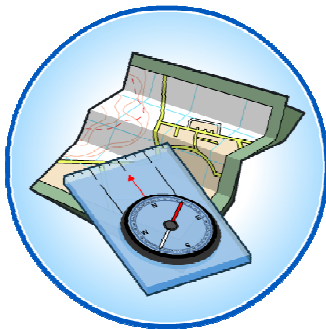


Boardworks Geography Toolkit

This product contains 3 units, 17 presentations and 51 worksheets and accompanying documents

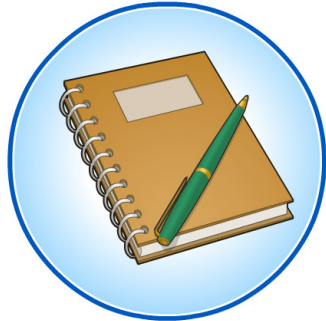
The units are:



Map Skills

Consisting of the presentations:

- Maps and Direction
- Scale
- OS Maps
- Grid References
- Relief
- Creating a Map



Fieldwork and Analysis

Consisting of the presentations:

- Introduction to Fieldwork
- Processing and Analysing Data
- River Fieldwork
- Settlement Fieldwork
- Tourism Fieldwork
- Sustainability Fieldwork
- ICT, GIS and Fieldwork
- Coastal Fieldwork



Interpretation and Reasoning

Consisting of the presentations:

- Pirate Mystery
- Mountain Mystery
- Acrobat Mystery

Map Skills

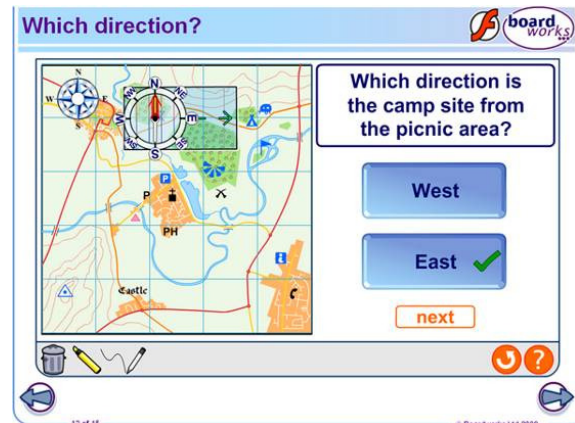
This unit contains 6 presentations and 13 worksheets

Maps and Direction

15 slides, 8 Flash activities, 2 worksheets

This presentation is designed to teach:

- the different types of maps
- the points of the compass
- how to give directions using four, eight and sixteen compass points
- how to orientate a map
- how to take and give bearings.

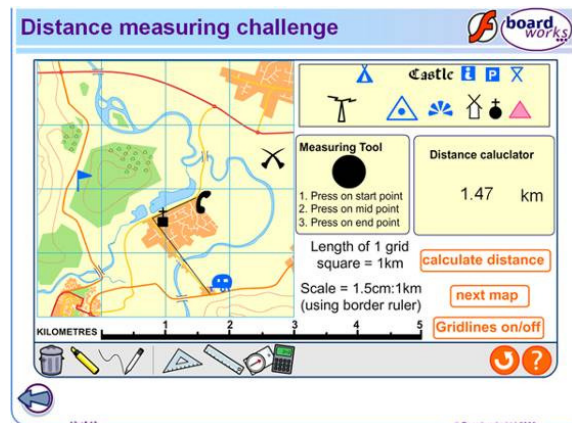


Scale

13 slides, 7 Flash activities, 2 worksheets

This presentation is designed to teach:

- what a scale is
- what a scale line is
- how to convert distances using scales
- how to estimate distances
- how to measure curved routes.

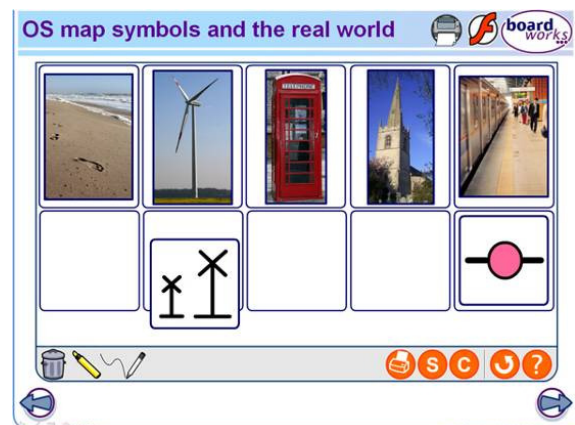


OS Maps

14 slides, 7 Flash activities, 1 worksheet

This presentation is designed to teach:

- about the Ordnance Survey
- what OS symbols represent
- the uses of the different maps that the Ordnance Survey produce.



Boardworks Geography Toolkit Contents



Grid References

16 slides, 6 Flash activities, 4 worksheets

This presentation is designed to teach:

- what a grid reference is and how it is useful when finding a location on a map
- what eastings and northings are
- how to find and give four and six figure grid references.

Eastings and northings

Areas on a map are identified by a **four figure grid reference**. It is a set of two numbers, the **easting** and the **northing**. What is the grid reference of the orange square?

The **easting** is always written first. It is the number at the top or bottom of a map.

The **northing** is always written second. It is the number at the side of a map.

The grid reference is provided by the intersection of gridlines in the bottom left corner of the square.

The square's grid reference is **0231**.

3 of 16 © Boardworks Ltd 2009

Relief

20 slides, 9 Flash activities, 3 worksheets

This presentation is designed to teach:

- how relief is shown on maps
- how to estimate heights between contour lines
- how to recognize valleys, hills and steep slopes from patterns in map contour lines
- how to draw relief cross sections and use colour shading to show relief.

Draw a cross section

next

16 of 20 © Boardworks Ltd 2009

Creating a Map

13 slides, 5 Flash activities, 1 worksheet

This presentation is designed to teach:

- how to make sketch maps
- how to use scale to draw a map of an area
- how to draw map symbols and make a key for a map.

Extension activity: map your playground

Produce a map of your school grounds. Make it as detailed as possible. Use an accurate scale, a key, and if possible, grid lines and grid references.

Once completed you could photocopy your map and get others to add in information like:

- Their favourite place
- Where they don't feel safe
- Where different groups hang out.

12 of 13 © Boardworks Ltd 2009

Fieldwork and Analysis

This unit contains 8 presentations and 16 worksheets

Introduction to Fieldwork

18 slides, 11 Flash activities, 1 worksheet

This presentation is designed to teach:

- the stages involved in fieldwork from creating a hypothesis to drawing a conclusion
- health and safety
- different data collection techniques
- how to draw a field sketch
- how to write up results and accept or reject a hypothesis.

Data collection

Collecting data about how a place looks:
Field sketches do not need to be works of art, but they are useful to show the relevant features of a landscape or view. Emphasize what you **observe** by annotating your drawing.

9 of 18

Processing and Analysing Data

14 slides, 8 Flash activities, 3 worksheets

This presentation is designed to teach:

- different data presentation methods
- how to use Excel to draw a graph
- how to make a scatter graph, draw a line of best fit and describe correlation
- how to make a pie chart
- how to make an isoline map
- how to annotate photos as a way of presenting information.

Making an isoline map

All the data collected lies between 4.9 and 7.5°C, so isolines should be drawn at 5, 6 and 7°C.
The 6°C isoline should go straight though 6.
The line should have numbers below 6 on one side of it and numbers above 6 on the other.

10 of 14

River Fieldwork

15 slides, 10 Flash activities, 2 worksheets

This presentation is designed to teach:

- techniques to show the location of a fieldwork site
- hazard awareness
- how to collect data about river width, depth, gradient and speed and draw a long profile
- how to find the cross sectional area of the river channel and find discharge.

Data collection: river speed

Speed = distance travelled ÷ time taken

The orange took 10 seconds to travel 10m.
Speed of river flow:
 $10\text{m} \div 10\text{s} = 1\text{ m/s}$
The water is flowing at 1 metre per second.

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Boardworks Geography Toolkit Contents



Settlement Fieldwork

13 slides, 5 Flash activities, 2 worksheets

This presentation is designed to teach:

- settlement data collection techniques
- how to develop hypotheses
- how to find the sphere of influence of a town
- how to survey and map land use
- how to conduct a pedestrian and traffic count and practise on a 'virtual high street'.

Pedestrian and traffic survey

Time - 8:00 AM

Transport	Quantity
Car	I
Motorvan	III
Motorbike	II
Bicycle	I
Pedestrian	II

9 of 13

Tourism Fieldwork

16 slides, 9 Flash activities, 2 worksheets

This presentation is designed to teach:

- how to develop a question and hypotheses to investigate
- how to measure sphere of influence
- how to collect data about footpath erosion and assess its impact
- how to use a quadrat and measure the infiltration rate of soil
- how to collect data on public opinion.

Footpath erosion - infiltration rates

Pour water into the drain pipe and start the stopwatch. Time how long it takes for the water to drain away completely.

Site	1	2	3	4
Site A				
Site B				

11 of 16

Sustainability Fieldwork

29 slides, 9 Flash activities, 3 worksheets

This presentation is designed to teach:

- techniques for surveying a school's sustainability
- what a carbon footprint is
- how to produce a rough estimate of a school's carbon emissions
- how to conduct a campaign to raise awareness to make a school more sustainable.

Comparing results

Currently the average amount of CO₂ produced by secondary schools per pupil, per year is: **1,281 kg CO₂/year per pupil**

After examining your estimate, does it seem likely that your school will produce more/less carbon per pupil or about the same?

You can view the results of other schools at websites like:

<http://www.carbondetectives.org.uk/carbonchart/>

If you want to produce more detailed carbon footprints, there are links to school carbon footprint calculators in the appendix of this presentation.

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Boardworks Geography Toolkit Contents



ICT, GIS and Fieldwork

16 slides, 7 Flash activities, 1 worksheet

This presentation is designed to teach:

- what GIS is and who uses it
- how students can apply GIS to their fieldwork
- what software and hardware components are used in GIS
- how GIS techniques were used in 1854 to find the source of a cholera outbreak
- how GIS applications are used in assessing land value, the extent of hazards and tracking weather patterns.

Flooding, land value and GIS

National Sailing Academy

0 500 m

Look at the satellite layer, it gives more information about the infrastructure and shows that it is a built-up area.

GIS layers

Satellite image On Off

OS map On Off

Academy site On Off

1m sea level rise On Off

Summary

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Coastal Fieldwork

19 slides, 8 Flash activities, 2 worksheets

This presentation is designed to teach:

- different topics that could be studied at the coast
- hazard awareness
- techniques for collecting and presenting data on longshore drift, cliff height and beach profile
- how to carry out an assessment into the impact of human activity at a tourist honeypot site.

Chesil Beach: beach profiles

The person at the bottom should hold the clinometer up to the mark on their pole and look along it at the mark on the other pole. The angle on the clinometer should be recorded.

	distance	angle
1	1.5 m	22°
2		
3		
4		

17 of 19 © Boardworks Ltd 2009

Interpretation and Reasoning

This unit contains 3 presentations and 22 accompanying documents

Pirate Mystery

13 slides, 5 Flash activities,
10 accompanying documents

- This geographical mystery focuses on globalization and the interaction between consumer demand in one country and employment conditions in another.
- Students will work through the pieces of evidence found in the accompanying documents and PowerPoint and uncover the reasons why a Chinese factory worker making pirate toys is unhappy.

Evidence station 5: virtual interview

Are manufacturing working conditions generally worse in these countries?

Do Western companies look to exploit workers in developing countries?

In general yes, but the reality of not having a job can have far greater impact on people in developing countries. Being able to eat, clothe yourself and pay for family expenses is a much bigger step up than being destitute or without food. This is why so many workers are still moving from the country to the city. The reality being that although the conditions are hard it is still better to have some money and face poor working conditions than to have no money or food at all.

Mountain Mystery

22 slides, 10 Flash activities,
2 accompanying documents

- This geographical mystery focuses on the discovery of a body on Mt. Kenya.
- Students are presented with information in PowerPoint and their teacher must guide them through the evidence to complete worksheets and draw conclusions about how the body got there and who the person is.

Gathering Evidence

In order to solve this mystery you need to gather evidence. There are two types of evidence, **primary evidence** and **secondary evidence**.

You will need to look at both if you want to solve the mystery:

Primary evidence comes directly or first-hand from a person, object or event (e.g. looking at a body, examining belongings).

Secondary evidence is indirect, second-hand evidence that lacks the immediacy of primary evidence (e.g. studying texts and maps about the location where the body was found).

Acrobat Mystery

13 slides, 4 Flash activities,
10 accompanying documents

- This mystery focuses on the topic of urban regeneration and its impacts.
- Students, in small groups, will work through the evidence found in the accompanying documents and PowerPoint to find out why a group of acrobats will be boycotting the London 2012 Olympics.

Forming conclusions

Once you have sorted and reviewed the evidence, you should be able to form conclusions to answer the question;
Why won't these acrobats be at the Olympic village?

Remember, there could be many different answers, but as a Geo-detective you should give the answer which you think is best supported by the evidence.

Discuss any conclusions and decide as a class what you think the most likely reason is.

Do you think the acrobats have good reason to be against London hosting the Olympics?