It’s geography
The big picture
Welcome to geog.1, the first book of the geog.123 course.
This course is all about planet Earth, and how it is changing. These are the big ideas behind the course:

- Our planet is always changing.
- Natural processes are changing it. For example the action of rivers, and hot currents inside the Earth.
- Humans are also changing it. We have spread over most of the land. We farm it, build on it, and dig it up for metals and fuel.
- We have carved the Earth up into nearly 200 countries. They are all different – but all depend on each other.
- We have made many mistakes. We’ve spoiled places, and wiped out species. Now experts say we are making the Earth warm up.
- We need to look after our planet properly.

Your goals for this course
By the end of this course, we hope you will be a good geographer! And that means you will:

- be interested in the world around you.
- understand that many processes, both natural and human, are changing and shaping the surface of the Earth.
- know what kinds of questions to ask, to find out about countries and places and people, and how things are changing.
- be able to carry out enquiries, to find answers to your questions.
- have the other key skills (such as map reading) that a geographer needs. Your teacher will tell you which ones.
- think geography is just brilliant!

Your chapter starter
Page 4 shows a planet. Which one?
Where in space is it?
What’s keeping it there?
Who’s on it?
What are they doing?
Hey you, over there!

In this unit, we do a quick survey of the planet you live on.

**Planet Earth, your home**

You live on planet Earth.

- You are young. The Earth is very old. About 4.6 billion years old.
- It is held in space by a force between it and the sun. This force attracts objects to each other. It is called gravity.
- The Earth travels non-stop around the sun, taking you along too. (So while you sit here, reading this, you are on a cosmic journey.) It shoots along at 108 000 km an hour. One full orbit around the sun takes it a year.
- It spins as it goes. Here at the UK, it is spinning at about 1400 km an hour. One full spin takes a day.
- But you don’t fly off as it spins – because you are held to it by gravity.

**What’s it like?**

Your planet home is big – about 40 000 km around its middle.

It is made of rock, and, deep inside, two metals, iron and nickel.

Over two-thirds of it is covered by oceans. These are very deep in places. But compared with the size of the Earth, they are just a thin film of water.

Around the Earth is a layer of gas, that travels with it. This layer is called the atmosphere. It is over 100 km deep – but most of the gas lies in the lowest 30 km. We call it air. You breathe it in.
**Full of life …**

From space, your planet looks cold and lonely. But it is full of life. There are around 1.8 million *known* species of living things on land and in the sea. Here are just three of them:

- **Elephants** are our largest land animal. They have been around for millions of years. But now there are only about 600,000 left. *(Why?)*
- We think the first jellyfish appeared more than 500 million years ago. Now there are over 200 kinds, and you find them in every ocean.
- And this species has been around for only 200,000 years. There are over 6.7 billion of us – and the number is growing fast.

New species are being found all the time, on land and in the ocean. Some scientists say there may be up to 30 million species on the Earth. Some say 100 million.

**… and always changing**

From space, the Earth looks quiet and unchanging. Don’t be fooled! It is changing all the time, in all kinds of ways. Because of:

- natural processes, and
- the actions of us humans

You can find out more about these changes in the next unit. And you’ll look at them more closely later in your course!

**Your turn**

1. **a.** What age are you?  
   **b.** So how many times have you been around the sun?  
   **c.** Suppose the school bus goes at 50 km an hour. How many times faster is your journey around the sun?

2. The Earth is 6.4 billion years old. 6.4 billion is …?  
   **a.** 640,000  
   **b.** 64,000,000  
   **c.** 6,400,000,000

3. Now look at this diagram. It shows the Earth spinning.  
   **a.** It’s dark at A. Why?  
   **b.** At which place, A, B or C, do you think the Earth’s spin is slowest? See if you can explain why.  
   **c.** Can you feel the Earth spinning? See if you can give a reason.

4. Of all the facts about the Earth on these two pages, which one do you like best? Why?

5. Now write a space-mail to your friend DK3 on planet Dkovorak, saying what you think is great about planet Earth. You could invite her to visit.
Our planet: always changing

Here you will find out how natural forces, and we humans, are changing our planet.

All change!
You might not notice that your planet is changing. But it is, all the time. It’s being changed by natural forces. And by us.

1 Changed by natural forces

Deep inside the Earth, currents of hot soft rock are flowing – causing earthquakes and volcanoes, and even making mountains grow.

At the Earth’s surface, other things are flowing: rivers, waves, glaciers, wind. They scrape and shape the land as they flow.

And everywhere, rock is being broken down to soil, in a process called weathering. (It is mainly due to the weather.)

2 Changed by us

The Earth is around 4.6 billion years old. That’s 4600000000 years old. Humans like us appeared only about 200000 years ago. But we have made huge changes already.

We’ve cleared away most of the forests, and chased away wildlife, to set up farms. We’ve dug up the ground to get fuels and metals.

We have built villages, towns and cities. We have built roads all over. Now you’ll find humans nearly everywhere.

We have divided the Earth into over 200 countries, and put borders between them. You may need a visa (a special pass) to get through.
So are all these changes a problem?

Natural changes can cause us big problems. For example if an earthquake strikes our place, or a river floods it.

Human changes are causing even bigger problems. Like these:

- We have already killed off many species of plants and animals, by taking over their land, and by hunting them.
- Experts say we are making the Earth warmer, by burning so much fossil fuel – coal, oil and gas. This global warming will bring many disasters. Such as terrible storms, floods, famine.
- Many of the changes we make cause conflict, and even wars.
- We have created an unfair world. Many humans have plenty of everything. But many have almost nothing, not even enough to eat.

You’ll find out more about these problems, and how we can solve them, in the rest of your course.

What if …

- … we killed off all the gorillas, and pandas, and tigers, and whales, and …?
- … a new disease wiped out all the humans?

Your turn

1. Think about the natural forces that are changing the Earth.
   a. Which of them do you think we can control?
   b. Do you think they were at work before humans arrived on the Earth?
   c. Choose one that you think is helping us, and say why.
   d. These natural forces can spell danger for us. See how many of the dangers you can list.
2. Now think about where you live. Do you think any natural processes are changing your area? Do you notice any changes?
3. When humans appeared, the Earth was a wild place with thick forests. In what ways have we changed it? Write a list. See how much you can add to it.
4. Think about where you live. Is it being changed by humans? What changes are going on right now?
5. Look at the problems given in the last section above. Which do you think is the most serious? List them in order, as very short bullet points, the most serious first.
6. Now think about the questions on the right. What are your answers?
We all have a place on the planet. What makes our places different? That’s what you will explore in this unit.

**Everyone has a place**

Everyone has a place on the planet – you, me, the King of Tonga. So let’s have a look at some of our places.

This is Hassan’s place. He is a Marsh Arab. He and his family live on an island of reeds in the marshes in southern Iraq. They go everywhere by boat.

This is Rana’s place – a small village in Senegal. Her dad is a farmer. She helps to look after the little ones. And walks everywhere. No other way to go!

This is Alona’s winter place. Her family are reindeer herders, in Siberia in Russia. They move around the tundra with their reindeer, to the best grazing places.

Vitor’s place – on the street in Recife, in Brazil. That’s him front left. His mum died and he has no home to go to. He’s made friends with the other street children.
Look at the six photos of places.

a Which place would you most like to spend time in? Why?
b Which would you least like to spend time in? Why?
c Which one looks least changed by humans?

2 Now choose one of the six places. (It need not be your favourite.) Imagine you are there, looking around you. Take your time. Relax. Now:
a What can you see?
b What can you hear?
c What can you smell?
d How do you feel about this place?

3 In geography, we always like to know where places are, on the planet. So turn to the map of the planet on pages 140 – 141. It shows the countries we’ve divided the planet into. Find the country where each photo was taken. Then work out what continent it is in. Write your answer like this:

Place A is in Iraq in Asia.

4 Now, what about your place? Imagine you are standing outside where you live.
a Which country are you in?
b Which continent are you in?
c What can you see around you?
d What can you hear?
e What can you smell? Anything?
f How do you feel about this place?

5 When we are away from our place, we still ‘see’ it in our minds. We can ‘see’ our friends, family, pets, things we own, things we like to do. Close your eyes and think about your place for a few minutes.
a What kinds of images came to your mind?
b Describe one of them.

6 Can you name a place you think is better than your place? If yes, in what way is it better?

7 Do you think someone else from your place would give the same answers as you, to questions 4 – 6? Explain.

Emi’s place. She is Japanese, and lives in an apartment on the 31st floor, in Tokyo – the world’s largest city. At night she looks down on the bright lights of Tokyo.

Sela’s place. She lives in Tonga, a country of 169 islands, in the Pacific Ocean. It has 117 000 people. And like the UK, it has a Royal Family.

So what’s your place like?
Your place is a tiny dot on the planet. Billions of people may never even have heard of it.

But to you it’s special. You have memories of it, and images of it, and feelings about it. And it’s home – at least for now.

Your turn
It’s all geography!

This unit shows the kinds of topics you’ll study in geography – and how being nosy will help!

**Glorious geography**

Geography is about everything that’s going on, in places all over the planet, right at this moment. The world can be confusing. But geography will help you make sense of it.

**Dividing up geography**

Geography is a big subject. So it helps to divide it up. For example into the three areas shown here. Look at the kinds of things you will learn about, in each area.

1. **Physical geography** – about what our planet is like
   - You’ll learn about rivers, the sea, the coast, the weather, and climate. And about the natural dangers we face – such as earthquakes, volcanic eruptions, and floods.

2. **Human geography** – about how and where we live
   - You’ll learn about the places we live in, and how they are changing; things we get up to – like work, sport, crime; other countries, and why many are poor; how we depend on each other; how we can make the world a fairer place.

3. **Environmental geography** – about how we affect our surroundings
   - You’ll learn about how we pollute the land, air and water; how we kill off species; how we waste things; how we are warming the Earth up; and how we are learning to take more care.
So, get ready to geog!
The first step to being good at geography is: get nosy!
Use your eyes. Look around you. Look for clues.
Ask questions that start with Who, What, Where, How, Why, When …
And have fun.

Your turn

1 Copy and complete:
   Physical geography is about …
   Human geography is about …
   Environmental geography is about …

2 Which kind of geography is this topic?
   a how clouds form   b which countries are crowded
   c protecting pandas d where trainers are made
   e caves             f dumping rubbish in rivers

3 Photo A below shows people on holiday.
   a Why do you think they chose this place?
      List as many reasons as you can.
   b After each reason, write (P) if it’s about physical
      geography, (H) if human, or (E) if environmental.

4 Time to get nosy! Study photo B for clues.
   Then answer these questions:
   a What is going on in the photo?
   b How did the place get to be like this?
   c Who do you think is responsible?

5 a Now make up three new questions about photo B,
    and what’s going on there. No silly ones!
   b Ask your partner to try to answer them.

6 Compare the two photos.
   a Can you see any similarities?
   b Do you think there is any connection at all between
      the two scenes?