

**Year 4**

Year 4  
Autumn 1

# Human and Physical Geography Year 4 Autumn 1 – Volcanoes

## What causes volcanoes to erupt?



### Where is Pompeii?

Pompeii is a city located roughly 15 miles away from Naples.

Naples is the third largest city in Italy.

Italy is located in one of the three Peninsulas of Europe.



### Structure of the Earth

Earth's Layers:

Crust: The outermost layer, where the volcanoes are found.

Mantle: The thicker layer beneath the crust, where magma is formed.

Outer Core: A liquid layer beneath the mantle.

Inner Core: A solid layer at the center of the Earth.



### Types of volcanoes

**Shield Volcanoes**:

Broad and gentle slopes, formed by low-viscosity lava flows.  
Examples: Mauna Loa (Hawaii), Mauna Kea (Hawaii).

**Composite/Stratovolcanoes**:

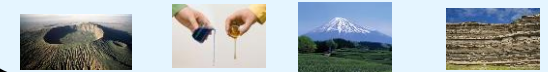
Steep-sided volcanoes built up by alternating layers of lava and ash.

Examples: Mount Fuji (Japan), Mount Rainier (USA).

**Cinder Cone Volcanoes**:

Small volcanoes with steep slopes, built from explosive eruptions.

Examples: Paricutin (Mexico), Mount Etna (Italy).



### Magma and lava

**Magma** - Molten rock beneath the Earth's surface.

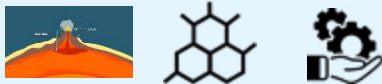
**Composition**: Magma is a mixture of melted minerals, gases, and solids.

Factors Affecting Viscosity: Temperature, silica content, and gas content.

**Lava** - Molten rock that reaches the Earth's surface during an eruption.

**Formation**: Magma becomes lava when it erupts from a volcano.

Types: Pahoehoe (smooth, rope-like), Aa (rough, jagged).



### Causes of eruptions

Tectonic plates move and interact.

**Subduction** Zones: When one plate sinks beneath another, creating explosive volcanic mountains.

Hotspots: Areas where magma rises through the Earth's crust, creating a volcanic hotspot.

**Factors Affecting Eruptions**:

**Pressure**: The build-up of gas pressure inside the Earth's crust.

**Temperature**: When magma reaches a certain temperature, it becomes less viscous, allowing more gases to escape.

**Composition**: High silica content in magma makes it more likely to explode.



### Mount Vesuvius – Case Study

Location: Gulf of Naples, Italy.

History: One of the most famous and deadly volcanic eruptions occurred in AD 79.

Eruption of Mount Vesuvius (AD 79):

Description: A **catastrophic** eruption that buried the cities of Pompeii and Herculaneum.

Impact: The eruption resulted in the **preservation** of these Roman cities, providing us with valuable historical information.

Effects: Ash and volcanic **debris** covered the cities, causing many casualties and massive destruction.



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## Geography Assessment

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1. Study figure 1

(A map locating Naples.)



Figure

- a) Locate Naples on the map.  
 b) Using figure 1 to help you, Italy is located on a P \_\_\_\_\_ . [2 marks]

2. Match the definition to the part of the Earth.

- Crust
- Mantle
- Outer Core
- Inner Core

- The thicker layer beneath the crust, where magma is formed.
- A liquid layer beneath the mantle.
- A solid layer at the center of the Earth.
- The outermost layer, where the volcanoes are found.

[3 mark]

4. When did the eruption of Mount Vesuvius happen?

\_\_\_\_\_ [1 marks]

5. Study figure 2 (a diagram showing the plate tectonics underneath Italy).



Figure 2

Why did Mount Vesuvius erupt and what damage did it have?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

[4 marks]

END OF ASSESSMENT

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Year 4  
Autumn 2

# Human and Physical Geography Year 4 Autumn 2 – Human impact and Egypt

## Why is water scarce in a country with the longest river in the world?



### Where is the River Nile?

Egypt is in northeast Africa so you would need a boat or plane to get there from Derby. Egypt's biome is desert - 90 % of Egypt is desert. The River Nile flows through 11 countries of the continent Africa: Tanzania, Uganda, Congo, Rwanda, Burundi, Ethiopia, Kenya, Eritrea, South Sudan, Sudan and Egypt. It is the longest river in the world.



### What is the River Nile?

Rivers usually begin in upland areas, when rain falls on high ground and begins to flow downhill because of gravity. They then flow and meander as they cross land or go around objects (hills/large rocks). They flow until they reach another body of water. The river Nile is thought to have been formed over 30 million years ago when tectonic plates created a mountain (upland area).



### Why is water scarce in Egypt?

95% of Egypt's population live near the River. 85% of Egypt's freshwater is from the River. Climate – Egypt has low levels of rainfall and high temperatures, which causes drought. Inefficient irrigation - Irrigation is the watering of land for farming. 86% of Egypt's water is used for farming. A lot of this water is wasted because most of the water evaporates. Flooding farm land, overwatering and using sprinklers wastes water.



### Human impacts

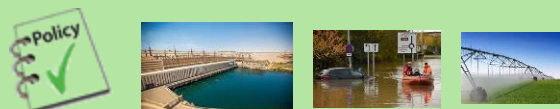
Pollution – Waste from drains and leaks in waterpipes, industrial waste containing chemicals and agricultural wastewater carrying chemical fertilisers and pesticides, is drained back into the Nile River.

Population growth – There is a growing number of people in Egypt so there is greater demand for water.



### How do they save water?

Egypt have created a water policy to help save as much water as possible. This includes: The use of the Aswan High Dam to control floods and to store water for later release over multiple years. Farmers are told to use water more carefully (simple irrigation). Otherwise, there wouldn't be enough water for growing food, keeping clean and healthy and reducing the number of jobs available (farmers).



### What can we do to help?

Even living in Derby, we can help Egypt by using water carefully at home and school. We can recycle water and clean it. Scientists and engineers are also trying help by making more water available by harvesting purified water.



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## Geography Assessment

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1. Study figure 1



**Figure 1**

- a) Locate Egypt on the map.
- b) Using figure 1 and compass to help,, what area of Africa is Egypt?

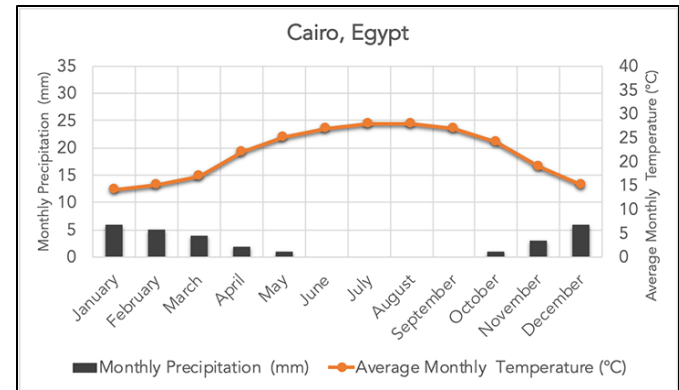
\_\_\_\_\_ [2 marks]

2. Egypt's biome is a D\_\_\_\_\_. [1 mark]

3. What is the longest river in the world called?  
 \_\_\_\_\_ [1 mark]

4. What does water scarcity mean?  
 \_\_\_\_\_  
 \_\_\_\_\_ [1 marks]

5. Study figure 2 (a graph to show the temperature and amount of rainfall Egypt gets a year).



**Figure 2**

What is Egypt's hottest month of the year?  
 \_\_\_\_\_ [1 marks]

6. Explain why water is scarce in Egypt, use figure 2 to help.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_ [4 marks]

**END OF ASSESSMENT**

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Year 4  
Spring 1

# Human and Physical Geography Year 4 Spring 1 – Antarctica

## What are the disadvantages of tourism in Antarctica?



### Where is Antarctica?

Antarctica is a continent in the most Southern part of the world and surrounded by the Southern Ocean.

The South Pole is in Antarctica.

Antarctica is the coldest, windiest and driest place on Earth. (It is a desert).

There are no permanent residents here but around 2000 scientists live in part of the stations for half of the year.



### Tourism in Antarctica

56,000 tourists travelled to Antarctica in 2019 and only 12,000 in 2001.

Some tourists only spend a few hours on the land (admiring the scenery and wildlife) as there are no hotels, restaurants or other attractions.

You can see whales, penguins, seals and sea birds amongst lots of other amazing wildlife.

The scenery is full of icebergs, pack ice and amazing views.



### Impact on wildlife

Tourism in Antarctica can have negative effects on the local wildlife.

Increased human presence can disrupt the natural behavior and breeding patterns of animals.

Tourists may disturb nesting sites or scare away animals, leading to stress and reduced reproductive success.

Noise pollution caused by tourist activities can also have a detrimental impact on marine mammals, such as whales and seals.



### Pollution and waste

Tourism in Antarctica can contribute to pollution and waste problems.

Tourist ships may release pollutants into the water, including chemicals and sewage.

Waste generated by tourists can end up littering the fragile Antarctic environment if not properly managed.

Pollution and waste can harm marine life, damage ecosystems, and contribute to the overall degradation of the environment.



### Damage to the environment

Tourism can cause physical damage to the Antarctic environment.

Foot traffic can disturb fragile plant life and soil, leading to erosion and permanent destruction of vegetation.

Unregulated tourism can result in the construction of infrastructure that alters the natural landscape.

Excursions and activities may lead to disturbance and damage in sensitive areas, such as ice formations.



### Sustainable tourism and conservation

Sustainable tourism and conservation efforts have created guidelines and regulations to manage visitor activities and minimise environmental damage.

Tour operators are encouraged to follow best practices to ensure responsible tourism. Conservation organisations work towards protecting the delicate Antarctic ecosystem and raising awareness about its importance.



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# Geography Assessment

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1. Study figure 1

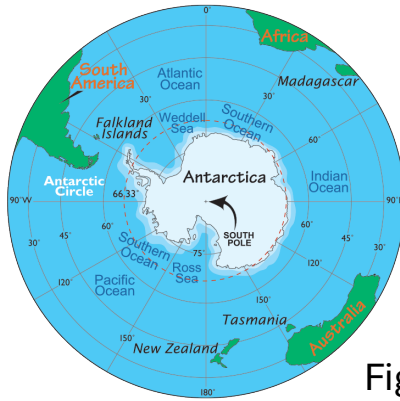


Figure 1

- a) Locate Antarctica on the map.
- b) What ocean surrounds Antarctica?

\_\_\_\_\_ [2 marks]

2. In Antarctica, there are no permanent  
r\_\_\_\_\_.

[1 mark]

3. Describe Antarctica's biome.

\_\_\_\_\_ [1 mark]

4. Is tourism increasing or decreasing in Antarctica?

\_\_\_\_\_  
\_\_\_\_\_ [1 marks]

5. Study figure 2 (Antarctica).



Figure 2

Why might tourists visit Antarctica?

\_\_\_\_\_  
\_\_\_\_\_ [2 marks]

6. Explain reasons why tourism can be a problem in Antarctica.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ [3 marks]

END OF ASSESSMENT

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Year 4  
Spring 2

# Human and Physical Geography Year 4 Spring 2 – Tourism

## Why is France such a popular Tourist Attraction?



### Where is Paris?

France is located in the continent Europe.

France has a temperate broadleaf forest to alpine tundra biome.

France is bordered by eight countries: Italy, Germany, Belgium, Spain, Monaco, Andorra, Switzerland and Luxembourg.

Paris is the capital city of France and it is located in the northern-central part of the country.

It lies on the River Seine, which runs through the city.



### What is the Eiffel Tower?

The Eiffel Tower is an iconic landmark located in Paris, France.

It is a tall metal structure made of iron, and it was built in 1889 for the Exposition Universelle (World Fair).

The Eiffel Tower is famous for its unique design and serves as a symbol of Paris and France.



### Why is Paris called the City of Lights?

Paris is called the City of Lights because it was one of the first cities in the world to have street lighting.

The city's wide boulevards and famous monuments are beautifully illuminated at night, creating a magical atmosphere.



### Cultural attractions in France

France is home to numerous cultural attractions that attract tourists from all over the world.

The Louvre Museum in Paris is the world's largest art museum and a major cultural hotspot.

The Palace of Versailles, located near Paris, is a grand royal residence and a symbol of absolute monarchy.

The Notre-Dame Cathedral in Paris is an architectural masterpiece and an important religious site.



### Natural beauty and landmarks

France boasts a diverse range of natural landscapes and landmarks.

The French Riviera, located along the Mediterranean coastline, offers stunning beaches and glamorous resorts.

The Mont Saint-Michel, a medieval abbey situated on an island, is a UNESCO World Heritage site and a must-visit attraction.

The French Alps are famous for their majestic mountains, providing opportunities for skiing and hiking.



### Tourism impacts on Paris

Tourism has a significant impact on the city. The tourism industry creates employment opportunities and stimulates the local economy. It also contributes to the preservation and restoration of historical sites and cultural heritage. However, the influx of tourists can also lead to overcrowding and wear and tear of tourist destinations.

Therefore, the local government strives to balance the benefits of tourism while minimizing its negative effects.



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# Geography Assessment

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1. Study figure 1



Figure 1

- a) Locate Paris on the map.
- b) Which country and continent is Paris in?

\_\_\_\_\_ [3 marks]

2. Name a famous landmark in France

\_\_\_\_\_ [1 mark]

3. What do famous landmarks attract?

\_\_\_\_\_ [1 mark]

4. Where can you ski and hike in France?

\_\_\_\_\_

[1 marks]

5. Study figure 2 (Paris attractions).

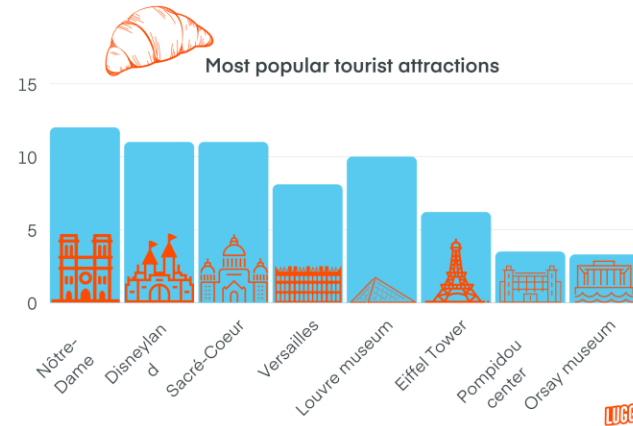


Figure 2

Which is the most popular tourist attraction in Paris?

\_\_\_\_\_ [1 marks]

6. Using the graph to help you, why do you think Paris is such a popular tourist attraction.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

[3 marks]

END OF ASSESSMENT

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Year 4  
Summer 1

# Human and Physical Geography Year 4 Summer 1 – Trade

## Why does the world have so many trade links to China?



### Where is China?

China is located in eastern Asia, with its capital city being Beijing. It is the world's most populous country with a population of over 1.4 billion people. China shares borders with 14 countries, including India, Russia, and North Korea. The country has a diverse geography, including mountains, plateaus, deserts, and rivers.



### China's Geography and Climate

China has a vast land area of around 9.6 million square kilometers, making it the fourth-largest country in the world. It has a varied climate, ranging from tropical in the south to arid and cold in the north. China is rich in natural resources, including coal, iron ore, oil, natural gas, and rare earth minerals.



### Trade in China

China has a long history of trade, dating back to ancient times when it was known for the Silk Road trading route. Nowadays, China is one of the world's largest trading nations, exporting a wide range of products, including machinery, textiles, electronics, and toys. It is also a significant importer, buying commodities like oil, copper, and agricultural products from other countries.



### The importance of manufacturing in China

China has established itself as a global manufacturing powerhouse. Its large workforce, relatively low labor costs, and developed infrastructure have attracted many multinational companies to set up factories in China. The country's manufacturing sector produces a wide range of products, from consumer electronics to automobiles and clothing.



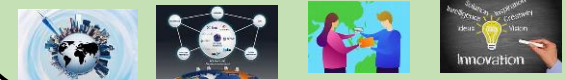
### Trade routes and transportation

China's trade links are supported by various transportation routes and infrastructure. The country has an extensive network of railways, including the famous Trans-Siberian Railway connecting China with Europe. Ports like Shanghai, Ningbo, and Shenzhen serve as major gateways for international trade. The development of air transportation has also facilitated China's trade, with airports available.



### Cultural exchanges and globalisation

Globalisation, the increasing interconnectedness of economies around the world, has led to greater cultural exchanges between China and other countries. Chinese food, language, and traditional practices, such as martial arts and calligraphy, have gained popularity and become part of global culture. Increased trade has allowed for the exchange of ideas, technology, and innovations, enriching the global marketplace.



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## Geography Assessment

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1. Study figure 1



Figure  
1

- a) Locate China on the map.  
b) What is the capital of China? (Use the map to help you)

\_\_\_\_\_ [2 marks]

2. Name a country China borders. (Use the map to help you)

\_\_\_\_\_ [1 mark]

3. Name a natural resource China is rich in.

\_\_\_\_\_ [1 mark]

4. True or False? China is the largest country in the world?  
\_\_\_\_\_ [1 marks]

5. Can you fill in the blanks below? [5 marks]

*Trade is the buying and \_\_\_\_\_ of goods and services. Most of the \_\_\_\_\_ we use have been traded. They may come from the UK or they may have been \_\_\_\_\_ from foreign \_\_\_\_\_ such as \_\_\_\_\_.*

selling imported countries  
products China

END OF ASSESSMENT

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Year 4  
Summer 2

# Human and Physical Geography Year 4 Summer 2 – Desertification



## What are the effects of desertification?

### Where is Syria?

Syria is a country located in the Middle East, bordering Lebanon, Turkey, Iraq, Jordan, and Israel. It is part of the continent of Asia and falls within the geographical region known as the Fertile Crescent. Syria's biome is mostly desert with a climate of hot, dry, summers and mild, rainy winters.



### What is desertification?

Desertification is the process by which fertile land becomes desert-like, losing its productivity and ability to support plant life.

It occurs due to various factors, primarily human activities and natural processes like climate change.



### Causes of desertification in Syria

Drought: Syria experiences prolonged periods of drought, with less rainfall than required to sustain agriculture.

Overgrazing: Excessive grazing by livestock leads to soil erosion and loss of vegetation cover.

Deforestation: Cutting down trees for fuel or agriculture reduces the stability of the soil and increases the risk of erosion.

Unsustainable farming practices: Improper irrigation, lack of crop rotation, and excessive use of chemicals contribute to soil degradation.



### Effects on agriculture and livelihoods

Decreased crop productivity: Desertification reduces the fertility of the soil, making it difficult to grow crops.

Crop failure: The lack of water and nutrients in the soil, combined with increased soil erosion, leads to increased crop failure.

Loss of grazing lands: Reduced vegetation cover and poor soil quality result in a shortage of pasture for livestock.

Migration: Due to the loss of agricultural productivity, many rural communities are forced to migrate to urban areas.



### Environmental consequences

Biodiversity loss: Desertification results in the destruction and degradation of habitats.

Soil erosion: The loss of vegetation cover and fertile topsoil makes the land more susceptible to erosion by wind and water.

Dust storms: Desertification increases the frequency and intensity of dust storms, causing air pollution and respiratory problems.

Groundwater depletion: Unsustainable farming practices contribute to the depletion of groundwater resources.



### Combating desertification

Reforestation: Planting trees and restoring forest cover.

Soil conservation: Implementing terracing, contour plowing, and windbreaks can help retain moisture and reduce soil erosion.

Sustainable farming practices: Encouraging crop rotation, efficient irrigation methods, and organic farming techniques promotes soil health.

Awareness and education: Raising awareness about the causes and effects of desertification can encourage communities to adopt sustainable practices.



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## Geography Assessment

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1. Study figure 1

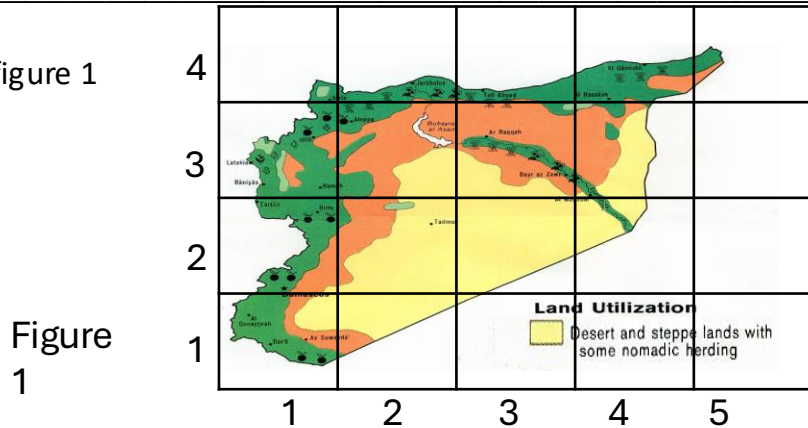


Figure 1

- a) What is this a map of? \_\_\_\_\_  
 b) Write down the grid reference that is only got desert on the map.

(      ,      ) [2 marks]

2. True or False? Syria is in the Continent South America.  
 \_\_\_\_\_ [1 mark]

3. True or False? Syria falls within the fertile crescent.  
 \_\_\_\_\_ [1 mark]

4. What does desertification mean?  
 \_\_\_\_\_  
 \_\_\_\_\_ [2 marks]

5. Study figure 2 (A desert in Syria).



Figure 2

Give me two reasons that could have caused this area of Syria to become a desert and two environmental problems this could cause..  
 [4 marks ]

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

END OF ASSESSMENT

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