**Candidate ID:**

**Forests**

There are many types of forests in the world classified according to their location and climate.

**Coniferous Forests**

These forests are in the cold northern regions of Canada, Europe, Asia and the United States where the winters are long and cold with a lot of snowfall and the summers are warm and humid. The trees that make up these forests are especially adapted to withstand cold and drought. They are mostly conifers such as spruces, pines, and firs that are evergreen, producing needles instead of leaves and cones instead of flowers. These trees tend to be tall to get nearer the suns light and narrow so that snow cannot lodge for long periods of time in their branches. For protection from the wind they tend to grow very close together to create forests that can have thousands of trees.

The soil of the coniferous forests is usually acidic with a humus layer which is usually low in mineral and organic content because fallen trees and needles rot very slowly in this type of climate. A wide range of birds inhabit these forests such as woodpeckers, crossbills, warblers, kinglets, nuthatches, waxwings, grouse, hawks, and owls. Mammals such as shrews, voles, squirrels, martens, moose, reindeer, and wolves also inhabit these forests. In many parts of the world these forests are also found high up on the side of large mountain ranges such as the Rocky mountain range in the Americas.

**Tropical Rainforests**

These forests are located near the equator where there is high humidly, rainfall and a warm year round temperature, which is an ideal habitat for plants and animals. There are many different types of tree growing together in these forests. The trees tend to be very tall and grow close together. Because the light level tends to be low near the forest floor, trees only produce branches and leaves near the top of the tree where light is available, producing a vast forest canopy. It is in this canopy that many of the forest animals live, high above the forest floor. The trees tend to have a thin smooth bark as they do not need protection from water loss and freezing temperatures. On the forest floor the light level is very low and the soil is very thin and of poor quality producing very few small plants or bushes. The humidity near the forest floor is high because the air beneath the canopy is trapped and the air holds a large amount of excess moisture shed by trees because of the high rainfall.

**Greenhouse Effect**

Rain forests play a major role in reducing the amount of carbon dioxide in the air and in turn reducing the greenhouse effect which causes global warming. Over the last 20 years there has been a huge increase in tropical deforestation to provide wood resources and make more land available for agriculture and livestock.

Carbon dioxide is an atmospheric gas that is absorbed by plant life such as trees to carry out the process of photosynthesis. This is where a tree uses carbon dioxide and water and sunlight to produce sugar which nourishes the tree which then releases oxygen as a by-product.

Carbon dioxide has the ability to absorb heat given off by the earth. A percentage of this heat is redirected towards the earth. causing a green house effect.

The level of carbon dioxide in the atmosphere has increased dramatically in recent years because of increased industry and the burning of fossil fuels. The increased level of deforestation means that there are now less trees available to absorb the increased level of carbon dioxide.

This means that the increased build-up of carbon dioxide in the atmosphere will absorb a lot of heat not allowing it to escape from the earth but redirecting it to the earth’s surface causing a global rise in temperature and a possible catastrophic climate change.