****Global Systems   
Climate Change**

**Comprehension Questions**

*Learning Intention:* To investigate the effect of climate change on **sea levels** and **biodiversity**, currently occurring changes to **permafrost** and **sea ice** and the impacts of those changes.

*Activity:* Watch [the video](https://clickv.ie/w/Nd-k) and complete the questions below.

**Climate Change: The Evidence**

1. There is a great deal of evidence to say that global climate is changing, but those changes are not \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ everywhere on Earth.
2. The sun’s energy isn’t getting any greater, but more is being retained in the atmosphere, to: \_\_\_\_\_\_\_ snow and ice, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the oceans, and \_\_\_\_\_\_\_\_ weather systems.
3. For most of the last 100 years, increased temperatures mean most of Iceland’s glaciers have been in \_\_\_\_\_\_\_\_ .
4. The speed at which ice melts has a direct impact on global \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. Researchers have shown that the speed at which glaciers move has \_\_\_\_\_\_\_\_\_\_\_ .
5. For \_\_\_\_\_\_\_\_\_\_\_\_\_ years, weather stations around the world have been taking \_\_\_\_\_\_\_ temperature readings. For most of the last century, average temperatures \_\_\_\_\_\_\_\_\_\_\_\_\_ .

**Climate Change: The Causes**

1. Global temperatures are rising because changes on \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and in \_\_\_\_\_\_\_\_\_\_\_\_\_\_ are causing more solar radiation to be retained.
2. Brighter surfaces like ice sheets are the most \_\_\_\_\_\_\_\_\_\_\_\_ zones whilst darker land surfaces such as forests \_\_\_\_\_\_\_\_\_\_\_\_ much more. This means that if glaciers melt and expose darker surfaces, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ gets absorbed .
3. The extra greenhouse gases we’ve emitted into the atmosphere have \_\_\_\_\_\_\_\_\_\_\_\_\_ temperatures in the atmosphere and ocean, and the oceans have been \_\_\_\_\_\_\_\_\_\_\_\_\_ so sea levels have been \_\_\_\_\_\_\_\_\_\_\_ .

**Impacts of Climate Change: Melting Ice**

1. Decreasing sea ice in the arctic has reduced the amount of \_\_\_\_\_\_\_\_\_\_\_ available for polar bears and seals. Increased temperatures have begun to affect \_\_\_\_\_\_\_\_\_\_\_\_\_ of fish and migratory birds.
2. The combination of massive quantities of meltwater and intense spring rains means \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ have become increasingly common.

**Impacts of Climate Change: Rising Seas**

1. Sea level rose by \_\_\_\_\_\_\_\_ in the last century, and there are predictions of the rise of up to \_\_\_\_\_\_\_\_\_\_\_\_\_ in the next century.
2. There is a lot of \_\_\_\_\_\_\_\_\_\_\_\_\_\_ about which areas will experience the biggest changes, but whatever happens, the impacts will depend on the \_\_\_\_\_\_\_\_\_\_\_\_ people have to adapt.
3. If the mangroves go into decline, all sorts of other species from \_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ will be affected. Changing sea levels will also take away people’s means of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

**Impacts of Climate Change: Changing Weather Patterns**

1. If global sea temperatures increase, the conditions \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ need in order to form are going to become much more \_\_\_\_\_\_\_\_\_\_\_ .
2. Climate change is affecting different parts of the world differently. Potentially it may even be \_\_\_\_\_\_\_\_\_\_ to grow crops in some parts of the world. But in regions prone to drought, it is becoming \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to have enough water.