Sustainability

How can our school reduce its plastic waste?

Lesson 2: How can we investigate the plastic waste we use at school?



Grammarsaurus

Geographical knowledge and concepts



Geographical knowledge

- Locational knowledge
- Place knowledge
- Human and physical geography ✓
- Geographical skills and fieldwork ✓

Geographical concepts

- Place
- Space
- Scale
- Physical and human processes ✓
- Interdependence
- Environmental impact ✓
- Sustainable development
- Cultural awareness and diversity

How can our school reduce its plastic waste?

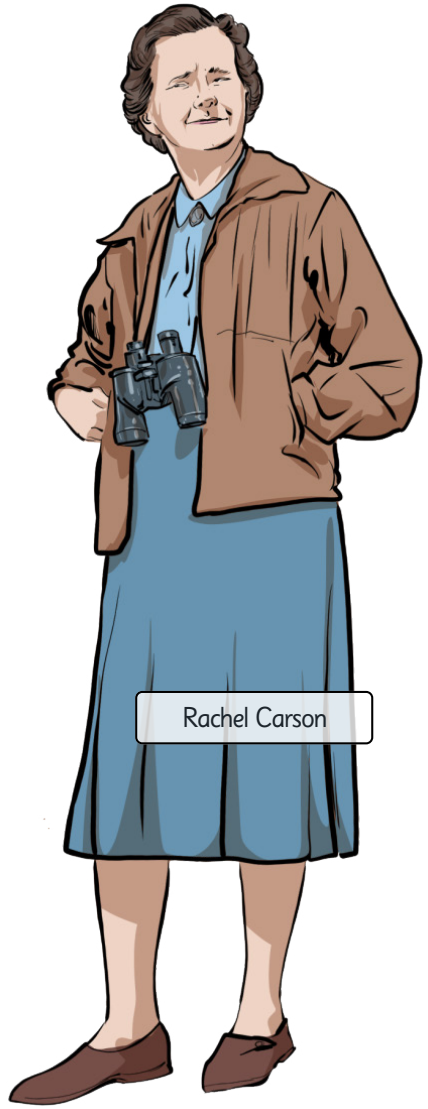


Lesson 1: What is plastic waste?

Lesson 2: How can we investigate the plastic waste we produce at school?

Lesson 3: What have we learnt about plastic waste at our school?

Lesson 4: How can we work together to reduce plastic waste?



Key vocabulary for this lesson



consumer – someone who buys or uses things



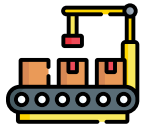
estimate – a reasonable guess



investigate – to try to find out more about something by asking questions, looking closely, or gathering information



manufacturer – a person or company who makes things



production – the process of making something



predict – guess what might happen



versatile – useful in many ways

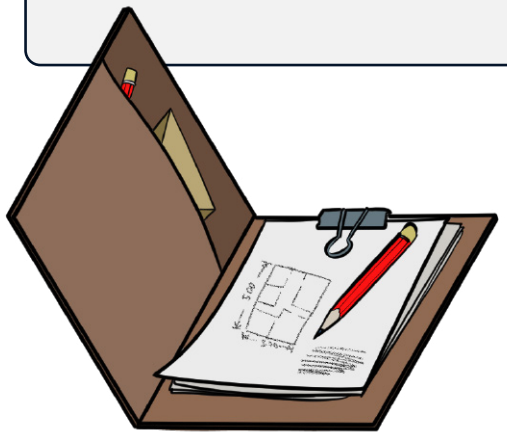
Geographical skills and fieldwork



Hello! My name's **Cinta**, and I'm an **environmental geographer**.

In my job, I use ***fieldwork*** to explore how humans interact with their environment. By collecting real-world information, I can help find ways to make places better for people and for the planet.

Fieldwork is one of the most important aspects of my job. Without the data we gather, we can't really see the full picture. The evidence we gather helps us decide how to make changes that work.



New word alert!

fieldwork – learning by studying places, people or the environment in the real world

The plastic problem

Human and physical geography

Environmental impact



In my job, I often look at big environmental challenges and one that comes up often is **plastic waste**. It is everywhere and understanding where it comes from and how it moves through our environment is a big part of finding solutions.

I understand you have been learning about plastic waste too.

Take a look at the **data** shown on the line graph on the following slide.





What is this graph showing?



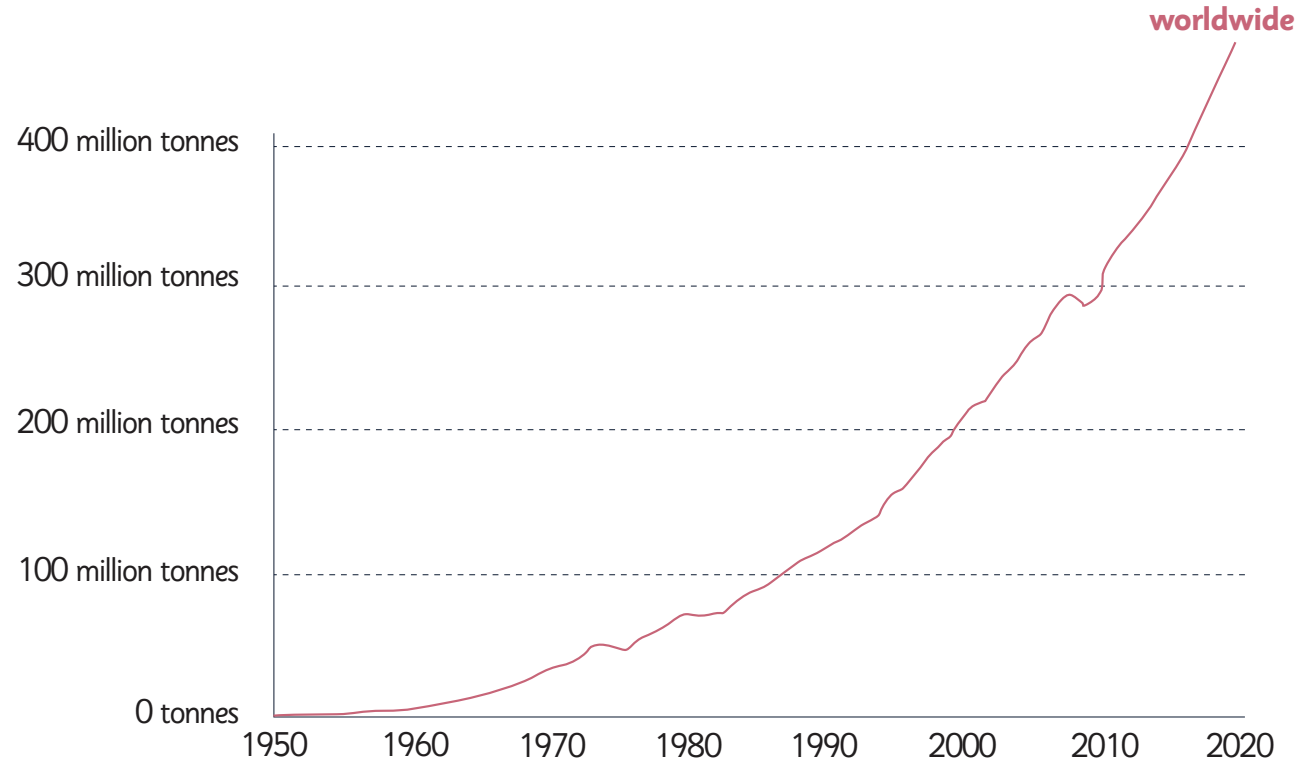
Study this line graph and discuss the following question with your learning partner.

What information do you think this graph is showing?

Use the following sentence starter to help you.

"This graph shows…"

Be ready to **share your feedback** with the class.



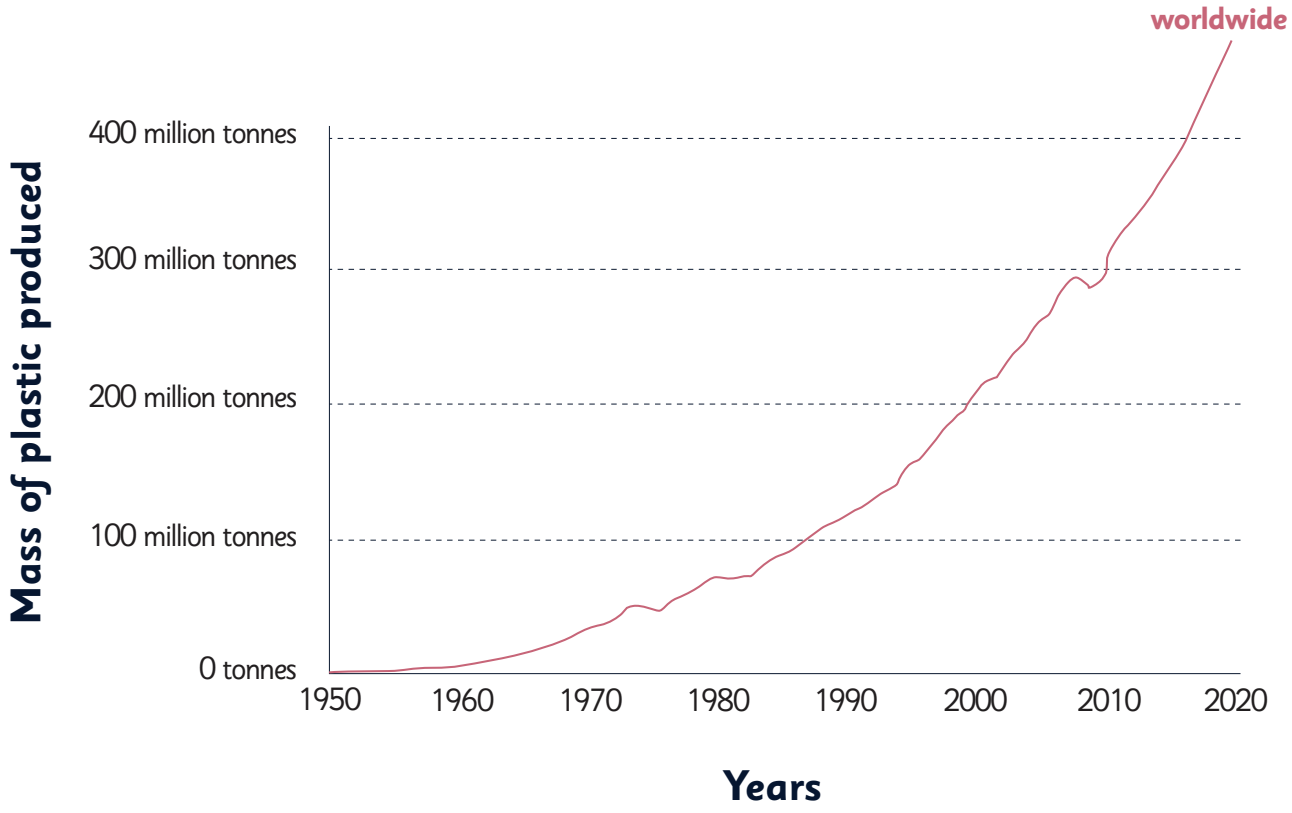
What is this graph showing?

answers

Human and physical geography

This line graph shows:

How plastic production has grown worldwide



The graph shows how plastic production has grown over the last 70 years.

During this time, the way people live has changed a lot and plastic has played a big part in shaping how we live now.



Why has our plastic usage changed over time?

Physical and human processes



These are just some of the reasons people use more plastic than they used to.

People spend less time at home than they used to, so they consume more food and drink while 'on the go'.

Over time, plastic has become more popular with manufacturers because it is cheap and versatile.

People are busy and single-use products such as binbags and wet wipes are practical and convenient.

The way people shop has changed. Many products were once made and sold locally, but now most need to travel long distances to reach their consumers. Plastic is often used to package and protect items.

The types of products people buy and use have changed, including technology.

How much do we throw away?

Geographical skills and fieldwork

Environmental impact



Recently, I helped an organisation called **Greenpeace** to carry out some ***fieldwork***. They wanted to find out what happens to our plastic waste.

They asked people to count how many plastic items they threw away in one week.

They then used the collected data to **estimate** how many plastic items were being thrown away each year in the UK.

Discuss the following question with your learning partner.

How many pieces of plastic do you think are estimated to be thrown away each year in the UK?

a) 900,000
b) 90 million
c) 90 billion



Be ready to **share your feedback** with the class.

How much do we throw away?

answers

Geographical skills and fieldwork

Environmental impact



It was **estimated** that UK households throw away 90 billion pieces each year.





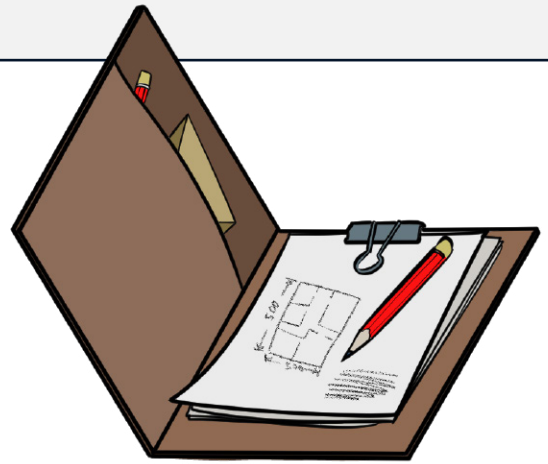
Investigating our plastic waste

Geographical skills and fieldwork



Every piece of information we can learn about plastic waste, on a local, national, or global scale, can help us understand how we can improve the situation.

You will conduct your own ***fieldwork*** **investigation** to learn more about the plastic waste created at our school. The information you gather will then be used to make a practical **plan to reduce plastic waste**.



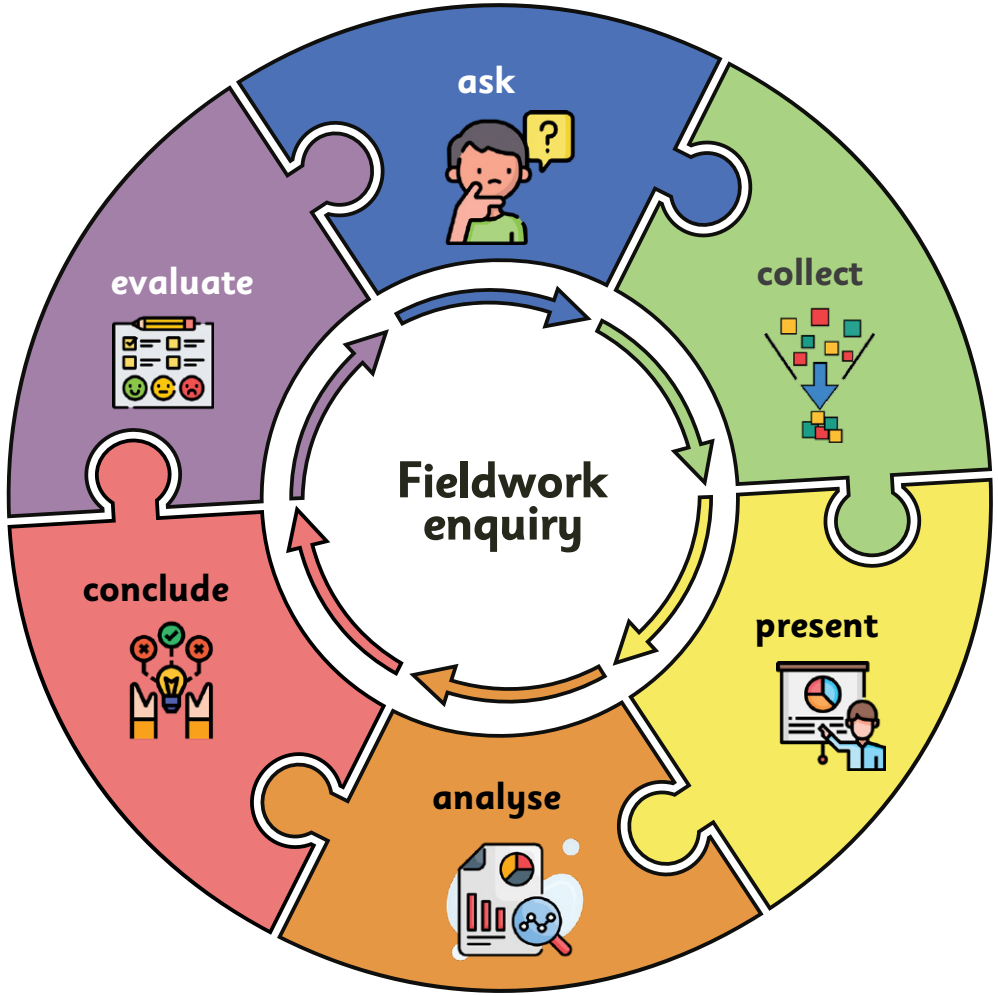
Grammarsaurus

Fieldwork investigation



We will follow a process to conduct an effective **fieldwork** **investigation**.

By doing so, we will gather data that is both relevant and useful.



What do you want to learn from your fieldwork?



We will start by asking questions so we can find out the focus of our **fieldwork** and create a plan.

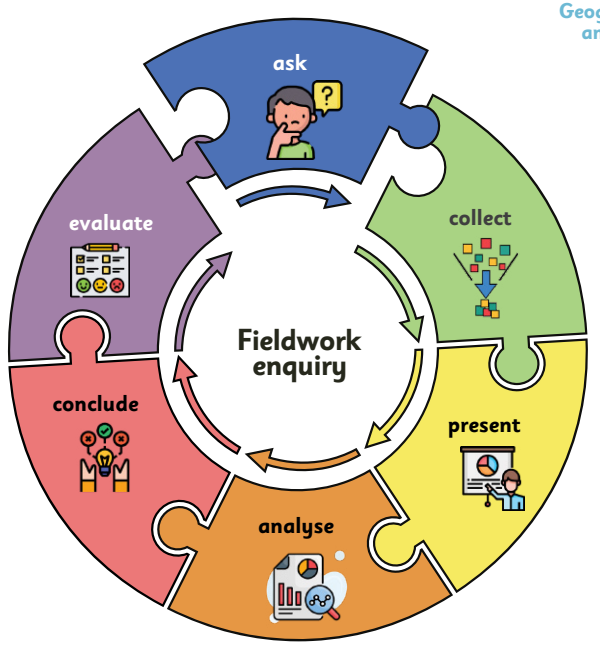
With your learning partner, **discuss** what you would like to find out about:

plastic waste created at school

Use the following sentence starters to help you.

"I would like to know how much…"
"I wonder where…"
"What…?"
"Which…?"
"Why…?"
"Who…?"

Be ready to **share your feedback** with the class.





What do you want to learn from your fieldwork?

answers

Geographical skills and fieldwork



Here are some ideas for **investigating** plastic waste at your school.

Look at your ideas and these examples and choose one question from the examples on this slide to become your **key question**.

What types of plastic waste are most commonly found during lunchtime?

How much plastic waste do we produce each day?

How are drinks consumed throughout the school day?

Who creates more plastic waste at lunchtime: KS1 or KS2?

Are we recycling when we can?

Which creates more plastic waste: school dinners or packed lunches?

How can we plan our fieldwork?



Now you have your key question, we need to ask further questions such as **how**, **when**, **who**, **where** and **what** to help us **plan** our **investigation**.

Here is an example:

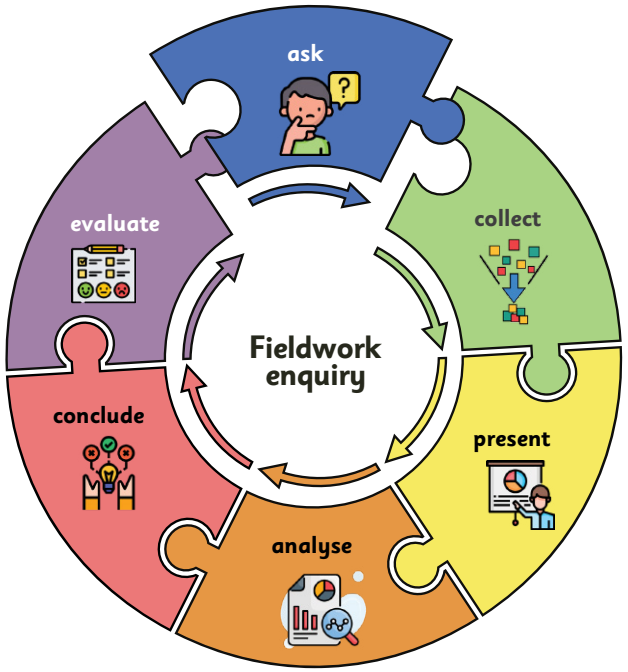
What is the **key question**?	What types of plastic waste are most commonly found during lunchtime?
How will you collect your data?	I will collect plastic waste at lunchtime and sort it by type, e.g. plastic bottles, yoghurt pots, food wrappers, sandwich bags, disposable cutlery.
When will you collect your data?	I will collect my data during lunchtime over three days.
Who will you collect your data from?	I will collect my data from KS2 children.
Where will you collect your data from?	I will collect my data from the lunch hall.
What **resources** will you need?	A bucket for collecting plastic waste; gloves; warm, soapy water and a cloth in case it needs washing before sorting; a large area where the waste can be sorted; and labels for sorting the waste by type.

Activity

Geographical skills and fieldwork



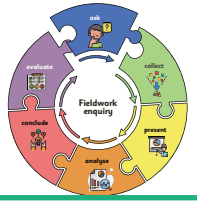
Use the following sections of **page one** of your fieldwork **pack** to help you plan your **fieldwork investigation**.



Fieldwork pack

How can we plan and carry out effective ways to reduce plastic waste in school?

Consider the questions below to help you plan your investigation.



What is the **key question**?	
How will you collect your data?	
When will you collect your data?	
Who will you collect your data from?	
Where will you collect your data from?	
What **resources** will you need?	
What do you **predict** your results will show?	

Grammarsaurus

What is your prediction?



When we **predict**, we guess what the results of our **investigation** will be.

Discuss the following question with your learning partner.

What do you predict your investigation will show?

Use the following sentence starters to help you.

"I predict that…because…"

"I think the results will show…because…"

"I expect…because…"

Here is an example:

"**I predict** most of the plastic waste collected will be plastic bottles **because** I always notice them in the recycling bin."

Activity

Geographical skills and fieldwork

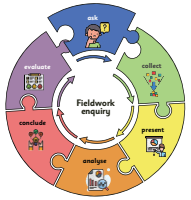


Add your prediction to **page one** of your fieldwork pack.

Fieldwork pack

How can we plan and carry out effective ways to reduce plastic waste in school?

Consider the questions below to help you plan your investigation.



What is the **key question**?	
How will you collect your data?	
When will you collect your data?	
Who will you collect your data from?	
Where will you collect your data from?	
What **resources** will you need?	
What do you **predict** your results will show?	

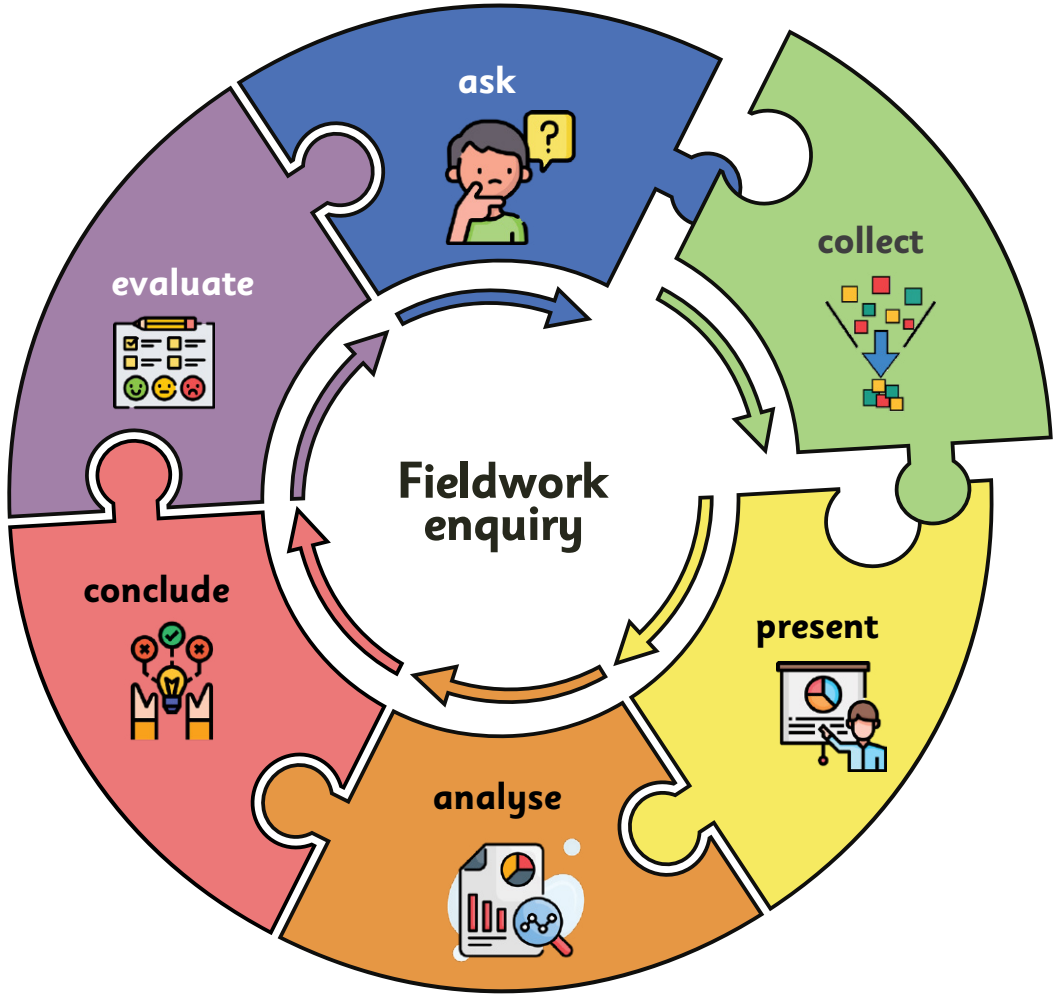
Grammarsaurus

How can we collect and record our data?



Once you have planned your **fieldwork** **investigation**, you will need to collect your data.

To help you prepare for this, it is useful to think about how you will record your data.



What do you need to do to be ready to collect your data?

Geographical skills and fieldwork

Here is an example:

	Quantity Day 1	Quantity Day 2	Quantity Day 3	Quantity Day 4
Plastic bottles or drink pouches				
Yogurt pots				
Food wrappers				
Sandwich bags or cling film				
Disposable cutlery				
Other				
Total				

Observations:

How you **record** your **data** will depend on **what you are investigating** and **how you are conducting your fieldwork**.

Will you:

- collect data in a table or tally chart?
- make notes?
- create sketches with labels?
- take photographs and add captions?



Activity

Geographical skills and fieldwork



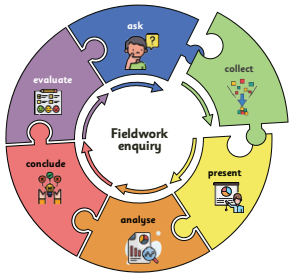
Use page two of your fieldwork pack to help you prepare to collect the data for your investigation.

Write how you will collect your data.

Once you have collected your data, you will record it here!

Use this space to collect the data to help you answer your key question.

We will collect data using _____.



Grammarsaurus

Challenge



Alexander Parkes

Discuss the **following question** with your learning partner.

Why might a geographer **repeat** the same fieldwork investigation?

Be ready to **share your feedback** with the class.

Use this sentence starter to help you:

"Geographers might repeat a fieldwork investigation because they can…"



Rachel Carson

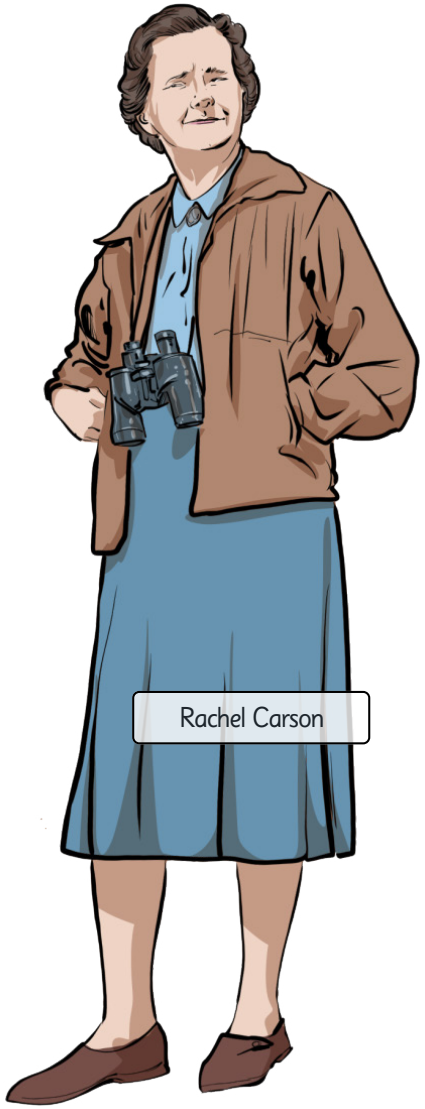
Challenge answers



Alexander Parkes

Geographers might repeat a fieldwork investigation because they can:

- check the results are accurate
- spot changes over time
- collect more **data**
- improve the **fieldwork** process



Rachel Carson