

Important information:

Time: 2 hours

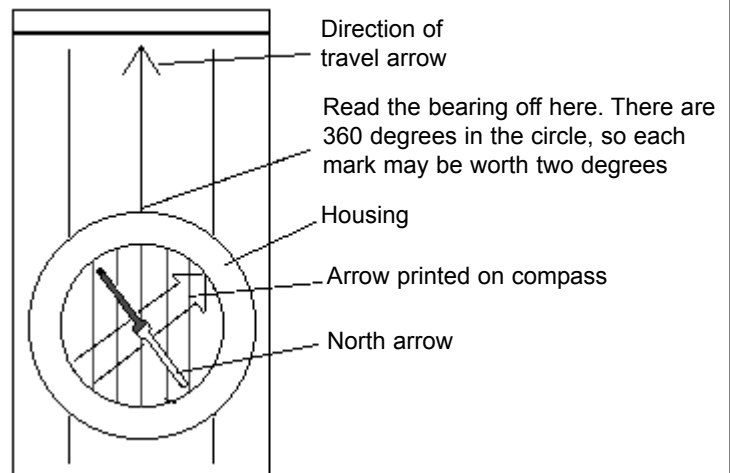
Equipment: * Worksheet C
* Local Ordnance Survey maps (see www.ordnancesurvey.co.uk)
* Compasses

Outcomes: * Knowledge of how to use compasses to take and follow bearings
* Knowledge of how grid references work
* Ideas for different ways to provide instructions, maps or clues

Using maps, compasses and grid references

Children will probably have some prior knowledge of different types of maps, and may have seen Ordnance Survey maps of the local area. You can access free snippets of OS maps on their website at www.ordnancesurvey.co.uk by following the 'Get-a-Map' links and entering a local postcode. Children could all download a map showing their homes or the school; right-click on the map and 'Save Picture As'. Children should be encouraged to explain what they can see on the maps, and discuss what the different symbols mean. Children could be challenged to think of symbols for the monuments and memorials on their trails and draw a sketch map with them on.

Using compass bearings is a great way of providing instructions to follow. It is also a useful skill for children to learn, being both highly practical and mathematically-based. A bearing is a three-digit angle measured clockwise from north. It is a skill that is easier to learn when shown, rather than explain in writing! However, simply, to take a bearing from one place to another place (which is visible from the first) hold the compass so that the 'direction of travel arrow' at the front points directly at the second place. Keeping the compass pointing in this direction, turn the housing dial so that the north arrow (inside the housing dial) is directly lined up with the arrow printed on the compass itself. The red end of the north arrow always points north. You can now read the bearing off the front of the compass (see diagram above). To follow a bearing, turn the housing dial so that the bearing you have been given is at the point where you read the bearing (marked on the diagram as 'read the bearing off here'). Now move the whole compass around until the north arrow lines up with the arrow marked on the compass itself. The 'direction of travel arrow' is now pointing in the direction of the bearing which you have been given. Compass bearings would be useful in a trail around a small area, such as school grounds or a graveyard. Always remember to include how far (in paces or metres) you need to travel in the direction of the bearing.



Using grid references to pinpoint the location of the monuments and memorials is useful when putting together the instructions for following trails. Basic challenges using four- and six-figure grid references are on **Worksheet C**.

Providing clues

Children could use clues to help people follow their trails. These could include compass bearings, or more cryptic clues that use local landmarks or buildings. For example: *The next memorial on the trail remembers Really Nice Local Individuals. You'll find it at the watery watering place where the Sea crosses the River.* This fictional example would lead to a Royal National Lifeboat Institution memorial on the wall of a pub named after the sea or water (e.g. Mermaid Inn). The pub in this example is on Sea Lane, by a bridge over a river!

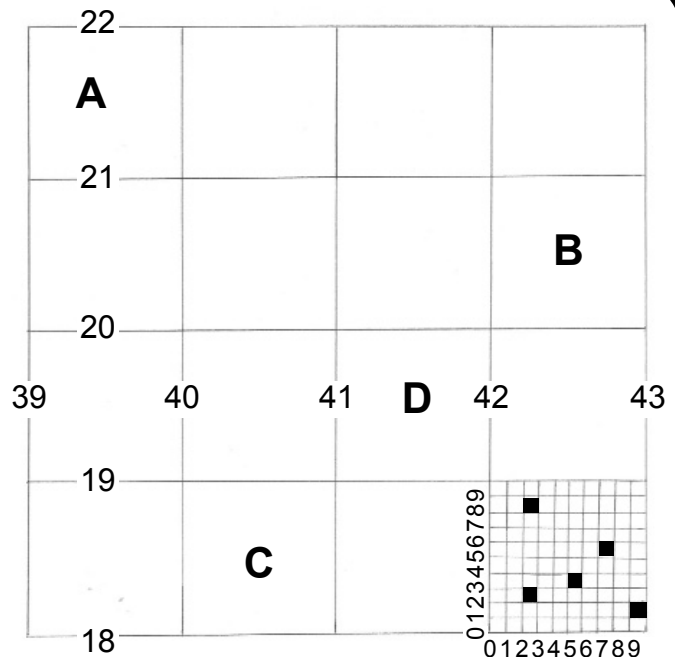
Objectives: To learn how to use grid references to find places on a map; to learn how to take and follow bearings using compasses; to think about how you will put together your monument and memorial trail

Name: _____

Grid references

To create a four-figure grid reference, find the square that you want to refer to. The grid reference will be the two numbers on the vertical line to the left of the square, followed by the two numbers from the horizontal line underneath the square. Remember to go ‘along the corridor and up the stairs!’

The four-figure grid reference for square A is **3921**.



Write down the four-figure grid references for squares B, C and D

B: _ _ _ _

C: _ _ _ _

D: _ _ _ _

To pinpoint an exact place on a map, you will need a six-figure grid reference. Start by finding the four-figure reference for the square, and write it down with a space after each pair of numbers like this: 42_ 18_. You now need to imagine that the square is divided up into 100 small squares like the square in the bottom right corner of the diagram. Number each dividing line (horizontally and vertically) from 0–9 (starting from the bottom left corner). Work out in which of your tiny squares your place is. Find the number to the left of the square on the vertical line and insert it into your six-figure grid reference after the first two numbers. The number from the horizontal line under the square provides the final number.

The six-figure grid reference for one of the shaded squares is **422182**



Write down the six-figure grid references for the other four shaded squares.



Work with a partner. On squared paper, both draw out a grid which is 10x10. Number each vertical line and horizontal line. It doesn't matter what number you start with, but make sure your grid is numbered in the same way as your partner's! Without showing your partner, both colour in any ten squares on your grid. The aim of the game is to find your partner's coloured squares before they find yours. Take it in turns picking one square at a time, using four-figure grid references to pick the squares. **Good luck!**

Turn over

Compass bearings



Your teacher will show you how to use a compass to take and follow bearings. In your class, discuss how you think compass bearings could be used to help people to follow a trail. What other information would be needed as well as a compass bearing?



Work in small groups to create a trail around your school grounds using compass bearings. Your trail should visit five different places in the school grounds. *HINT: Make sure that you can see each place on your trail from the place before it! It isn't easy to take a bearing on something you can't see!*



Once you have finished making your compass bearing trail, swap with another group. Try and follow their trail. What five places did their trail take you to?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

Providing clues



Another good way to put together a trail is to use clues, a bit like a treasure hunt. In a class, discuss what information you would need to include in a clue.



Choose something that you can see in your classroom. Write a clue that will help someone to work out what it is.



Challenge the person sitting next to you; can they work out your clue?



Work in small groups to create a trail around your school grounds using clues. Your trail should visit three different places in the school grounds.



Once you have finished writing your clues, swap with another group. Try and follow their trail. What three places did their clues take you to?

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____