

# Position



Name \_\_\_\_\_

# Series F – Position

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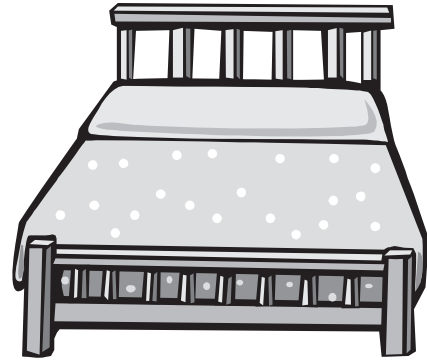
- using a compass \_\_\_\_\_
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## Spatial orientation – point of view

- 1 Imagine you're standing at the bottom of this bed. You're facing the bed. Draw a bedside chest on the left side of the bed.



Now draw yourself lying on the bed. From where you're lying, is the chest still on the left hand side of the bed? Explain your thinking:

When we use terms such as left and right or above and below, where we are in relation to the object changes how we view its position.

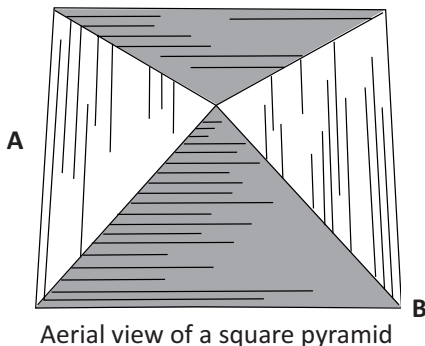
- 2 Work with a partner on this activity. You'll need some cubes or counters. Sit opposite each other. One of you will give the other instructions to create a letter (such as Z). Don't tell them which letter they'll be making!

How easy or hard was the game?

Put 6 cubes in a row. Now, from the top of the row make another row of 3 cubes at a right angle to the first one. Now ...



3



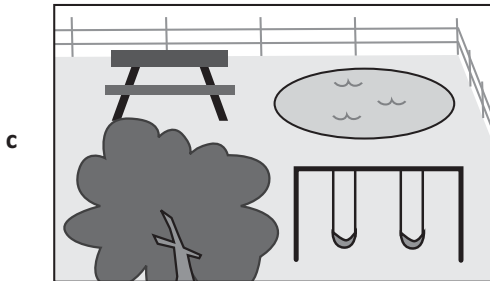
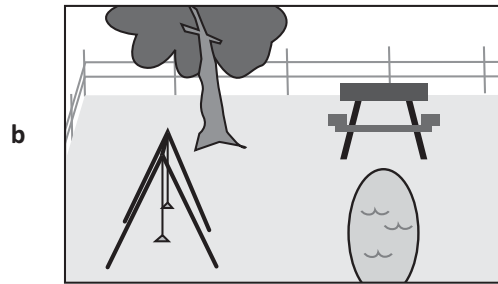
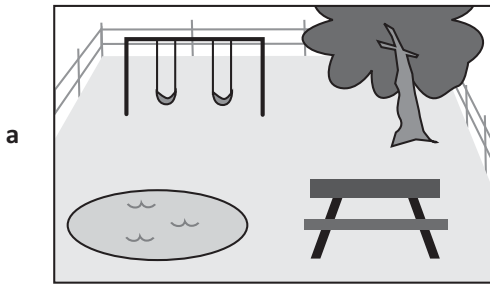
Draw what your view would be if you were standing at these different points:

Point A

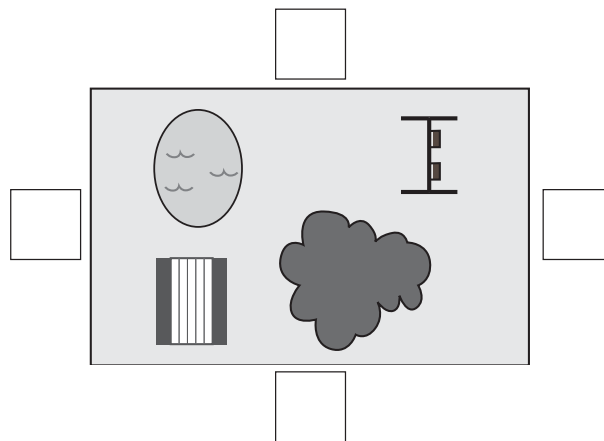
Point B

# Spatial orientation – point of view

4 Look at the pictures. Each shows a different view of the same place.



On this bird's-eye plan, write **a**, **b**, **c** and **d** to show where you'd be standing for each picture so your view matches those above.



5 Arrange some objects on your desk and draw the view from 2 different perspectives.



## Spatial orientation – directions

Have you ever given someone directions on how to get somewhere? Providing directions requires you to create a picture in your head of the journey. You need to think of useful landmarks and explain how to navigate the path. Precise terms such as left, right, straight ahead and opposite should be used.

- 1 **Work with a partner. Close your eyes and take turns nominating a place or object such as the school office, netball court or the city. Both point to where you think it is. Open your eyes and check. List the places you and your partner chose.**

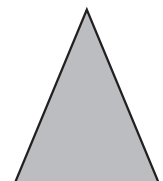
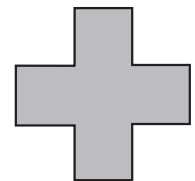
a How often did you and your partner choose the same direction?

b Was this activity harder or easier than you thought it would be?

- 2 **Choose one of these shapes and write a set of directions below for your partner to walk out the shape. Think about how many paces each line should be. How will you direct them to make the necessary angles and turns?**

Get your partner to try out the directions. Use markers such as counters to track their path. Make any necessary changes to your instructions and try it again.

**My directions:**

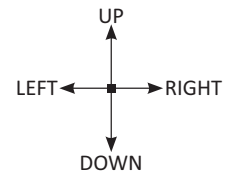
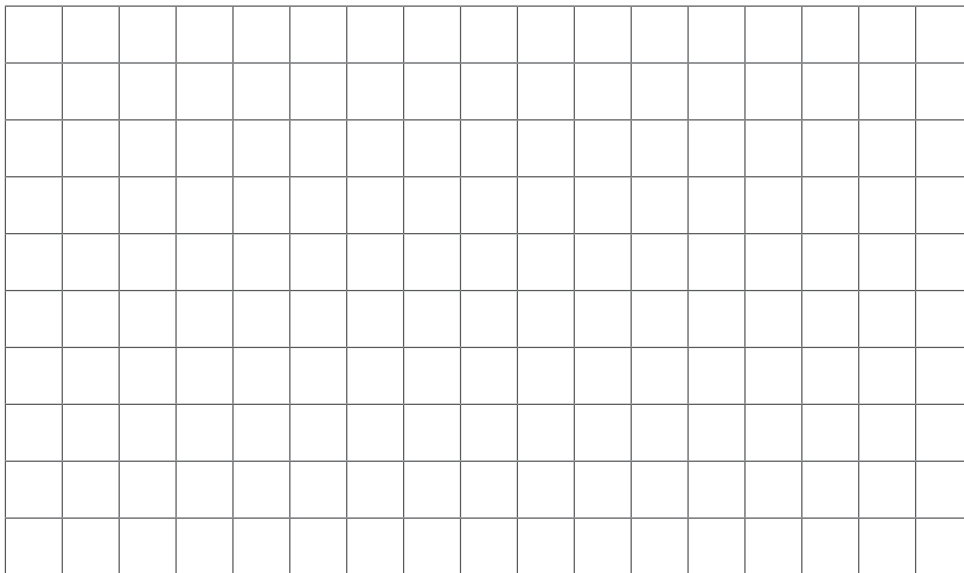
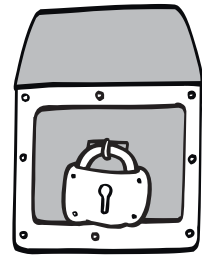


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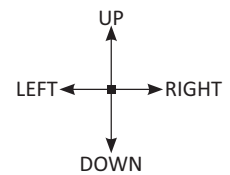
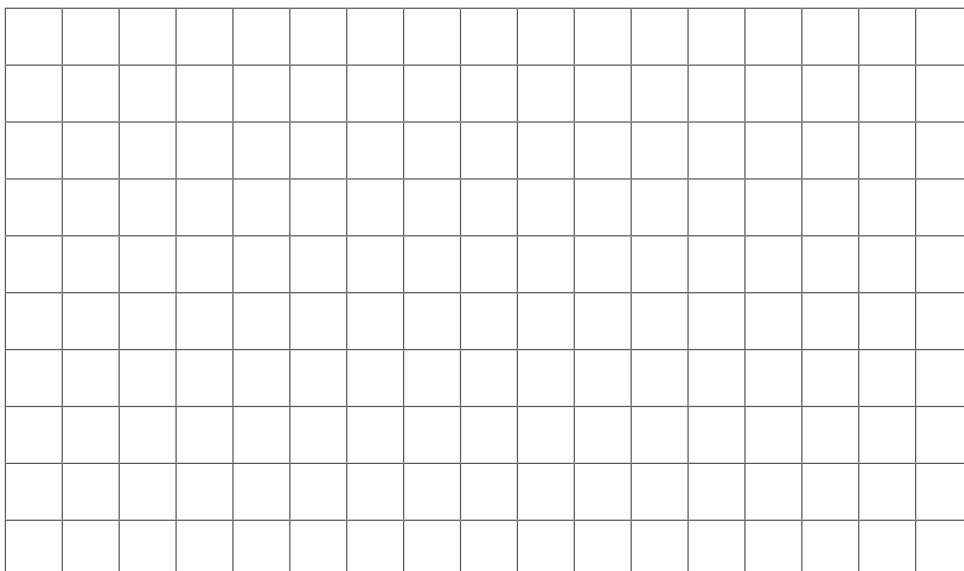
# Spatial orientation – directions

**3** In this game your partner will try to locate your hidden treasure chest.

- 1 Colour in four squares to make one larger square. This is your chest. (Don't let your partner see your page.)
- 2 Your partner picks a starting square and marks it on their grid. They show you and you mark it on your grid too.
- 3 Your partner then suggests moves such as "4 squares up". Both of you mark the matching square with a cross, and you respond with one clue such as "too far up" or "warmer but you need to go right".
- 4 If they locate one part of your treasure chest you must let them know but you don't have to give a further clue. They must keep guessing till they uncover all your chest.



Swap roles.





Getting ready

In this activity, you'll practise translating the pictures in your head into reality. You do not have to be great at drawing – just good at listening carefully to the description of the positions. You'll need a partner, paper and a pencil.



What to do

Take turns reading the following information to each other. If you're being read to, close your eyes and build a picture of the scene in your head. Once the descriptions are finished, draw the picture you have in your head on paper. Check it against the written information. It does not have to be a bird's-eye view.

**Reader 1**

- 1 You're in a square-shaped park. In the top right hand corner is a large tree.
- 2 In the centre of the park is a pond. This pond has a rock in the middle and some weeds around the edges.
- 3 In the bottom right hand corner of the park is a picnic table. On the table are 2 cups, 2 plates and a watermelon.
- 4 On the opposite side of the park is a slippery dip. It's about halfway between the top and the bottom of the park. One child is at the top and two are waiting at the bottom.

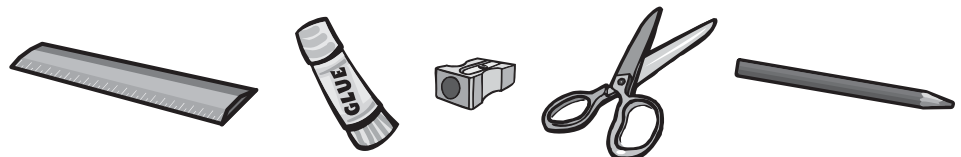
**Reader 2**

- 1 You're creating a bird's-eye view of a square bedroom. There's a window in the centre of the top wall and a door in the centre of the opposite wall. Place a 'W' where the window is and a 'D' for the door.
- 2 You put a bed in the top left hand corner of the room. It runs along the wall with the window.
- 3 On the right hand side of the bed is a chest of drawers.
- 4 Opposite the chest of drawers on the other side of the room, is a bookcase.
- 5 A desk with a computer is next to the door, on the left hand side of the door.
- 6 A rug runs down the centre of the room from the bed to the door.



What to do next

This is like the party game Memory. Arrange a few items on your table top. Give your partner time to make a picture in their head of the arrangement, then get them to turn their back. Make one change to the arrangement. Your partner has to guess what you've done. Swap.





**Getting ready**

In this activity you're going to plan and create a set of directions for a journey around the school using the pictures in your head as your guide. A partner will then follow your directions without knowing where they are going.

You'll need some paper and pencils.



**What to do**

- 1 Close your eyes and map a route within the school in your head, such as from the library to the classroom or from the office to a specific drinking fountain.
- 2 Now write the directions using the pictures in your head as a guide. Make sure you don't reveal what the target location actually is.
- 3 Give the directions to a partner and walk with them as they follow your instructions. You can't clarify or change anything!
- 4 How do they go? Do they get there?
- 5 If any of your instructions were misleading, circle the ones you need to change and then make the alterations.
- 6 Give your amended directions to another person and see how they go this time.



**What to do next**

Create a map of your route.

Expressions you can use:

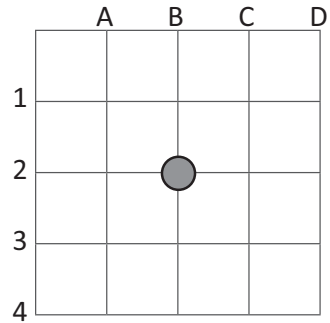
- straight ahead
- turn left or right
- diagonally
- opposite
- adjacent
- take your 3rd left
- go down
- until
- approximately



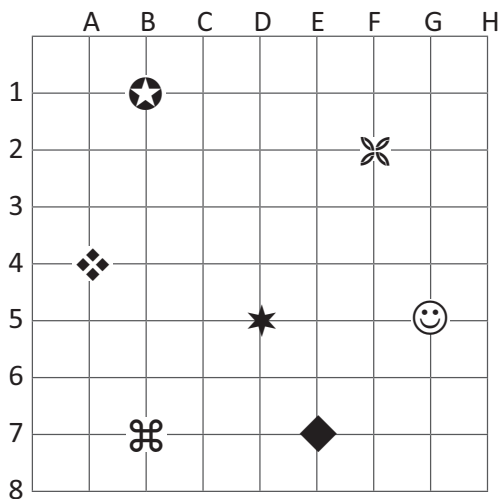


# Coordinates – plotting coordinates

We use coordinates to give us a reference to show where something is on a grid. It's where two lines intersect. The letter comes first. This example shows coordinate B2.



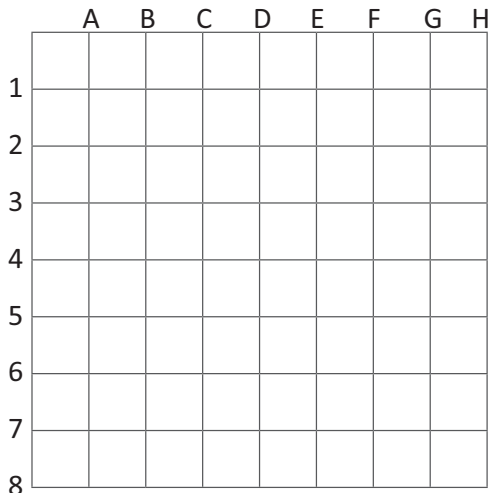
1 For each symbol on the grid, write the coordinates.



☺	
◆	
⌘	
★	
🌸	
★	
◆	
⌘	

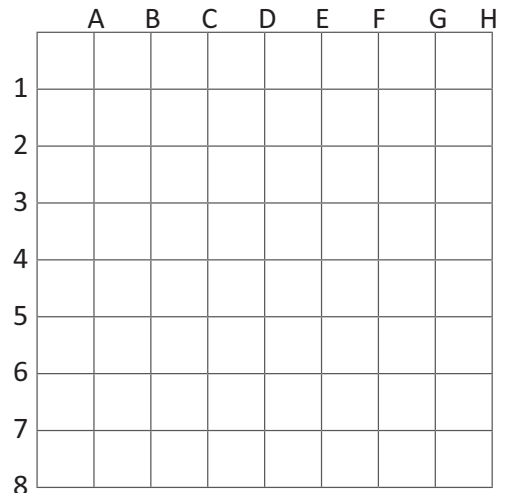
2 Plot then connect the set of points for each grid:

a D1 to F4, F4 to B6, B6 to D1



What 2D shape do you see? \_\_\_\_\_

b A4 to D7, D7 to G4, G4 to D1, D1 to A4

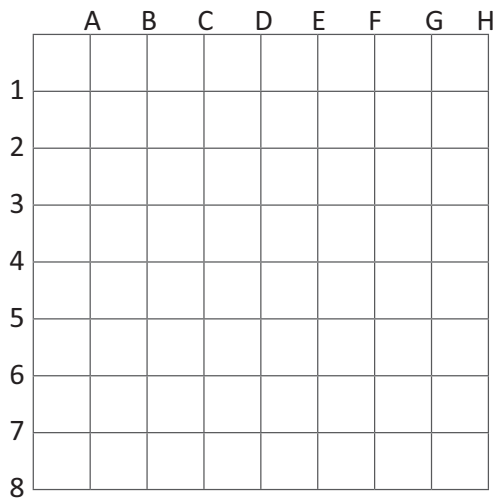


What 2D shape do you see? \_\_\_\_\_

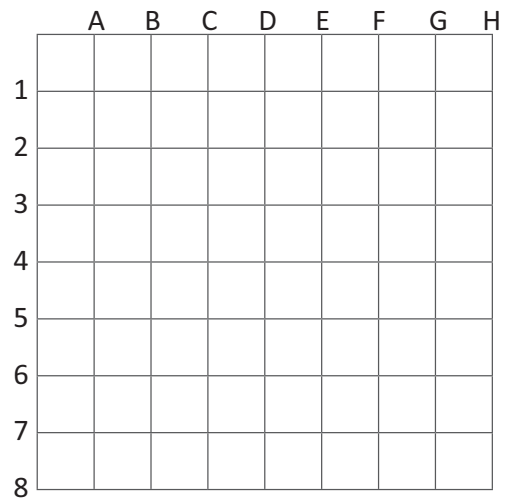
# Coordinates – plotting coordinates

**3** Plot and join the following points. When you've done that, make each design symmetrical.

**a** D1 to A4, A4 to D4, D4 to A6, A6 to C8

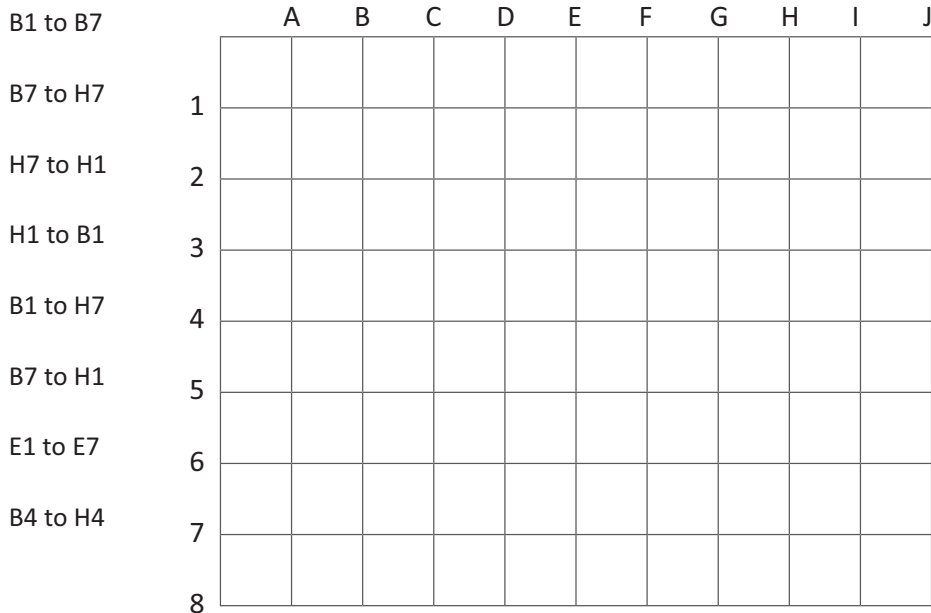


**b** D1 to B1, B1 to D3, D3 to A3, A3 to D7, D7 to B8



**4** Complete the design according to the instructions.

**a** Plot and join the following points:

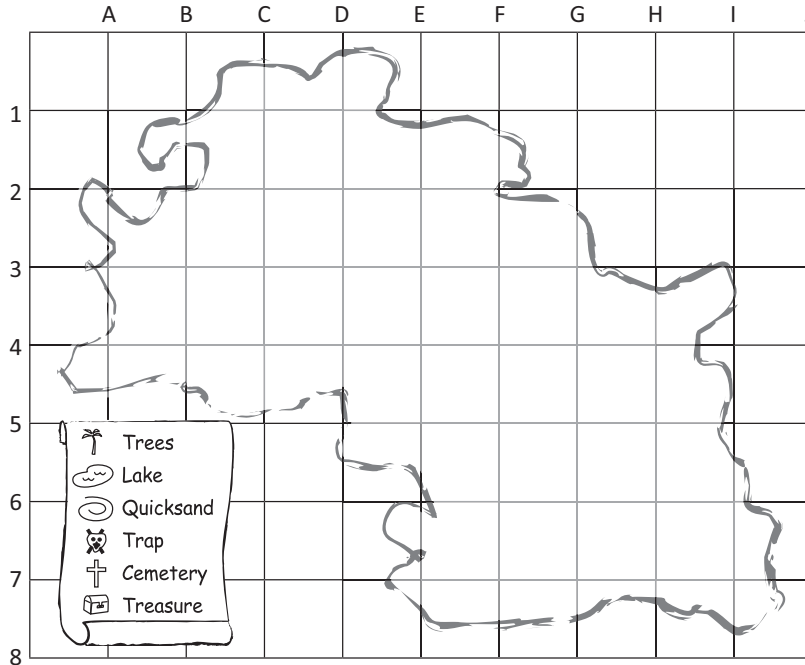


**b** How many triangles can you find? \_\_\_\_\_

# Coordinates – mapping using coordinates

Maps and street directories use coordinates to help us find places and follow routes.

**1** Complete this treasure map by adding the symbols from the key at the correct spot.



- a Trees in the area of E3, F3
- b Lake Eerie to cover B3, C2, D2
- c Quicksand at H6
- d Trap at D4
- e Cemetery to cover F5, F6, F7
- f Treasure at G4

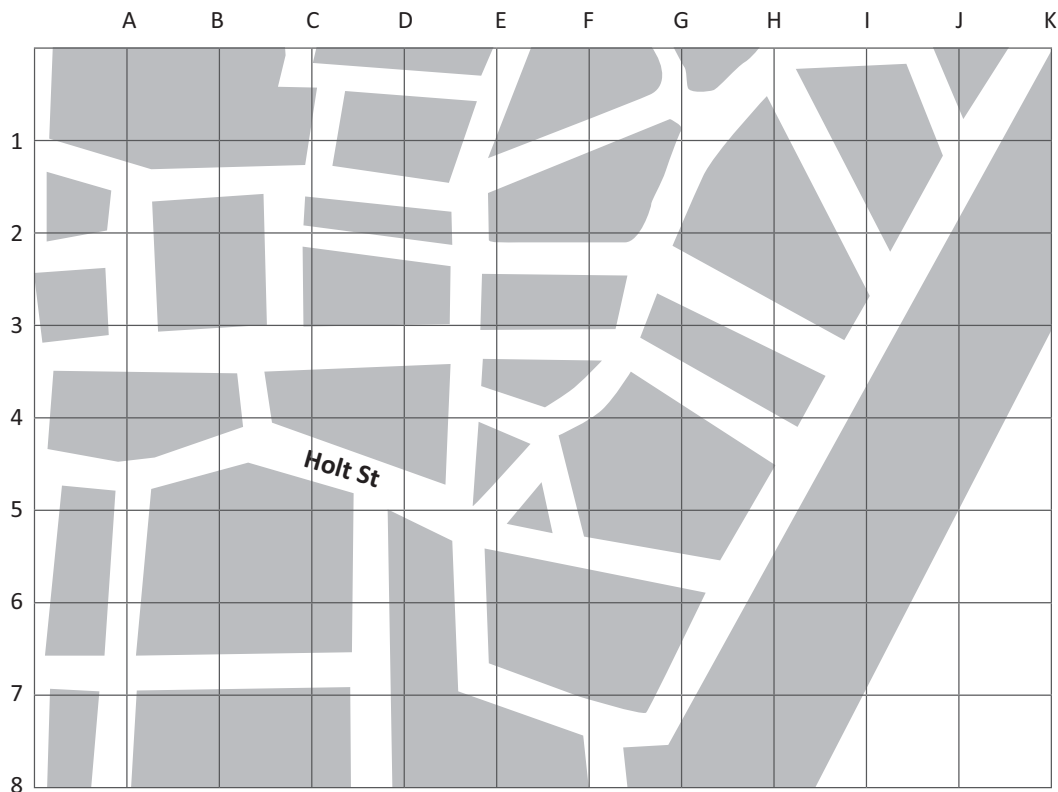
**2** Look carefully at this map. Use the coordinates to answer the questions.



- a Which two streets intersect at D2?  
\_\_\_\_\_
- b Where am I if I'm standing at G7?  
\_\_\_\_\_
- c If I ran from A6 and finished at F4, draw the route I could've taken on the map.

# Coordinates – mapping using coordinates

**3** This map is incomplete. There is only one street labelled.



**a** Complete the map by labelling all the streets from the table below:

Label	Clue 1	Clue 2
Rollstone Street	A3	F3
Wood Street	A1	E1
Pearl Street	G7	J1
North Street	E2	G3
Ebor Street	D8	D5
West Street	E6	E1
Blue Street	E7	G7
Jessie Street	G1	E5
Cuba Street	H1	I3
Wigan Street	A7	D7

**b** You live on Wigan Street and your friend lives on North Street. Draw your houses on the map. Write a set of directions for your friend to visit you.



**Getting ready**

For this game, you'll need:

- a partner
- the grid below
- 1 normal die
- 1 die with letters A, B, C, D, E, F written on paper taped over each side
- 2 different coloured pens



**What to do**

**Instructions:**

- 1 Player 1 rolls both dice and marks the coordinate with their coloured pen.
- 2 Player 2 rolls the dice. If the point is already taken, they miss their turn. If not, they mark the coordinate with their coloured pen.
- 3 The first player who can draw a line through 3 points in a row (horizontally, vertically or diagonally) wins.

	A	B	C	D	E	F	G	H	I	J
1										
2										
3										
4										
5										
6										
7										
8										



**What to do next**

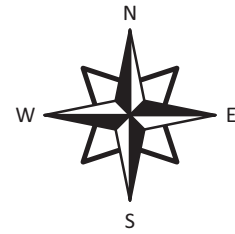
Play again so the winner is the person who completes a square around one of the other player's points.

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														
13														

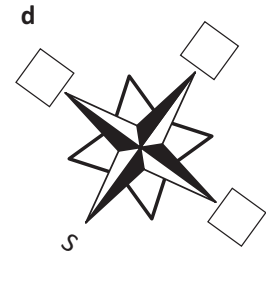
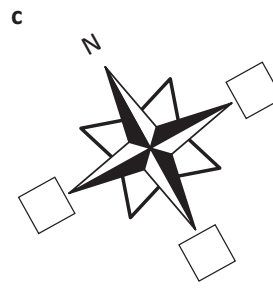
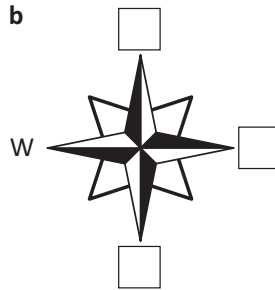
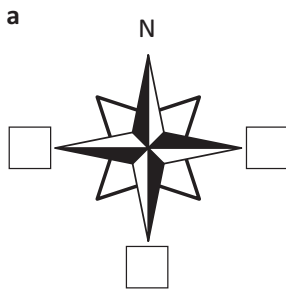
Connect these coordinates	
G1 to B4	G13 to L4
B4 to L4	L4 to B10
L4 to G1	B10 to G13
G1 to G13	L10 to B10
G13 to B4	B10 to B4
B4 to L10	L4 to L10
L10 to G13	

# Directions – using a compass

We can use a compass to help us with direction. There are four main points on a compass – north, south, east and west.  
If the compass points exactly to the north, we say the direction is due north. The same applies to south, east and west.

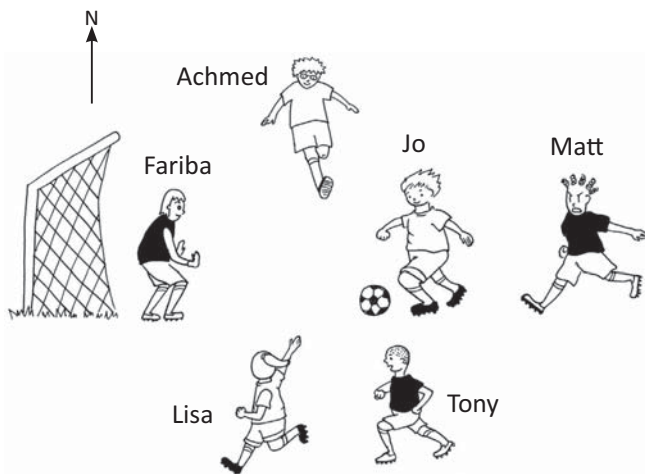


**1** On each compass, some directions are missing. Fill in the missing ones:



**2** List some times people might use compasses:

**3** Note where north is in this scene below. Use the compass in the top box to help you answer the following questions:



- a In which direction is Jo kicking? \_\_\_\_\_
- b In which direction is Fariba facing? \_\_\_\_\_
- c If Jo passes off to Tony, in which direction will she kick? \_\_\_\_\_
- d If you were Jo, would you shoot for goal? If not, who would you pass to and why?

# Directions – using a compass

## 4 On the grid, create a simple treasure map:

- a At each marked point, add a place of interest that treasure hunters might go past on their search. Use the symbols in the key. Decide where you'll hide the treasure but don't mark it on the map.

**Key:**

- ⊕ Cemetery
- 🌋 Volcano
- 🏠 Cave
- 🗼 Lighthouse
- 🌳 Forest

- b Now write a set of directions for your treasure hunters to follow – using north, south, east or west and the number of squares they should travel. You need to decide where to start. Get them to mark their trail and put an X where they think the treasure is. Are they right? If not, what went wrong – your directions or their following of the directions?

**My directions:**

OK, I have to start at Dead Man's Point, walk east 4 squares and then north 5 squares. I'm now at Snake's Pit. From here, I have to head ...



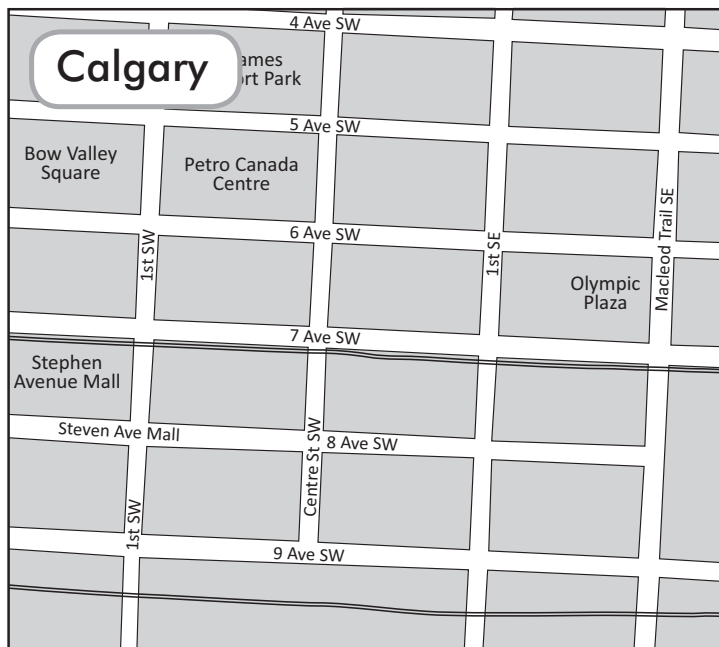
*DISCOVER*



# Directions – maps

Knowing how to read maps is an essential skill when you're in unfamiliar territory. One of the keys is to visualise yourself and where you're headed on the map. Remember left and right can change depending on your direction!

- 1 You'll be travelling to 2 cities. In each city, you'll follow directions to locate a secret spot. Mark your travels on the map. Some clues are cryptic and require thought. To add excitement, challenge friends to a race – the first to locate the secret spots and mark their travels correctly wins. Ready? Let's do it.



**Calgary**, is laid out in an easy to follow grid system. The streets are numbered with their direction.

You start off in Bow Valley Square at the intersection of 1st SW and 6 Ave SW. Head 2 blocks south down 1st SW then turn left.

Walk for 2 blocks then turn right and then right again. One block's walk should take you to a famous monument. Use the internet to find out the name of the monument and write it at this spot.

What was added to the top of the monument in 1987?

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In **London**, start at Piccadilly Circus Station.

Head east on Coventry St then south onto Oxendon St.

Take your second right and then your first right.

Head north on Haymarket, then turn left onto Jermyn St.

Turn left onto Regent St and right at a street named after a king. Follow that till you reach a square. Where are you?

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In the middle of the real life area is a statue of King William III on a horse. Draw a crown to mark this.



Getting ready

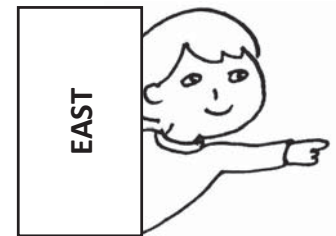
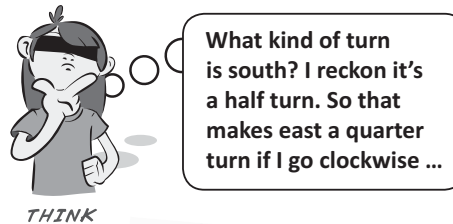
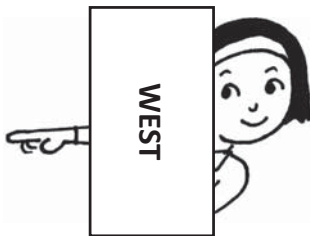
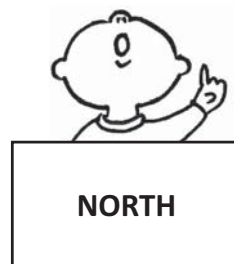
This is a game for 5 or more players. It's fun as a whole class activity as well.

You'll need to make 4 cards, each labelled with a different main compass direction. You will also need a blindfold.



What to do

- 1 Place the cards in their correct positions. Choose a caller.
- 2 The caller stands in the middle facing north, with their eyes closed or wearing a blindfold.
- 3 The other players choose a direction to stand at. Once everyone's in position, all call out, 'North, south, east, west! Which direction do you like best?'
- 4 The caller names a direction and turns to face it. They then open their eyes. If they are facing the right way, any student at that point is out. If they are facing the wrong way or if no one is at that point, the caller swaps places with another player and everyone is back in.



What to do next

Too easy? Add north east, north west, south east and south west for an extra challenge.