

G10 Science: Class 13 Homework

1. Draw a diagram to show the movement of cold and warm air on Earth and the formation of prevailing winds. Label Tradewinds, Prevailing Westerlies, Polar Easterlies, Doldrums, Horse Latitudes, and Polar Front and identify bands of high pressure and low pressure. **[8 marks]**

2. What effect would each type of prevailing wind have on the land it crosses?

- a. A prevailing wind coming from the North Pole. **[1 mark]**

- b. A prevailing wind coming from the ocean. **[1 mark]**

3. How are convection currents formed? **[2 marks]**

4. a) What is an interglacial period? **[1 mark]**

b) How frequently do warm interglacial periods occur? **[1 mark]**

c) Has Earth spent more time in cold ice age periods or in mild interglacial periods over the past 400 000 years? **[1 mark]**

5. Explain what is an El Nino event. **[3 marks]**

6. What is an upwelling? **[2 marks]**

7. Scientists are concerned that global warming will become a positive feedback loop. Explain what is a positive feedback loop and its relationship to the albedo effect. **[3 marks]**

8. White paint on the road tends to be more slippery than black asphalt when ice forms. Explain this observation using the albedo effect. [2 marks]
9. What colour clothing would you wear to stay cool on a hot summer day? Use what you know about the albedo effect to explain your answer. [2 marks]
10. Grass has an albedo of about 0.20 and rock has an albedo of about 0.30. Which will reflect more of the Sun's radiation, grass or rock? Explain why. [2 marks]
11. The Gulf Stream carries warm water past the west coast of Europe. How would you expect this current to affect the climate of the west coast of Europe? [2 marks]
12. Provide two examples for each of the following: [6 marks]
- Convection
 - Conduction
 - Radiation