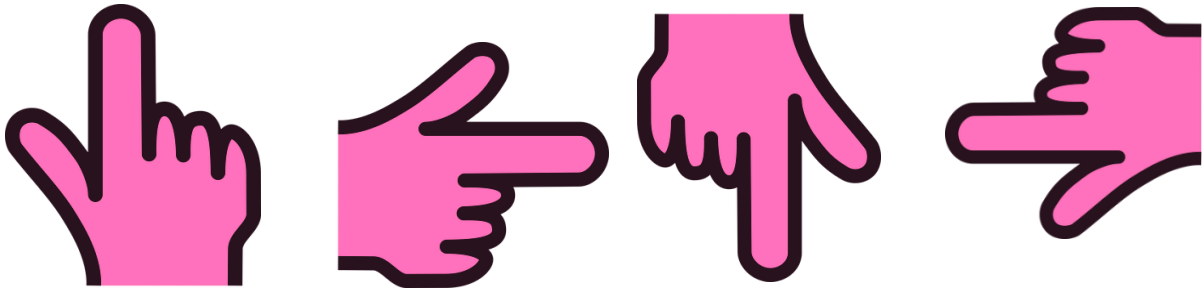
2. Name 3 things that are within arm's length:



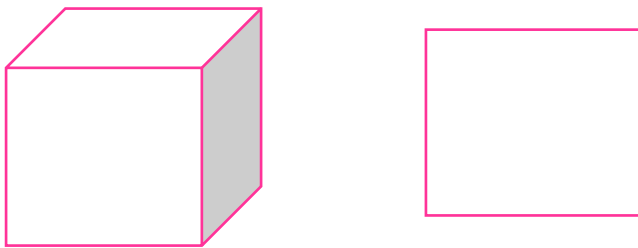
SAMPLE

3. Read: Spatial awareness helps you to think about:

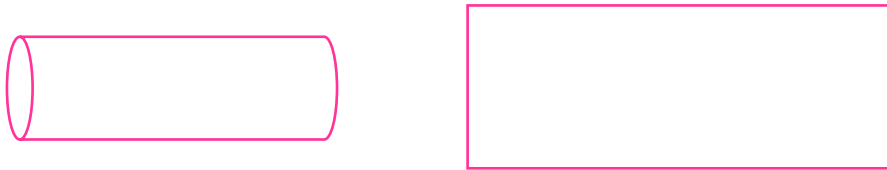
- how objects look when they are rotated



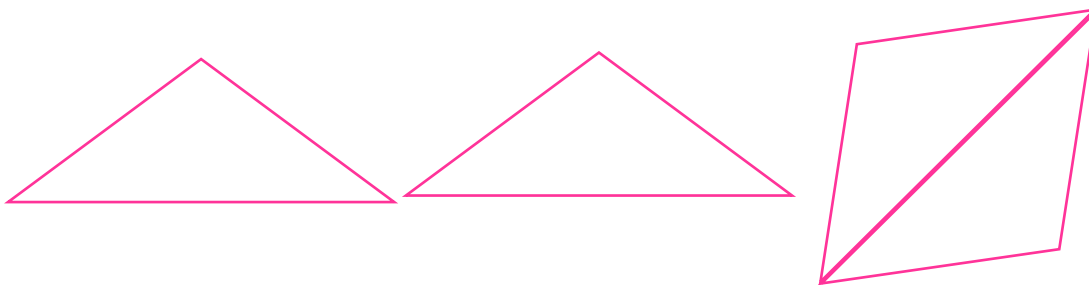
- how objects look from different angles



- how objects look on the inside



- how parts of an object fit together



- how positions of objects relate to each other

The people are inside the apartment.



The man is sitting behind the desk.

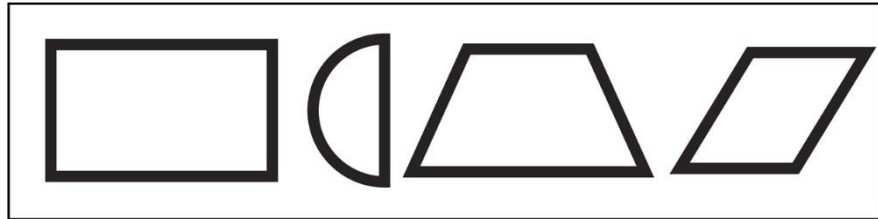


B. SPATIAL AWARENESS VOCABULARY - SHAPES

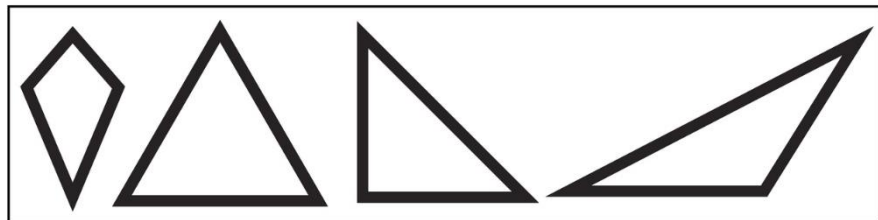
Shape: names that describe 2D and 3D objects and spaces, e.g. square, circle, sphere, triangle, etc.

I. Identify and shade the correct shapes.

rectangle



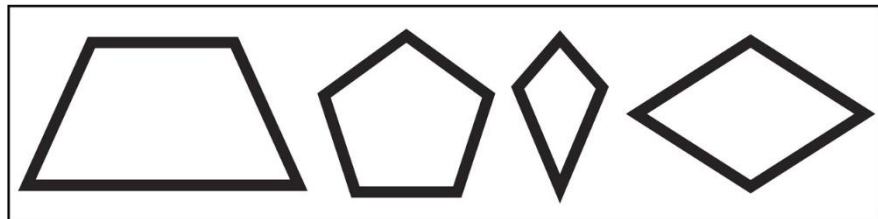
right triangle



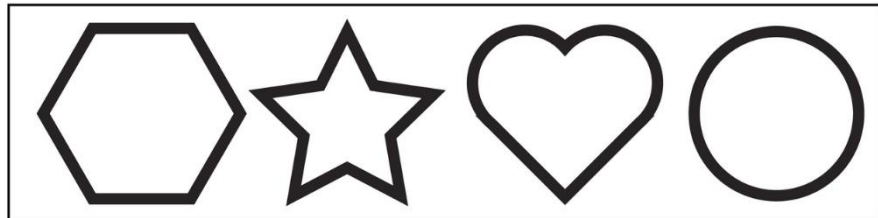
parallelogram



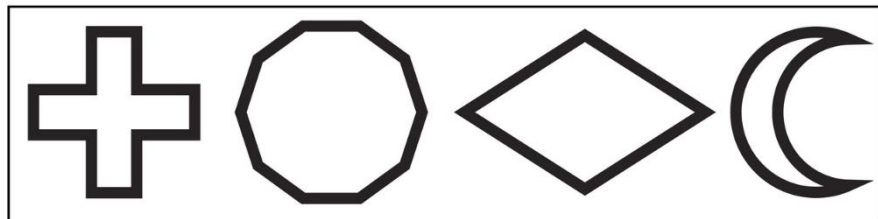
trapezoid



heart



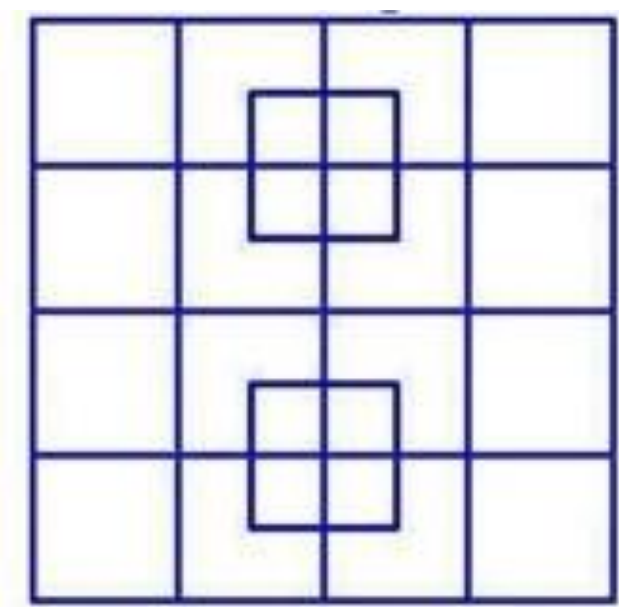
crescent





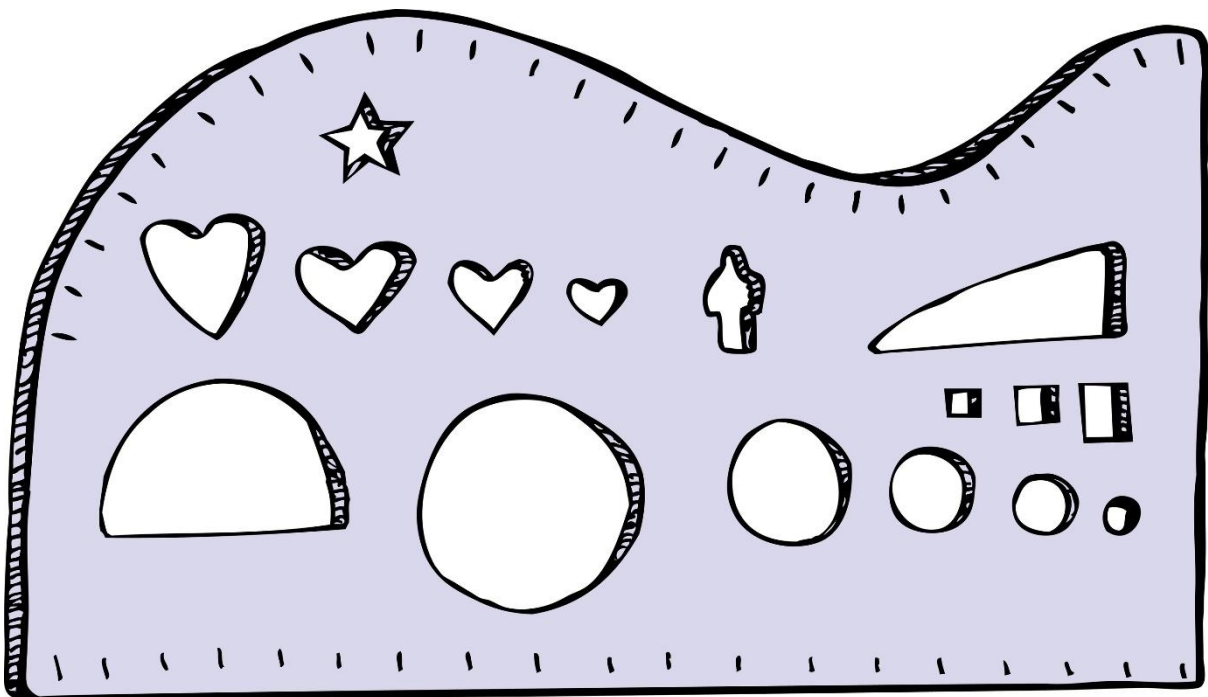
SAMPLE

10. Count the number of squares in the picture.



Answer:

11. Draw around the shapes in the stencil below:



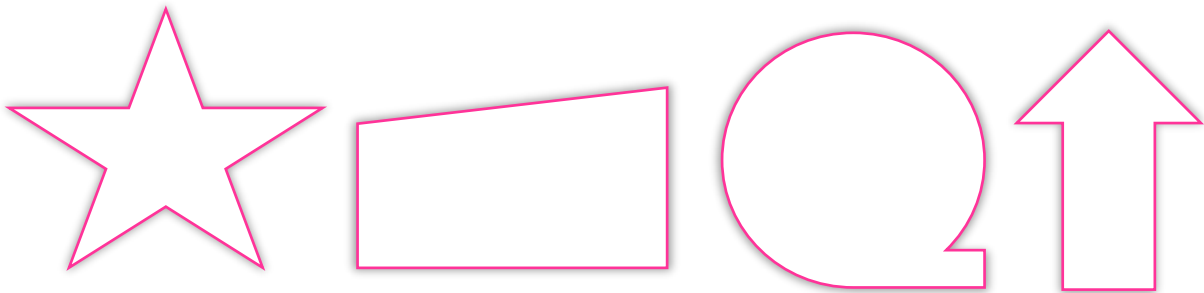
12. Name some shapes you drew.



SAMPLE

21. Draw the other half, using symmetry.

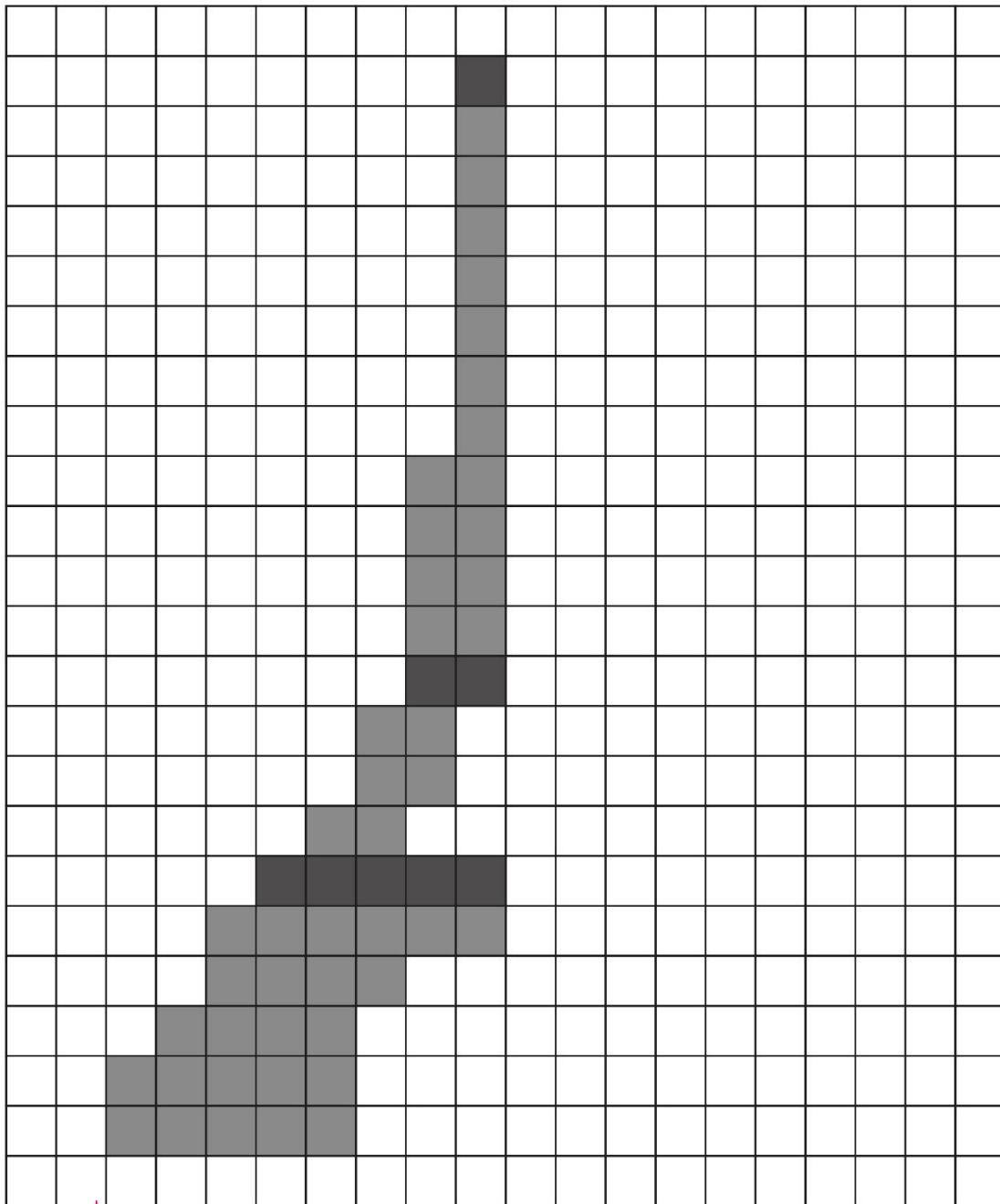
22. Tick the shapes that are symmetrical.





SAMPLE

23. Use symmetry to shade in and complete the image.



It should look like the Eiffel Tower!



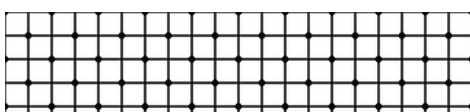
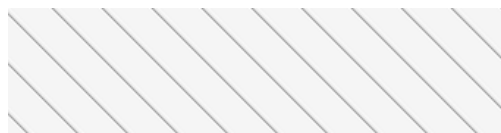
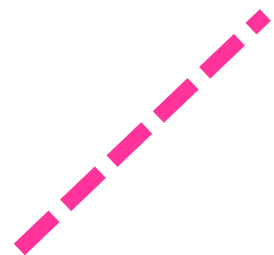
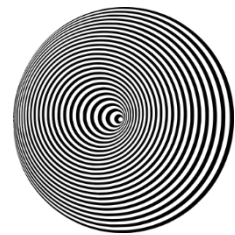
Are you symmetrical?



D. SPATIAL AWARENESS VOCABULARY - FEATURES

Spatial features: Terms that describe the features and properties of 2D and 3D spaces, objects and people, e.g. straight, bent, curvy, corner, side, line, corner, pointy, sharp, edge, etc.

I. Circle the straight lines.





SAMPLE

2. Draw these lines.

a) Draw a straight line. (use a ruler!)

b) Draw a wavy line.

c) Draw a dotted line.

3. Label the box.

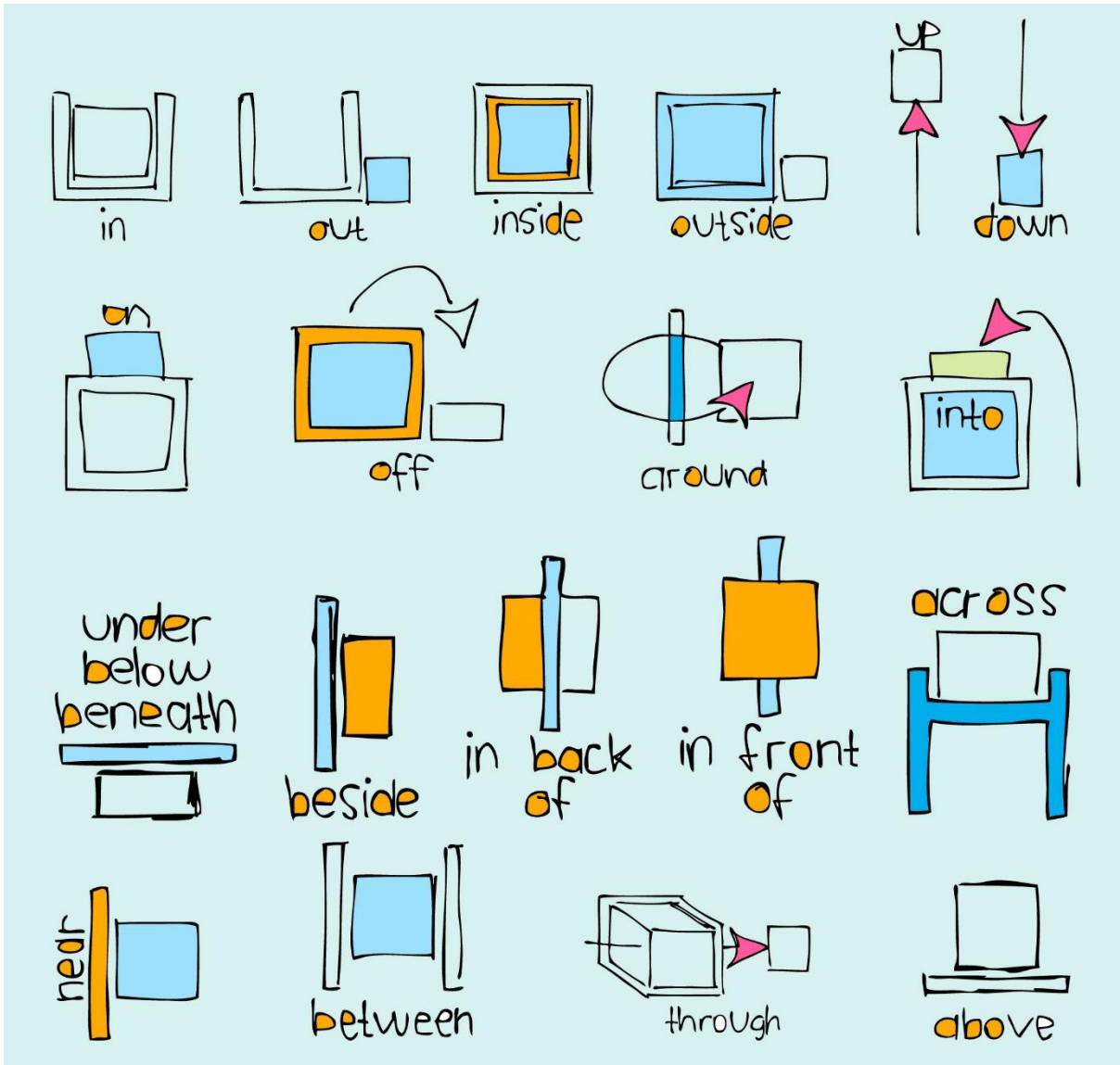
corner, edge, side





SAMPLE

2. Study the words.

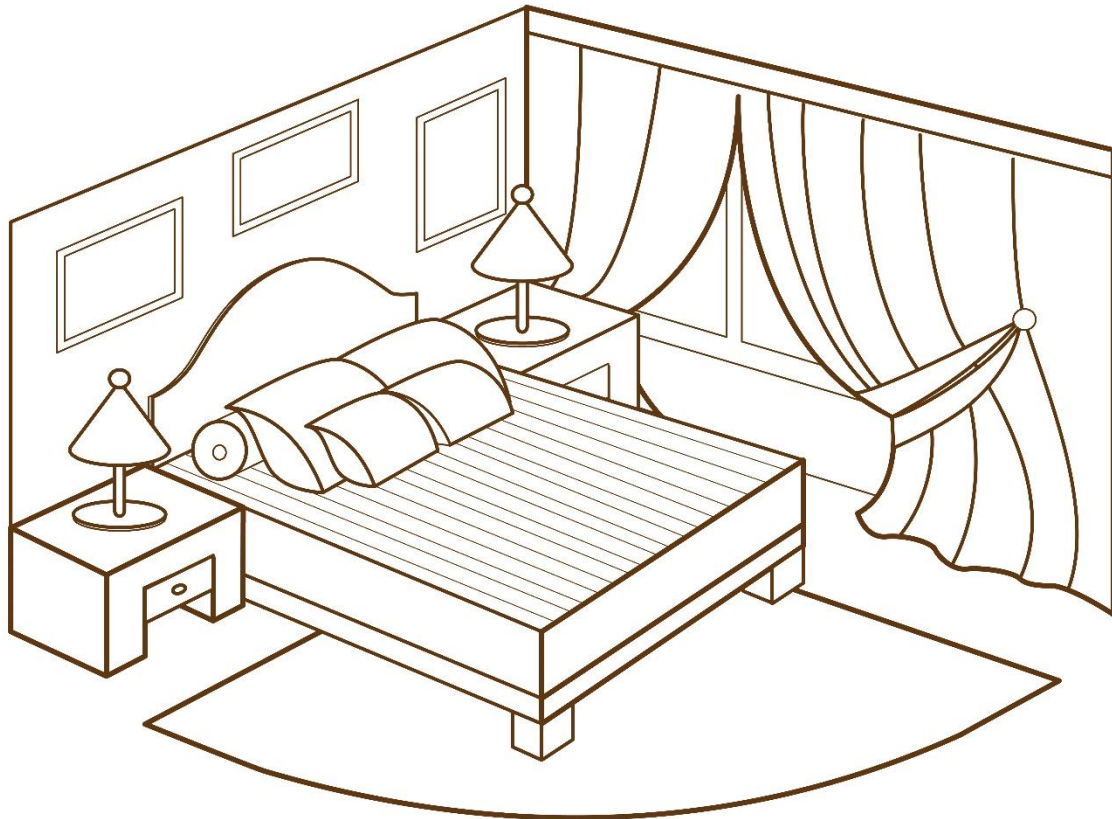


3. Use some of these words to describe the position of objects in the classroom.



G. USING SPATIAL AWARENESS VOCABULARY

I. Listen to the teacher and follow the instructions.



- Draw a circle around the smaller pillow on the left-hand side.
- Draw an X underneath the curtain on the right-hand side.
- Draw spots on the lamp on top of the bedside table on the right.
- Draw a rough line from one corner of the rug to the other corner of the rug.
- Draw a ball on the floor, in front of the bed.
- Draw a square in the middle painting on the wall.



SAMPLE

5. Describe the position of the shapes.

You need colours for this exercise.

Which shape is:

- Above the purple circle? _____
- Below the dark green star? _____
- To the left of the red octagon? _____
- To the right of the grey rectangle? _____
- 2 spaces to the left of the red crescent? _____
- 4 spaces to the right of the orange square? _____

6. Draw these shapes in the grid:

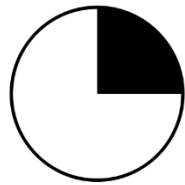
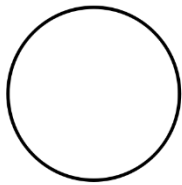
- A blue square to the right of the pink rectangle.
- A black circle to the left of the dark green star.
- A yellow rectangle 3 spaces below the green hexagon.
- A green triangle above the yellow circle.



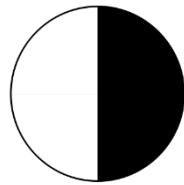
SAMPLE

3. Things can be turned clockwise or anticlockwise by a quarter, half, three-quarters or full circle.

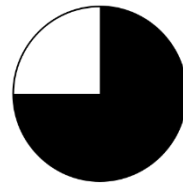
Example:



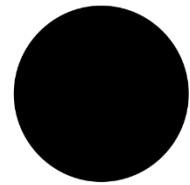
quarter turn



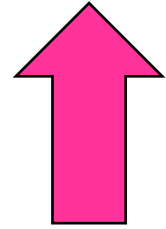
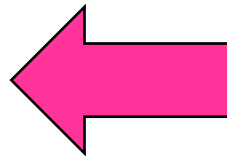
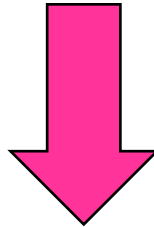
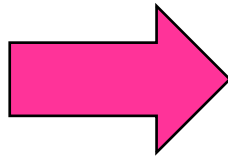
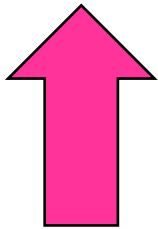
half turn



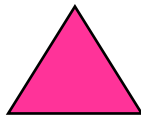
three-quarter turn



full circle



Look at this triangle.



Now draw the triangle moved:

a) Clockwise half turn _____

b) Clockwise three-quarter turn _____

c) Anticlockwise quarter turn _____

d) Anticlockwise half turn _____

*Do you notice that a clockwise or anticlockwise half turn brings the object to the same position? Or an anticlockwise quarter turn brings the object to the same position as a clockwise three-quarter turn?



C. MOVEMENT AND SPORT

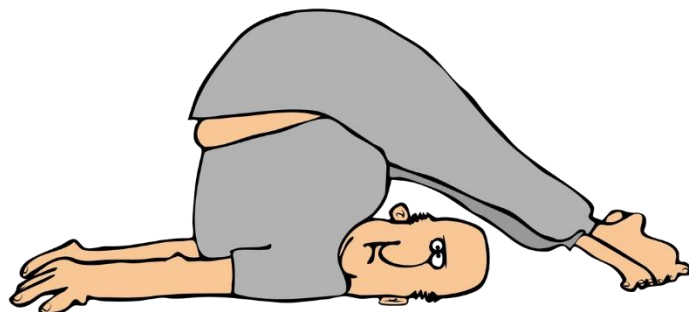
1. Name some ways in which you can move your body while sitting in your chair!

2. Try out some moves!

Think about: stretching, bending, twisting, pointing, etc.

As a group, do some gentle forms of movement outdoors (preferably). Things you could do:

- Throw / Kick balls to each other
- Go for a walk
- Do some stretches
- Balancing



* While you are doing this, think about: all the empty/open space around you.



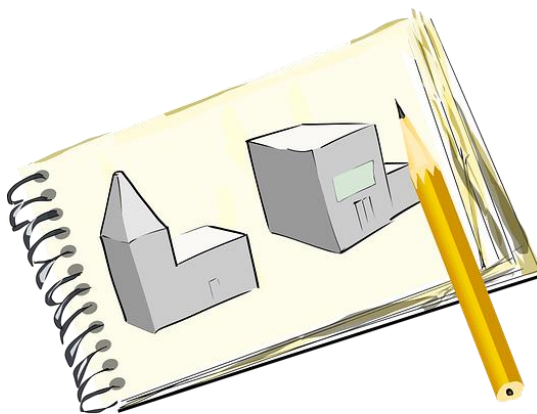
b) Back-to-Back Drawing

What You'll Need:

- Paper, pens/markers, printouts of simple line drawings or basic shapes. (Teachers: see Appendix 2)

Instructions:

1. Get into pairs and sit back to back with your partner.
2. One person gets a picture of a shape or simple image, and the other gets a piece of paper and pen.
3. The person holding the picture gives verbal instructions to their partner on how to draw the shape or image they've been given (without simply telling them what the shape or image is). **Only use shape and location words.**
4. After a set amount of time, each set of partners compare their images and see which person drew the most accurate replica.





SAMPLE

a) Marshmallow Spaghetti Tower

What You'll Need:

- 20 sticks of uncooked spaghetti, 1 roll of masking tape, 1 metre of string, and 1 marshmallow for every group

Instructions:

1. Get into groups. For smaller classes, all students can be in one group.
2. The aim of the activity: Which group can make the tallest tower?
3. Using only the materials given, build the tallest tower that you can. The awkward part? The marshmallow must be at the very top of the spaghetti tower.
4. Important: the whole structure must stand on its own, with no hands or other objects supporting it! It must be able to stand on its own for at least 5 seconds.





SAMPLE

TRICK 9: MAGIC MOVING PENCIL

Idea: You are going to tell your audience that you can move a pencil without touching it once, but by using your mind power. The idea behind the trick is to be subtle about what you are doing, and at the same time, distracting the audience.



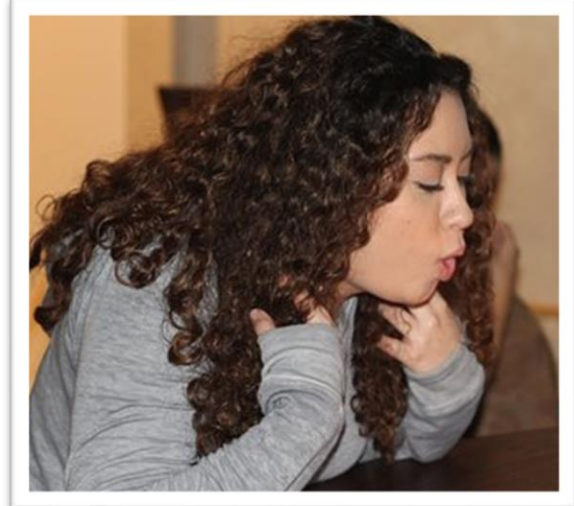
You will need:

- A light pencil and a flat surface

Method:

1. Put the pencil on the table. Hover your hands about 20cm above it.
2. Make a 'show' of using your mind to move the pencil. Make it look like you are really concentrating. Talk and distract your audience. Move your hands over the pencil while saying a magic word.
3. Now, softly blow on the pencil (without making a blowing face); do it so secretly that no one can see you doing it! The pencil will roll along.

Don't be this obvious!





SAMPLE

TRICK 10: WHICH COIN?

Idea: You will tell a member of your audience to pick up one coin amongst many, and you will know the exact date written on that coin by 'reading the person's mind', without seeing which one they chose.



You will need:

- 5 to 6 coins, all with different dates or years

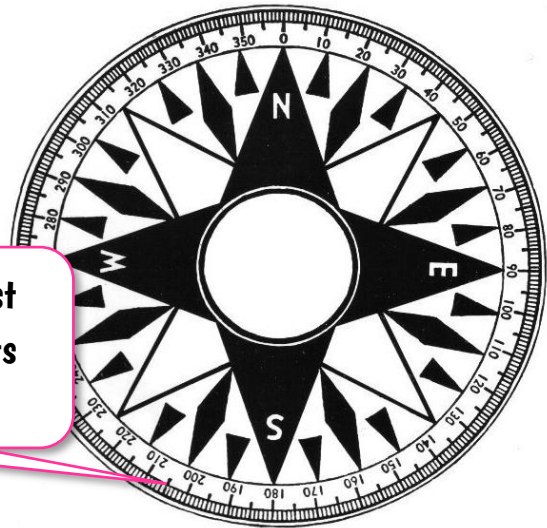
Method:

1. Keep all the coins on the table.
2. Then, turn your back and ask someone to choose one coin from the pile.
3. Tell them to remember the date and keep thinking about it while holding the coin tight in their hands.
4. Then, let them put the coin back.
5. Turn around to face your audience again and examine each coin by holding them separately.
6. As you pick the coins, the one that feels the warmest is the coin that was most likely chosen. Remember the date on it.
7. Then, close your eyes and place your hand on your forehead, in an exaggerated way, as if you are trying to envision the coin.
8. Then say the year and show the right coin to the spectator.



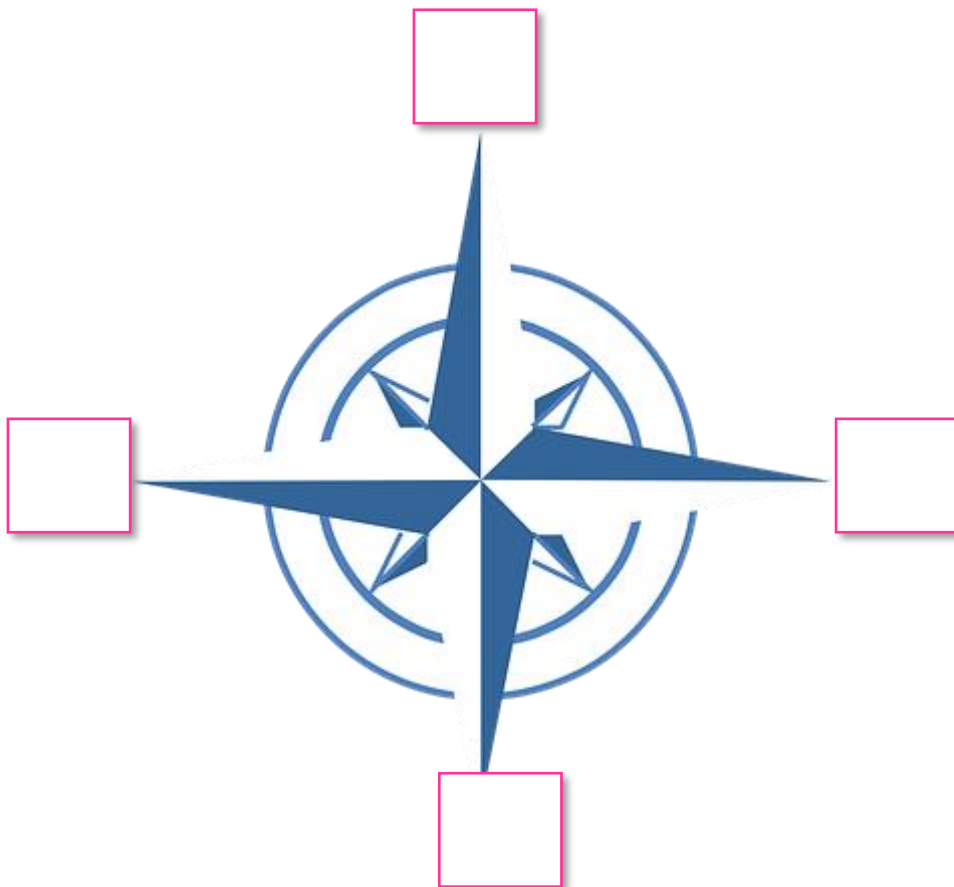
C. COMPASS POINTS

A compass is a tool that tells you the directions. On a map, it is often called a compass rose.



To remember North, South, East and West – clockwise: Nola Eats Sour Worms

I. Write the compass points below. Use capital letters:
N, S, E, W (North, East, South, West)



*Remember: The sun rises in the east and sets in the west.



SAMPLE

3. Look at the compass and the cardinal points.



south-east, west,
north-east, south,
east, south-west,
north-west, north



What do the letters stand for?

Look at a real compass.

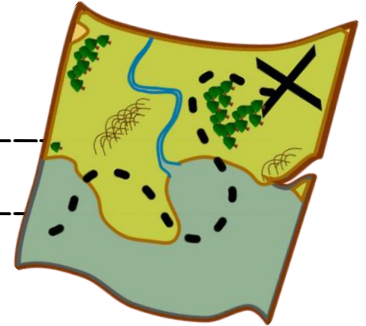
- a) N _____
- b) NE _____
- c) E _____
- d) SE _____
- e) S _____
- f) SW _____
- g) W _____
- h) NW _____



SAMPLE

2. Answer the questions.

a) What is a map?



b) Name three kinds of maps.

c) What are two things that might be found on a city map?

d) How is a globe different from a map?

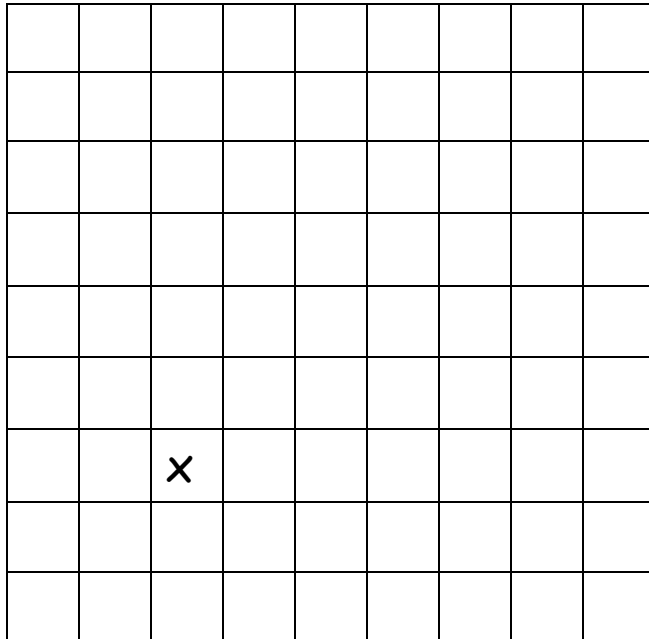
e) What is a globe a model of?

f) What kind of information can maps and globes give us?



SAMPLE

12. Follow the instructions. Start at the X.



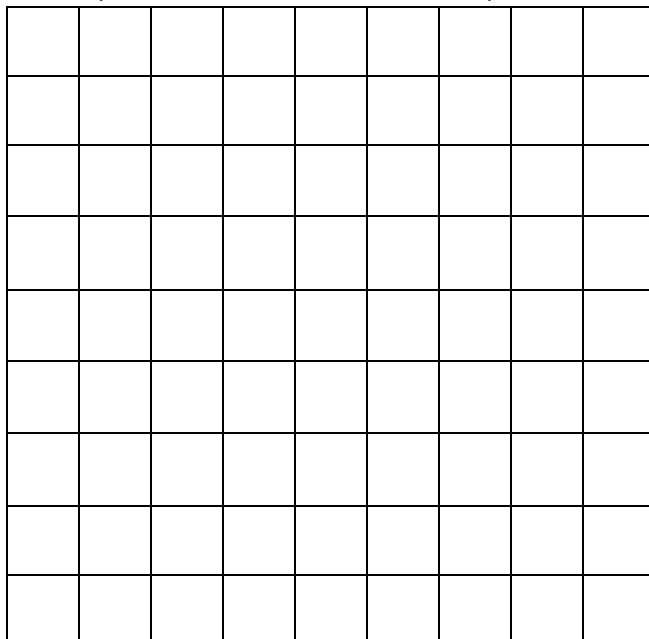
Up 4, turn right,
forward 4, turn right,
forward 3, turn right,
forward 2, turn left,
forward 3

*Compare your answer
with others!

13. Now write your own directions and get a partner to follow them below. Draw the X where your partner must start. You can use these words:

forward, backward, left, right, turn, up, down

Your partner draws the path:



Write instructions:

Did your partner get it right? _____



SAMPLE

15. Look at the map below. Answer the questions.



a) Where is the Bay of Bengal?

b) On this map, which area is the highest above sea level?

c) What is Mt Everest?

d) Name a city in India. _____

e) Which sea is to the west of India? _____

f) Name a river in India. _____

g) Circle the compass. Draw a box around the scale.



SAMPLE

20. Use Google Maps.

Google Maps has an excellent aerial photo facility. If you have an interactive whiteboard, you could draw over the top of the map using the whiteboard pen tools.

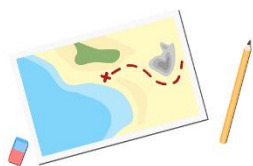
a) As a class, use Google Maps to find where you are now.

The address you are at:



b) What familiar things do you see on the map? (examples: streets, shops, buildings, etc.)

c) Look at a street view. Does it look the same now?



d) As a class, find directions and distances for interesting places to go to. Find restaurants, pubs, shops, car parks, hospitals, etc. in your area, using Google Maps.



MAPPING OF LEARNING OUTCOMES

Developing spatial awareness

1. Use appropriate vocabulary to describe direction, e.g. clockwise, anti-clockwise, horizontal, vertical Pages 8 to 11 (general spatial awareness vocabulary), Pages 12 to 30 (spatial awareness vocabulary shapes, shapes, folding paper to make shapes, tangrams, symmetry), Pages 31 to 35 (spatial awareness vocabulary sizes – smallest to biggest, shortest to tallest, full and empty), Pages 36 to 41 (spatial awareness vocabulary features – straight, curvy, bent, sharp, bent, angles, horizontal/vertical), Pages 42 to 46 (spatial awareness vocabulary relations – position words), Pages 47 to 49 (spatial awareness vocabulary perspective – top view), Pages 50 to 55 (using spatial awareness vocabulary – position of objects in everyday life, using position words, following instructions relating to position, origami instructions, beginning / middle / end), Pages 56 to 60 (clockwise and anticlockwise, quarter / half, three quarter, full circle turns), Pages 61 to 65 (visual perception – find the differences, identical images, visual illusions, finding objects in a picture, missing puzzle pieces, patterns, rebus puzzle), throughout
2. Use a simple map to find a given location Pages 104 (map labels, map features), Pages 106 to 108 (direction), Pages 109 to 114 (compass points), Pages 115 to 118 (map scales), Pages 119 to 122 (map key and symbols), Pages 123 to 143 (reading maps, map grids, house / room plans, Google Maps)
3. Draw a simple map to give directions Pages 144 to 149 (drawing maps, writing keys, aerial views, drawing plans, drawing local maps, drawing directions to get from one place to another)



SAMPLE

4. Calculate the distance between two places on a map Pages 115 to 118 (calculating distance, looking at real maps to calculate distances)
5. Use the body or body parts to move in a given direction Pages 67 (movement in everyday life), Pages 68 to 69 (Your personal space), Pages 70 to 81 (movement and sport, group activities), Page 82 (moving in a crowd, Pages 83 to 86 (body language), Pages 87 to 89 (pathways)
6. Move a range of objects in given directions Pages 90 to 102 (moving objects, basic magic tricks)