PROGRESS IN

FIELDWORK

GEOGRAPHY

HAYLEY PEACOCK

KEY STAGE 3

HODDER EDUCATION
LEARN MORE

Contents

Introduction

Why do we do fieldwork?

Put simply, **fieldwork** is *doing* geography. Rather than reading all about places and landscapes in a book, fieldwork allows you to study geography outside in the real world. Fieldwork gives you the chance to actively explore the world around you, research it, and collect information or **data** on a specific topic to understand it. It might take you to expansive coastlines, quiet neighbourhoods or bustling urban areas. You might need to use special instruments to collect your data, or just a pen and paper.

This fieldwork book gives you opportunities to study your local area. In order to do this, you will use a range of **fieldwork techniques** to investigate the world around you. You might find that you aren't able to go out and collect the data you need – don't panic! In this book, there are plenty of example datasets to use, and chances to explore places virtually.

Who uses fieldwork?

A conservationist uses fieldwork to help them replenish trees in danger of being lost.

A meteorologist uses fieldwork to assess the weather and alert people if there is severe weather on the way.

A geologist uses fieldwork to work out ways to prevent floods or earthquakes.

An urban geographer uses fieldwork to examine how cities are changing.

An environmentalist uses fieldwork to assess the impact climate change is having.

A social researcher uses fieldwork to gather evidence on a social issue, such as homelessness.

You can even do fieldwork on the moon! Astronauts have received fieldwork training so they can examine what the moon is made of.

How to use this book

All fieldwork enquiries in this book follow a structure:

Preparation: This stage is how all fieldwork begins. It starts with a key enquiry question, which is the question that you will be researching and seeking to answer. Good preparation will involve getting some context to your enquiry, to help you understand the topic better.

Collection: In this stage, you will design your fieldwork techniques and use them to collect your data. These will be the sheets you take out to your fieldwork sites. Examples are surveys, assessments and questionnaires.

Presentation: After you've collected your data, you need to make sense of it. This stage will give you different ways of presenting your data in charts, graphs, maps and posters.

Analysis: Using your presented data, this next stage will take you through how to interpret what you have found. This might mean looking at trends in graphs, patterns in questionnaire answers or spotting unusual results.

Evaluation: Evaluation means reflecting on the problems you experienced during your fieldwork. In this stage, you will be taken through some questions that will help you think about what went well in your fieldwork, and what didn't.

It's time to begin your first fieldwork enquiry!

1.1 How safe do people think my local area is for cyclists?

Learning objectives

- To prepare for a geographical enquiry on cycle safety.
- To create a traffic count.
- To design a cycling questionnaire.
- To present findings in a bar chart and a pie chart.
- To analyse and evaluate my enquiry.

Why is cycle safety important?

Cycling is a popular, healthy way to get from A to B. Cycling also helps reduce traffic congestion because more people cycling to work means fewer people driving to work. In countries like the Netherlands, famous for its cycle-friendly streets, almost a third of all journeys are by bike. Only two per cent of the UK population, by contrast, commute by bike. Perhaps this is partly because UK cycling can be dangerous: in London alone, around 14 cyclists die in road accidents each year. These dangers are also known as hazards – something that could cause harm. For example, a pothole in the road is a hazard, because if a cyclist rides over one, they could lose their balance and fall. In order to get more people to commute by bike, it is important to first make sure cycling is safe. In a pledge to try and get more people on their bikes, the UK Government has promised to increase cycle safety to encourage more people to cycle rather than use their cars.

Activity

1 List five benefits of cycling and five dangers of cycling. Use the text above to help you, as well as your own knowledge and experience.

Benefits	Dangers
1 *It reduces traffic congestion.*	1 *Potholes can make you fall off your bike.*
2	2
3	3
4	4
5	5

Designing the question for your enquiry

All geographical enquiries need a key enquiry question. You must consider this question throughout the fieldwork and use the information, or data, you have gathered over the course of your investigation to answer it. The data you will collect is called primary data, as it is new information collected by yourself during fieldwork.

Thinking about cycle safety, our enquiry question here will be: How safe do people think my local area is for cyclists?

A Only two per cent of the UK population commute by bike

Activities

2 Before you begin your own fieldwork enquiry, imagine you are a cyclist travelling through a city of your choice. Put on your imaginary cycle helmet and find your city in Google Maps. Select Street View and use the white arrows to explore the area by going up and down the roads:

- **a)** Identify the hazards you discover during your virtual trip.
- **b)** Give examples of cycle safety that you see during your virtual cycle trip.
- **c)** Now type in your school name in the Google Maps search bar. Think about your journey to school and find a busy road that might be used by cyclists. This would be a good place to begin your enquiry.
- **d)** Where is the road you are thinking of located? Is it north, south, east or west of school?

3 **a)** Look at Figure B and the example annotations provided. The annotations are in pairs. For each pair, tick the one annotation that you think describes the image correctly.

b) Write down three ways you might make this road safer for cyclists.

☐ Plenty of space for a car door to open without hitting a cyclist

☐ Side door dangerous for passing cyclists

☐ Smooth surface to cycle on

☐ Clearly outlined cycle lane

☐ Separate cycle lane away from road

☐ Plenty of cycle racks provided

☐ Cycle path damaged

☐ Cycle lane shared with pedestrians

☐ Cyclists must share with other road users

☐ Not enough cycle racks to meet demand

B A main road in Haringey, London

Collecting data

For this enquiry, a traffic count and a questionnaire will help you look at the factors that make cycling safe or unsafe in your local area. If you are going to conduct your fieldwork as a class, your teacher will discuss with you the best road or junction for you to study. Alternatively, you could complete the activities using data recorded on the A1018 road in Sunderland – a city in the north-east of England (Figure C).

C The location of the Sunderland traffic count

Activities

4 a) What kinds of vehicles might you expect to see during your traffic count? Use the template in Figure D to record your answers.

b) Look at Photo E on the next page: the photograph of the students collecting their traffic count data. List two ways that the students are being safe during their fieldwork. Can you find one way they could be even safer?

5 Using the step-by-step information on the next page, create a list of all the equipment you would need to conduct a traffic count.

Fieldwork technique 1: traffic count

Traffic counts record the number and type of vehicle using a road over a five-minute period.

During your virtual cycling trip, you may have noticed different amounts of traffic. A quiet, peaceful road may be safer for cyclists, while a busy road with lots of large vehicles can be quite frightening to cycle through. To investigate how busy roads are, geographers use traffic counts. Traffic counts can give you an idea of how safe that road might be for cyclists. For instance, a road that has plenty of big vehicles going through it might be less safe for cyclists than one with smaller vehicles like motorbikes.

Location:		Road:	
Date:		Time:	
Type of vehicle	Travelling left–right	Travelling right–left	Total number
Cars			

D Traffic count template

E Two women collecting traffic count data

Step 1

If you are collecting your traffic count data in your local area, it is important to find a good, safe place away from the kerb and out of the way of pedestrians. You may wish to do different sections along the same road. Before you start your timer and get going, write the name of the road and its location on the top of the sheet, as well as the time of day.

Split yourselves into groups of two. Staying on the same side of the road, one of you will count and classify traffic going from left to right, and the other will count and classify traffic going right to left.

Step 2

Using a countdown timer, set yourselves five minutes to begin counting and classifying the traffic on the road. You will be looking for the number of cars, lorries, vans, buses, taxis, motorbikes and bicycles. Every time you see a vehicle that matches the one on your sheet, mark a small line in the box and tally up your score. This makes it easier to count up when your five minutes is over!

Step 3

Once your time is up, everyone must stop at the same time. Using only your own sheet, count up the total number of each type of vehicle you counted on your side of the road. Check with your partner what scores they got for the opposite direction of traffic, and fill in their results onto the last column on your sheet. You should now have data for traffic going left to right, and from right to left. At the end, work out the total number of vehicles you counted, and add the total score to the final column on your sheet.

Location: Sunderland		Road: A 1808	
Date: 17th May, 2020		Time: 2:15pm	
Type of vehicle	Travelling left-right	Travelling right-left	Total number
Cars	III	𝍸	𝍸 III

F Traffic count template with some example data

Fieldwork technique 2: questionnaire

A questionnaire is a way of gathering people's responses to the same set of questions. A questionnaire is a good way of gathering interesting primary data, and is a very useful fieldwork technique in geography. Other people's opinions provide valuable insights into a topic and can be very revealing.

To investigate how safe your area is for cyclists, you will create a cycling questionnaire to ask specific questions about the reasons why people do or do not cycle, and what would make them change their habits.

Activity

6 Before going out into the field, you need to design your questionnaire. It's important that the questionnaire is not too long so that you don't take up too much of your respondents' time. It's also quite difficult to do correctly, so it needs careful thinking about.

a) Below is a list of possible questions you could include in your questionnaire. Mix and match the following questions on the left with these possible answer choices on the right:

Do you own your own bike?	Less traffic/More cycle lanes/Cheaper bike hire/Owning own bike
How often do you use a bike?	Car/Bus/Train/Bike/Walk
What transport do you use for short journeys (less than a mile)?	Every day/Every week/Less than once a week/Never
What transport do you use for long journeys (over a mile)?	Car/Bus/Train/Bike/Walk
What would encourage you to ride a bike more often?	Yes/No and don't want to/No but would like to
Do you feel safe cycling here?	Yes/No/Sometimes

G Possible questionnaire questions and answer choices

b) On a new page or piece of paper, write a section at the top of your questionnaire for 'location', 'date' and 'time'. Why are these pieces of information important to record on fieldwork sheets?

c) Design your questionnaire so that you can easily record people's responses. Using the mix and match answers from activity 6a) plus the example below to help you, add in the questions you want people to answer and the answer options that will make it quick and easy to record their responses. Use this example to help you come up with questions and answer options. There are blanks left in it so you think about the right questions and answer options for your area!

Questions	Answer options			
1 Do you own your own bike?	Yes	No and don't want to	No but would like to	
2 How often do you use a bike?	Every day			
3	Less traffic	More cycle lanes	Cheaper bike hire	Owning own bike
4 Do you feel safe cycling here?				
5				
6				

H Questionnaire template

I **Students asking questions from a questionnaire**

When you have designed your questionnaire, it's time to go out into the field.

Step 1

Get yourselves into small groups of two or three. Everyone should have a copy of a questionnaire at hand. It's really important to stay in your groups, and to listen to your teacher's instructions about how far to go. Safety is key!

Step 2

Now is the fun part! You need to approach someone and see if they will stop for a couple of minutes to speak to you. Try to be as specific as possible when you approach someone. Avoid saying, 'Excuse me, can I have a couple of minutes of your time?': people might wonder if you are trying to sell something and be put off! Instead, try this:

> *Excuse me, we are conducting a geography enquiry for school on cycling and wondered if you wouldn't mind answering some short questions?*

Step 3

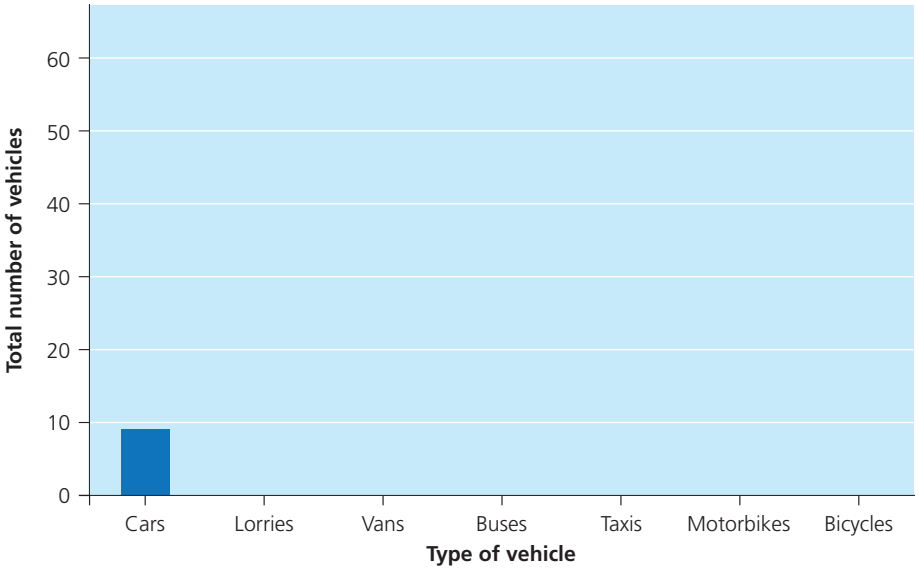
Start with your first question. Mark the response in the correct box. Ensure everyone in your group marks their responses. When you have finished your questions, make sure you always say thank you! Even if you get turned away by someone, remember that it's not personal and they are probably just very busy. Always be polite.

1.3 Presenting your data

Data presentation is a useful way of interpreting the information you have collected through your traffic count and questionnaire by making it easier to read. There are many ways of presenting your data in geography. A good place to start is to consider whether the data you have is quantitative or qualitative. Quantitative data involves numbers or statistics and is often presented in charts. Qualitative data collects information that is not numerical. Instead, the data collected is descriptive. Interviews are a good example of qualitative data, as people can describe answers in their own words.

Bar chart

A bar chart is one data presentation technique in geographical fieldwork. It is used to show the frequency (count) data in vertical blocks or bars.



J Traffic count in Sunderland

Use this example of a bar chart to help you when creating your own.

Activities

7 What kind of data is used in the traffic count?

8 a) Count the total number of vehicles observed during the traffic count. To do this, add together the number of a type of vehicle going left to right, and going right to left.

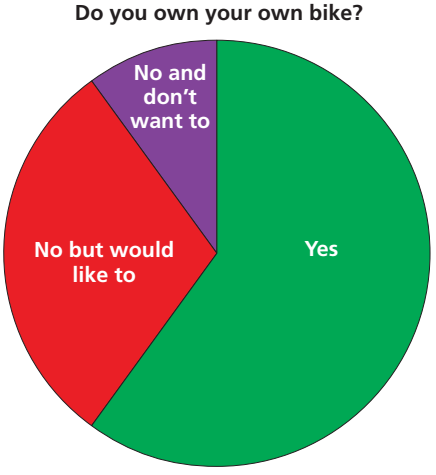
b) On graph paper, create your x-axis. This is the line that runs horizontally across the bottom part of the graph. Write the types of vehicle from your traffic count along the bottom of the line, giving each vehicle a 1 cm box. Leave another 1 cm space between each vehicle on the x-axis, or your bars will be touching one another! Label this axis as 'Type of vehicle'.

c) Create your y-axis, which is the line that runs up the left-hand side vertically. This line will be used to show the number of each vehicle counted. Use the highest number in the 'total number' column to help you with how high to go on your y-axis, and how much you want to increase each value by, e.g. 2, 4, 6, 8... or 5, 10, 15, 20... or 10, 20, 30, 40... Label this axis 'Total number of vehicles'.

d) Using the data provided for Sunderland (Figure L), or the data you collected in your own traffic count, create the bars for your chart. Use the y-axis to help you work out how high to draw each bar for each vehicle.

Pie chart

A pie chart is used to show how data is split into proportions. In this geographical enquiry, we can present the data from the questionnaire in a pie chart to show the number of people that responded in particular ways on our questionnaire. For this, you will need a calculator, a compass and a protractor.



K Pie chart

Activity

9 To create a section in a pie chart, you need to work out some proportions and then angles. This will allow you to calculate the size of each segment in the pie chart.

a) Using the first question in the questionnaire, 'Do you own your own bike?', count the number of responses received for 'Yes', for 'No and don't want to' and for 'No but would like to'. For example, in the example given, the total would be 12 + 2 + 6.

b) Now calculate the fraction for 'Yes' by dividing the number of responses for 'Yes' by the total responses to the questionnaire.

	Yes	No and don't want to	No but would like to
Do you own your own bike?	12	2	6

c) To make the fraction into a part of the pie, the next step is to multiply it by 360. This number (360) is the number of degrees in a full circle, which is the shape of a pie chart.
12/20 = 0.6
0.6 x 360 = ☐

d) Now you have calculated the size of the slice for the 'Yes' answer, follow the same process for the two 'No...' responses. The number you get will be a number of degrees, which you use to make each slice in the pie chart.
12/20 = ☐ 2/20 = ☐ 6/20 = ☐

e) On your paper, draw a big circle with your compass. Using your protractor, mark the degrees you calculated for 'Yes', 'No and don't want to' and 'No but would like to'. With each point, follow the line up into the middle of the pie. Colour in each slice and label them so it's clear which slice is which.

f) Continue this process for the other questions and results and create pie charts for each. Here are some data from the Sunderland traffic count that you could use:

Type of vehicle	Travelling left-right	Travelling right-left	Total number
Cars	13	44	13+44 = 57
Lorries	3	9	
Vans	16	8	
Buses	1	4	
Taxis	5	4	
Motorcycles	3	1	
Bicycles	2	0	

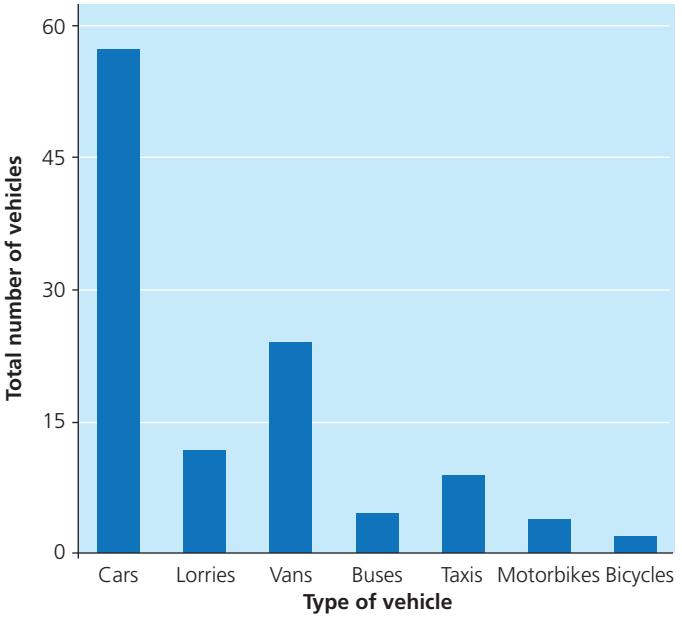
L Sunderland traffic count data

1.4 Telling a geographical story: analysing and evaluating your enquiry

Good analysis is all about making sense of the geography that you have uncovered. It is a key part of all geographical enquiries and helps you to answer the key question set at the start. After analysing your data, the final step of any geographical enquiry is evaluating it. Evaluation is what geographers do after their analysis to look for some of the problems or issues they faced during their enquiry. Geography at GCSE and A Level is full of careful evaluation, so it's a great chance to start practising these skills now at KS3.

Analysing your data

Presenting your data in bar charts and pie charts makes it easier to analyse your results.



M Results of traffic count, Sunderland

Activities

10 Analyse the data in Figure M.

- **a)** Which vehicle was the most frequently recorded?
- **b)** Which vehicle was the least frequently recorded?
- **c)** What is the difference between the most and least frequently recorded vehicle?
- **d)** Think about the location used for the traffic count. Can you explain why there was such a high number of one type of vehicle on the road?

11 Using your pie chart data, copy out and complete the following paragraph of analysis, choosing the correct word or phrase from the options in parentheses, or by filling in the blank with the correct answer:

> The pie charts showed that most people *[do/do not]* cycle in this local area. In my investigation, I found that *[insert number of people]* people cycle, which was *[insert percentage]* of the total people asked in the questionnaire. Many people *[use their bike/take the bus/take the train/walk]* for short journeys.

> When asked what would encourage people to cycle more often, most people suggested that *[less traffic/more cycle lanes/cheaper bike hire/owning their own bike]* would help. Using the data collected in our fieldwork investigation, in conclusion I would argue that people in my local area *[do/do not/only sometimes]* feel safe cycling.

12 Using the passage above and your bar chart, complete the following sentences, choosing the appropriate word or phrase from the options provided in parentheses or filling in the blank:

> Our traffic count data *[supports/does not support]* our questionnaire data. During a traffic count, I found that there were *[insert number of most frequent vehicle]* compared to *[number of bicycles]*. To encourage more people to cycle safely, my local area should...

Evaluating your enquiry

Fieldwork is never perfect. There are often difficulties collecting data and also in making sense of what it means. As long as you can identify these problems (or limitations) then you can try and work out how they might affect your findings. Geographers call this evaluation, and it is an important part of any fieldwork enquiry.

Activity

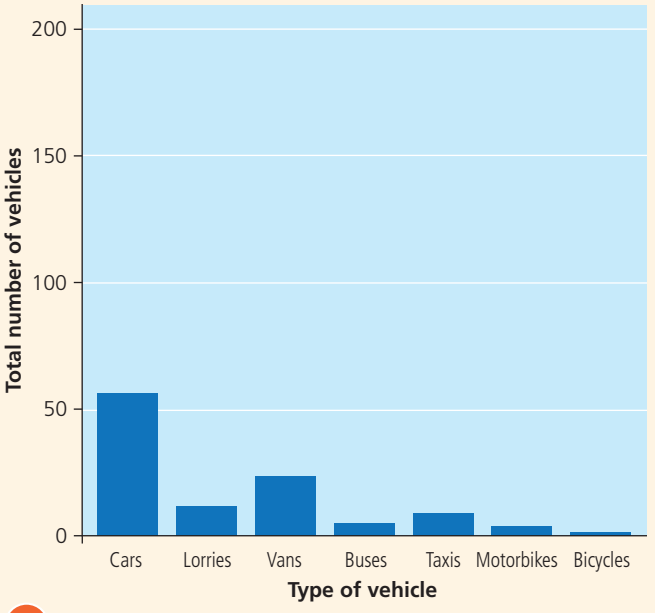
13 a) Identify two limitations of your traffic counts that are linked to your equipment, including operator error (how it was used wrongly). Try and think about one limitation associated with the choice of equipment, and another about not using it correctly.

b) State a limitation of counting taxis. For example, think about whether they were always easy to identify.

c) Name two limitations of your questionnaire. For example, did you manage to find enough people to ask?

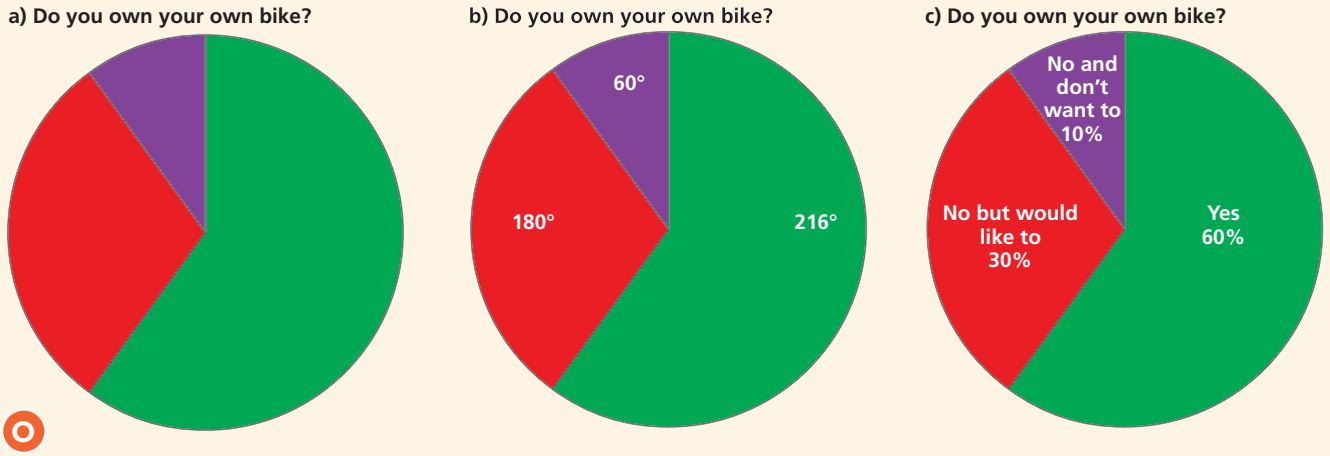
d) How did the time of day or day of the week affect your questionnaire? Where might most people be at that time of the day?

e) Identify the problem with the bar chart on the right (Figure N). How might you improve it?



N

f) Here are three pie charts: a, b and c (Figure O). Explain which of the three pie charts is the most appropriate, and why the other pie charts are not.



O

Congratulations! You have prepared, collected, presented, analysed and evaluated a geographical fieldwork enquiry.

2.1 How sustainable is my local community?

Learning objectives

- To design a local sustainability survey.
- To create a sustainable communities assessment.
- To present data using pictograms and radar graphs.
- To analyse and evaluate my sustainable community data.

What is a sustainable community?

Sustainability is an important concept in geography. You may have heard the phrase 'being more sustainable' come up when people consider ways of looking after the planet. This may mean making some lifestyle changes, like riding a bike to work rather than driving a car. Sustainability refers to using materials and resources, like water, energy and food, carefully. Non-renewable resources such as oil are being used up very quickly. Sustainability encourages us – as a community and as individuals – to think carefully about these resources so they don't run out for future generations.

Not very sustainable	Better
Leaving the tap on when brushing your teeth	Turn off the tap when it is not in use
Having long baths	Take quick showers
Using sprinklers for the garden	Use a watering can

A Water use

Not very sustainable	Better
Driving short distances in a car	Cycle or walk the short distance instead
Turning the heating up high in the winter	
Using petrol in cars as fuel	
Leaving the TV on standby all night	
Washing clothes on a high temperature	

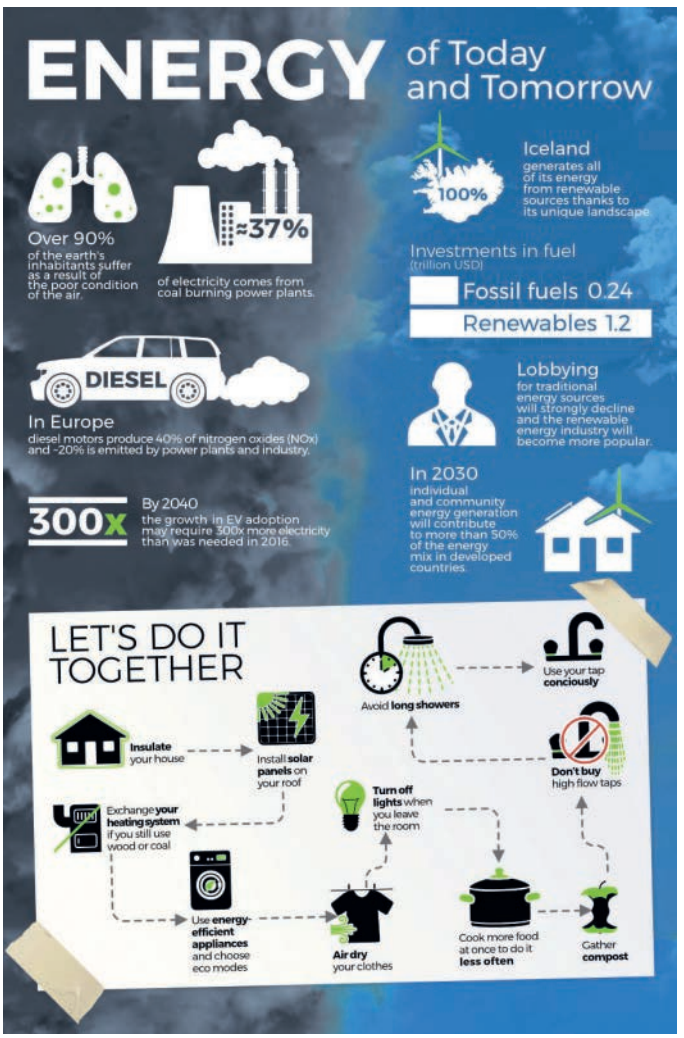
B Energy use

Activity

1 a) Read the examples of water use in Figure A. Complete the 'Better' column for energy use in Figure B.

b) Using the examples, make some suggestions of how you could live more sustainably.

c) Explain why each example you gave is a more sustainable option.



C Energy use now and in the future, from oponeo.co.uk

PROGRESS IN

GEOGRAPHY

KEY STAGE 3

You are on a journey to progress as a geographer throughout Key Stage 3. As you develop your skills, knowledge and understanding, you will see how important Geography is, not just to your life now, but for the future.

Progress in Geography: Fieldwork includes nine guided enquiries to give you the opportunity to explore, analyse and evaluate geography in your local area.

Lesson enquiry questions encourage you to start thinking straight away

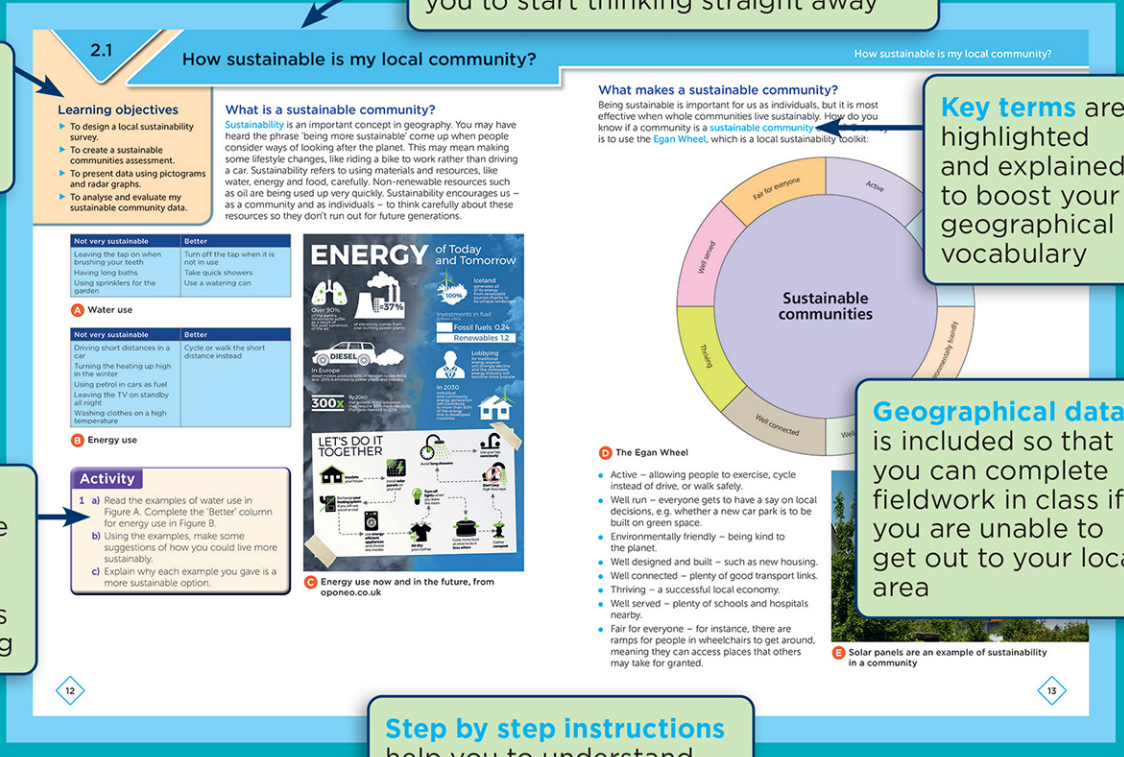
Learning objectives outline what you will learn in each enquiry

Key terms are highlighted and explained to boost your geographical vocabulary

Activities help you to make sense of your data, improving your geographical skills and understanding

Geographical data is included so that you can complete fieldwork in class if you are unable to get out to your local area

Step by step instructions help you to understand data collection, presentation, analysis and evaluation techniques



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