Year 5

Year 5
Autumn 1

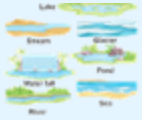
Human and Physical Geography Year 5 Autumn 1 – Biomes and Russia

Why is Russia's population relatively small despite its size?

Where is Russia?

Russia is the largest country in the world occupying one tenth of the land on Earth.
25% of Russia is in Europe and 75% is in Asia.
There are 11 time zones across Russia.
The capital of Russia is Moscow.
The bodies of water around Russia are Arctic Ocean and Pacific Ocean.





Climate and Geography of Russia

Russia's population is about 144 million.
25% of people live in rural areas and 75% live in urban areas - mostly in the west of the country.
Although, half of Russia is covered in forests – only 14% of these are suitable for agricultural land use because of the harsh climate.
Russia has a very diverse climate ranging from temperate to arctic.
This has an impact on where people live.




Siberia's climate

Siberia is a large region in Russia, located in the northern part of Asia and covers about 77% of Russia's land area.
Siberia is known for its extremely cold winters. Temperatures can drop as low as -50 degrees Celsius in some areas.
Much of the ground in Siberia is permanently frozen, called permafrost. This makes building and farming very difficult.




Oymyakon's physical features

Oymyakon village is in Siberia, northeast Russia, in the subarctic region.
In winter there are 3 hours of daylight whereas in summer there are 21 hours of daylight.
Winters are long (7 months) and excessively cold (-50°C), summers are mild (15°C), occasionally hot (30°C).
It is between two valleys by hills and mountains that trap the wind creating the cold climate.
The ground is permanently frozen down to 1640m deep - this is called continuous permafrost.




Oymyakon's human geography

Oymyakon is the coldest inhabited place on Earth.
Oymyakon was a stop for reindeer herders watering animals but then the travellers settled in the area.
The population of Oymyakon is about 500 people.
Crops will not grow - the diet is of meat, fish and dairy.
Many people work as reindeer-breeders, hunters and ice-fisherman. Children go to school if it is warmer than −55.0 °C.




Comparing Russia's population

Russia's population is about 144 million and is about 6000 miles long (largest country in the world)
Bangladesh is 118 times smaller with a population of 166 million.
China's population is over 1.4 billion and is the 4th largest country but it has many fertile areas across the country.
India – 1.3 billion and is the 7th largest country with a diverse climate suitable for farming.



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Geography Assessment

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1. Study figure 1 (a map of Russia)

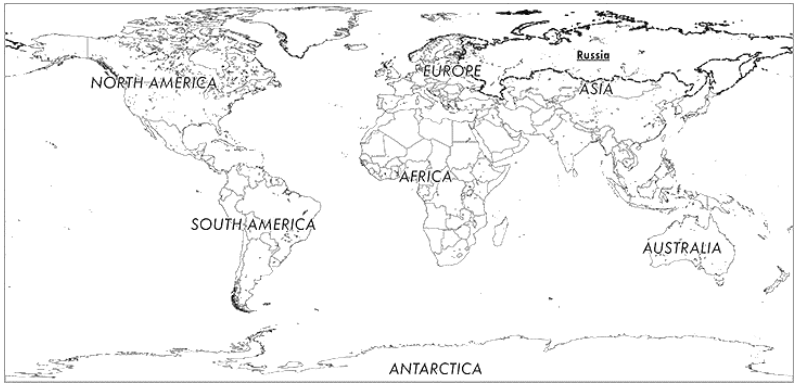


Figure 1

a) Locate Russia on the map.

b) What continents are Russia in?

_____ [2 marks]

2. Russia has _____ time zones. [1 mark]

3. Name one type of climate Russia has.

_____ [1 mark]

4. Can you name a large region in Russia?

_____ [1 marks]

5. Study figure 2 (a diagram of Oymyakon). Use the figure to explain:

Figure 2

What is the climate like in Oymyakon

_____ [1 marks]

Why is the population so small?

_____

_____ [2 marks]

6. Explain how people who do live in Oymyakon survive.

_____

_____ [2 marks]

END OF ASSESSMENT

/10

Year 5
Autumn 2

Human and Physical Geography Year 5 Autumn 2 – Norway and Fjords

What affect can glaciers have on land?

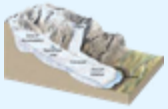
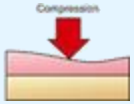
Where is Norway? - Locate

Norway is a narrow country in northern Europe. It shares the Scandinavian Peninsula with Sweden and Finland.
Norway has land borders only to the east with Sweden, Finland and Russia.
The capital of Norway is Oslo.
Norway's biome is taiga, alpine and tundra.
It is one of the most mountainous countries in Europe and has the most skerries in the world.



Glaciers and how they form

Glaciers begin to form when snow remains in the same area year-round, where enough snow packs on top of each other to pack down into ice.
Each year, new layers of snow bury and compress the previous layers.
Gradually, the grains grow larger and the air pockets between the grains get smaller, causing the snow to slowly compact even more.

Glacial erosion

Glaciers shape the land through processes of erosion.
The two main types of erosion are:
Abrasion - as the glacier moves downhill, rocks that have been frozen into the base and sides of the glacier scrape the rock beneath.
Plucking - rocks become frozen into the bottom and sides of the glacier. As the glacier moves downhill it 'plucks' the rocks frozen into the glacier from the ground.




Glacial landforms in Norway

Fjords are U-shaped valleys carved by glaciers and then flooded by the ocean. This happens wherever glaciers reach the coast, and then melt, leaving behind the U-shaped valleys, and then sea level rises, causing the ocean to flood those valleys.
Melting ice causes sea level rise, so these go together.
Norway has more than 1000 fjords.
The longest is Sognefjord.
Another very famous fjord is Geirangerfjord.



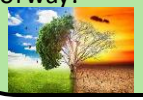
Human impacts

New mapping shows that some smaller glacial areas have disappeared since the last mapping, all of these were in Northern Norway. In addition, many smaller glaciers have nearly disappeared (14%).
This causes challenges as glaciers are a great tourist destination making Norway a popular place to visit.
With glaciers disappearing, tourism will reduce, impacting their economy.




Climate change and glaciers

Climate change is a long-term, large-scale change in the planet's weather patterns and average temperatures. Since 1990, the annual temperature of Norway has increased by 1.1% making the glaciers slowly melt.
As the glaciers continue to melt the sea levels will rise flooding inland.
As climate change is a global issue we need to reduce, reuse and recycle to help places like Norway.

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1. Study figure 1 (a map of Norway)

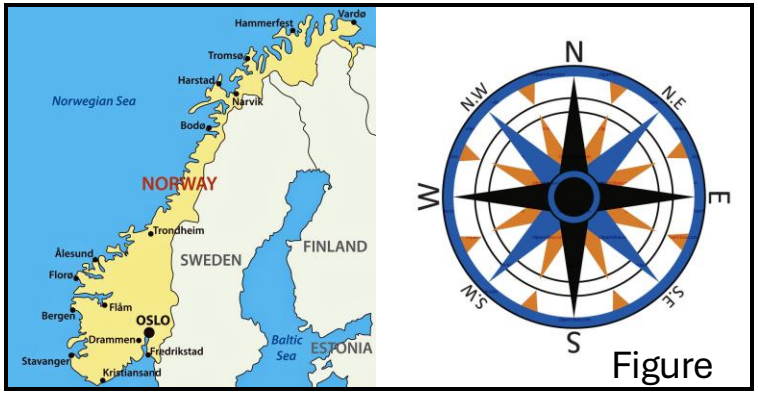

Figure 1

a) Locate Norway on the map.

b) Why does Norway only have borders to the east of it?

_____ [2 marks]

2. Norway is a very m_____ country. [1 mark]

3. What is the capital of Norway? (use figure 1 to help).

_____ [1 mark]

4. What forms a U-shaped valley?

_____ [1 marks]

5. Study figure 2 (a diagram to represent two types of erosion). Use the figure to explain:

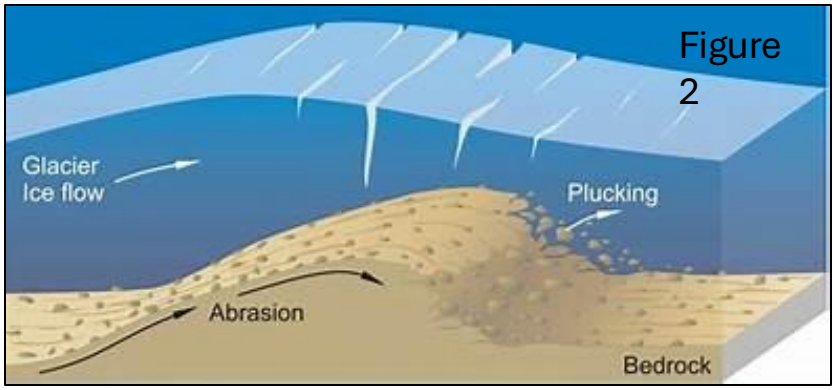

Figure 2

What is abrasion?

_____ [1 marks]

What is plucking?

_____ [1 marks]

6. Explain why climate change will impact glaciers.

_____

_____ [3 marks]

END OF ASSESSMENT

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Year 5
Spring 1

Human and Physical Geography Year 5 Spring 1 – Acid Rain and Germany

What are the impacts of acid rain?

Where is Germany?

Germany is in the continent of Europe.
Germany borders nine countries: Denmark, Poland, Czech Republic, Switzerland, Austria, France, Belgium, Luxembourg and the Netherlands.
The bodies of water to the north of Germany are the North Sea and the Baltic Sea.
Germany's biome is temperate deciduous forest.
The Black Forest is in the southwest.



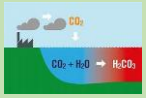

Causes of acid rain

Acid rain is primarily caused by the release of certain gases into the atmosphere. These gases react with water vapor and other substances, forming acidic compounds such as sulfuric acid and nitric acid. The main causes of acid rain are:
Burning fossil fuels
Natural sources (volcanoes)
Long distant transport.


Acid rain impact on the environment

Acid rain can have detrimental effects on various components of the environment. These impacts include:

Acidification of water bodies
Damage to soil and plants
Corrosion of buildings and infrastructure
Harm to human health


Acid rain in Germany

Germany is one of the countries significantly affected by acid rain. Due to its industrial activities and high population density, Germany faces the following acid rain-related challenges:
Acid rain in Germany mostly originates from the burning of fossil fuels in power plants, factories, and vehicles.
Germany experiences higher levels of acid rain in the east, where many industrial centers are located.




Efforts to reduce acid rain

Various measures have been taken globally to reduce the occurrence and effects of acid rain.
Some of these efforts include:
International agreements
Cleaner energy sources
Emission control technologies
Afforestation and reforestation




Preventing and raising awareness

To prevent acid rain and raise awareness about its harmful effects, various strategies can be done:
Reducing Personal Carbon Footprint
Supporting Renewable Energy
Promoting Environmental Education
Community Engagement

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Geography Assessment

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1. Study figure 1
   (a map of Europe)

Figure 1

a) Locate Germany on the map.

b) How many countries border Germany? ____

C) Name one of the countries that border Germany

_____ [3 marks]

2. Acid rain is primarily caused by the release of g_____. [1 mark]

3. Name a cause of acid rain.

_____ [1 mark]

4. What is the main cause of acid rain in Germany?

_____ [1 marks]

5. Study figure 2 (a diagram to represent acid rain). Use the figure to explain:

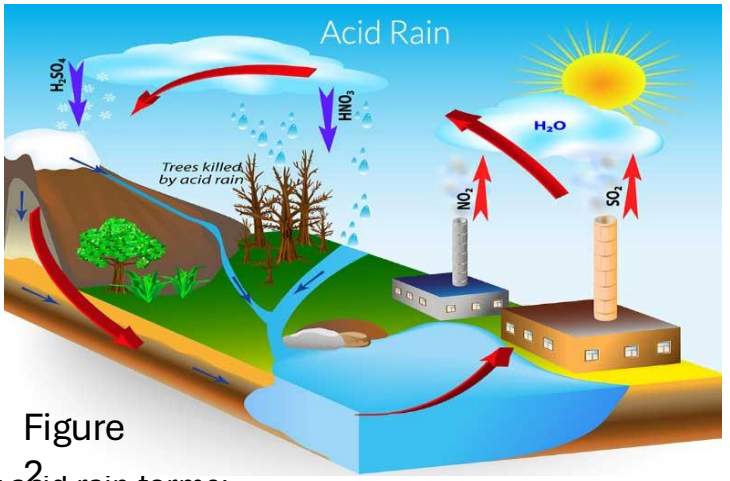


Figure 2

How acid rain forms:

_____

_____ [2 marks]

6. Name two impacts of acid rain on the environment.

_____

_____ [2 marks]

END OF ASSESSMENT

/10

Year 5
Spring 2

Human and Physical Geography Year 5 Spring 2 – Earthquakes

How do earthquakes form and what can Japan teach us about preparing for a disaster?

Where is Japan?

Japan is located in East Asia, comprising a group of islands off the eastern coast of the Asian continent. It is situated in the Pacific Ocean, east of the Sea of Japan and the Korean Peninsula.

Japan has a taiga biome.




Tectonic plates

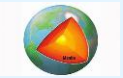
Earth's structure

The Earth is made up of several layers. The crust, mantle, outer core and the inner core. The Earth's crust is not a single solid piece but is divided into several large and small tectonic plates.

Tectonic plates

Tectonic plates are huge sections of the Earth's crust that float on the semi-fluid mantle beneath them. There are several major tectonic plates, including the Eurasian Plate, Pacific Plate, North American Plate, and many others. These plates are moving, albeit very slowly.





How earthquakes form

Plate boundaries

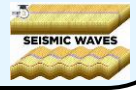
Most earthquakes occur along the boundaries of tectonic plates. There are three main types of plate boundaries:

- **Convergent boundary**: When one plate gets forced beneath the other, it leads to the formation of mountains and deep-sea trenches.
- **Divergent boundary**: Plates moving apart. Magma rises to the surface, creating new crust.
- **Transform boundary**: Plates sliding past each other horizontally. As the plates grind against each other, stress builds.

Faults and seismic activity

- **Faults**: A fault is a crack or fracture in the Earth's crust where movement has occurred.
- **Seismic activity**: Seismic activity refers to the release of energy in the form of seismic waves during an earthquake. These waves shake the ground and can cause significant damage.



Horizontal Line


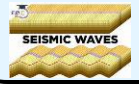
Japan's geographical location

Japan's location

Japan is situated in the Pacific Ring of Fire, which is an area with intense seismic and volcanic activity. Due to its position, Japan is prone to earthquakes, tsunamis, and volcanic eruptions.

Earthquakes in Japan

Japan experiences numerous earthquakes each year, ranging from minor tremors to major and devastating events. Several factors contribute to the frequency and strength of earthquakes in Japan, such as its location at the meeting point of several tectonic plates.





Preparing for earthquakes in Japan

Early warning systems

Japan has developed an advanced early warning system called the J-Alert. This system detects seismic activity and issues warnings to locations that will be affected by the earthquake. This allows people to take cover or evacuate before the shaking starts.

Building regulations and infrastructure

Japan has strict building codes and regulations in place, ensuring that structures are designed to withstand earthquakes. Additionally, buildings and infrastructure are equipped with technologies such as base isolators and damping systems to minimise damage during an earthquake.


Lessons for global preparedness

Education and awareness

Japan emphasises educating its population about earthquake preparedness from a young age. This includes teaching them how to respond during an earthquake and the importance of having emergency kits and evacuation plans.

Infrastructure and building resilience

Countries can learn from Japan's example by implementing stricter building regulations and investing in infrastructure that can withstand seismic activity.

International cooperation and knowledge sharing

Japan actively shares its knowledge and experience in earthquake preparedness with other countries.



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1. Study figure 1 (a map of the ring of fire)

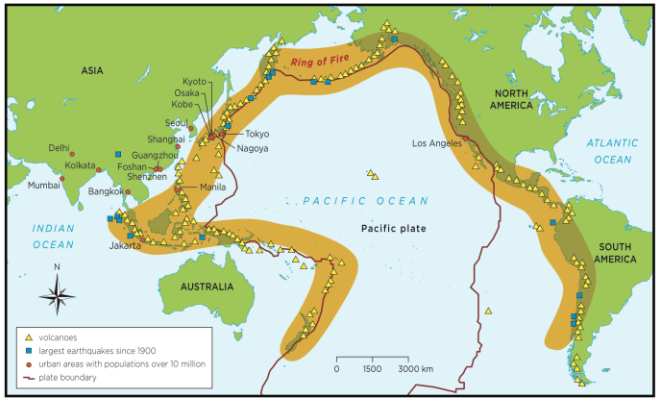

Figure 1

a) Locate Japan on the map.

b) Which plate does the ring of fire surround _____

C) Name a country effected by earthquakes.

_____ [3 marks]

2. Earthquakes occur at _____ [1 mark]

3. There are 3 types of plate boundaries. Name **one**.

_____ [1 mark]

4. There are two types of seismic waves. Name **one**.

_____ [1 marks]

5. Study figure 2 (a graph showing countries building regulations).

Country	Building regulations
Chile	Technical specifications
Japan	Building Standards Law
New Zealand	Building code of New Zealand
Mexico	No building regulations
Nepal	No building regulations
India	Building structures in place
Philippines	No building regulations
China	Code for seismic designs in buildings

Figure 2

Name **two** countries that have building regulations.

_____

_____ [2 marks]

6. Why do you think some countries have building regulations and some don't? _____

_____ [2 marks]

END OF ASSESSMENT

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Year 5
Summer 1

Human and Physical Geography Year 5 Summer 1 – Mountains
How are mountains formed and why do people visit them?

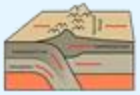
Where are the Himalayas?

The Himalayas are located in South Asia, spanning across five countries: Nepal, India, Bhutan, China and Pakistan.
These majestic mountains are known for their tall peaks, including Mount Everest, the highest mountain in the world.



How are mountains formed?

Himalayas are fold mountains.
Tectonic Plate Movements: When tectonic plates collide, the force causes the Earth's crust to fold and buckle, leading to the formation of fold mountains.
Uplift and Erosion: Over millions of years, the folded rock layers are slowly pushed upwards, forming the steep and rugged mountain ranges we see today.




Tourism in the Himalayas

The Himalayas attract millions of tourists each year, drawn by their natural beauty and opportunities for adventure.

Tourist activities include trekking, climbing, wildlife spotting and visiting cultural landmarks.




Positives to climbing mountains

Adventure: Climbing the Himalayas offers a thrilling and challenging adventure for mountaineers.
Stunning scenery: The breathtaking views from the mountain summits make the climb a rewarding experience.
Physical and Mental Challenge: Climbing the Himalayas can help build resilience, perseverance and mental strength.




Negatives to climbing mountains

Risks and Hazards: Climbers face extreme weather conditions, avalanches, altitude sickness and physical exhaustion.

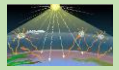
Environmental impact: Increased tourism can lead to negative environmental impacts, such as pollution and damage to the natural habitats.




Worldwide sustainability

Climate change mitigation: Supporting initiatives to reduce greenhouse gas emissions and combat climate change.

Biodiversity Conservation: Protecting the diverse flora and fauna found in the Himalayan region.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Geography Assessment

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1. Study figure 1 (a map of the Himalayas)

Figure 1

a) Locate Himalayas on the map.

b) Name two countries the Himalayas are in.

_____ _____ [2 marks]

2. Name a Mountain in the Himalayas

_____ [1 mark]

3. What type of mountains are the Himalayas?

_____ [1 mark]

4. What do the Himalayas attract?

_____ [1 marks]

5. Study figure 2 (a graph showing tourism in Mount Everest).

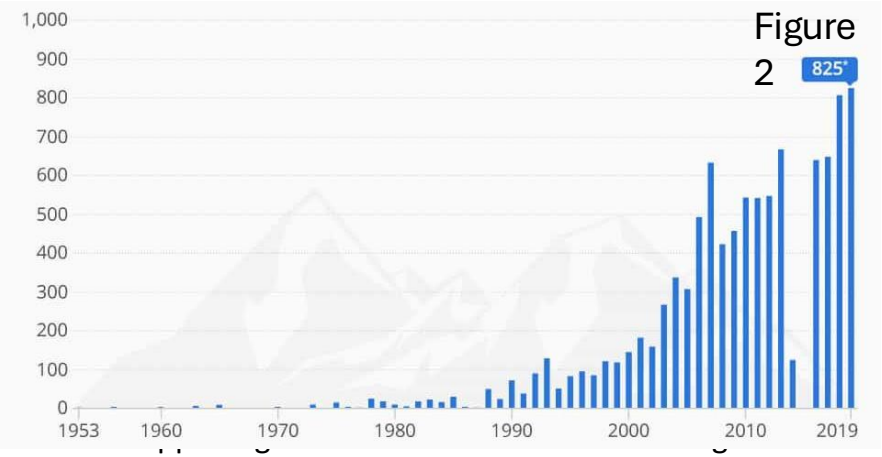

Figure 2

Everest? Give examples.

_____

_____ [3 marks]

6. What impact do you think this could have on the Mountain?

_____

_____ [2 marks]

END OF ASSESSMENT

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Year 5
Summer 2

Human and Physical Geography Year 5 Summer 2 – Trade

How does a banana get from a field to a supermarket?

Where is Costa Rica?

Costa Rica is located in Central America.

It is bordered by Nicaragua to the north and Panama to the south.

Costa Rica is known for its tropical climate and diverse ecosystems, including rainforests and coastal plains.



Food popular in trade

Bananas are one of the most popular and widely traded fruits globally.

They provide an important source of income for many countries, including Costa Rica.

Bananas are grown and consumed all around the world due to their availability and nutritional value.




Banana plantations in Costa Rica

Costa Rica has a thriving banana industry with a significant number of plantations.

The country's favorable climate and fertile soil make it an ideal location for banana cultivation.

The plantations are mostly found in coastal regions, near ports for easy exportation.




Banana cultivation process

Selecting a suitable site: Plantations are established in areas with rich soil, ample sunlight, and adequate rainfall.
Preparing the land: The soil is prepared by clearing vegetation, ploughing, and fertilising.
Planting: Banana plants,, are propagated by planting suckers (shoots) from mature banana plants.
Nurturing and maintaining: The plants require regular watering, weed control, and protection
Harvesting: It takes approximately 9-12 months from planting to harvest,
Managing the plantation: Plantations employ workers who manage and oversee the entire cultivation process.




Harvesting and processing

Once the bananas have ripened, they are harvested from the plants.

Workers carefully cut the bunches of bananas from the tree while ensuring minimal damage to the fruit.
The bunches are then transported to a processing area within the plantation.




Transporting, exporting and arrival at the supermarket

Processing: At the processing area, the bananas are sorted, washed, and packed into boxes.
Transportation to the port: The packed boxes are loaded onto trucks and transported from the plantation to the nearest port.
Exporting: At the port, the boxes are loaded onto ships, which will transport them to various countries around the world.
Importing: Once the bananas arrive at their destination country, they go through customs and are transported to local distribution centers.
Distributing to supermarkets: From the distribution centers, the bananas are sent to the shops.
Reaching the supermarket: Finally, the bananas are unpacked and arranged in the fresh produce section of the supermarket.




Vision: We show curiosity about our world and understand our responsibility towards it.

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1. Study figure 1

Figure 1

a) Circle Costa Rica on the map.

b) Write down the grid reference that Costa Rica is in.

(,) [2 marks]

2. True or False? Bananas are one of the most popular and widely traded fruits, globally.

_____ [1 mark]

3. True or False? Costa Rica rely on trade to be able to consume bananas.

_____ [1 mark]

4. What are plantations normally close to and why?

_____ [1 mark]

5. Study figure 2 (The percentage each worker earns)

On average, workers only earn between 5 % and 9 % of the total value of bananas while retailers manage to capture between 36 % and 43 %.

Stage	Ecudor	Columbia	Costa Rica	Dominican Republic	Cameroon
Retail	42.4%	36.8%	40.7%	43.4%	41.6%
Ripening	10.6%	10.6%	10.6%	10.6%	10.6%
Tariffs	8.6%	8.6%	8.6%		
Shipping & Import	20.4%	20.2%	18.3%	18.1%	17.1%
Export	4.3%	4.3%	4.3%	4.3%	4.3%
Production	6.8%	10.5%	10.5%	16.5%	21.2%
Worker's wages	6.9%	9.0%	7.0%	7.1%	5.2%

Figure 2

a. Which countries worker wages get the highest amount?

_____

[1 mark]

b. In Costa Rica, who gets the most money from the bananas?

_____

[1 mark]

c. Do you think this is fair? Think about the process of selling bananas. Who do you think should earn the most and why?

_____

_____

_____

_____

_____

[3 marks]

END OF ASSESSMENT

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