

Learning Intentions**For students to:**

- Explain environmental change
- Work effectively in a group
- Use new vocabulary such as biomass and peatbogs

Context:

- Environmental activity
- Causes and effects cards

Resources**Provided**

- Causes and effects cards

Needed

- internet

Links to National Curriculum subjects**Geography KS2**

Enquiry and skills (1a, 1c, 1e, 2a)
 Patterns and processes (4b)
 Environmental change and sustainable development (5a, 5b)
 Breadth of study (6e)

Geography KS3

Enquiry and skills (1a, 1f, 2a)
 Knowledge and understanding of places (3c, 3d,)
 Patterns and processes (4b)
 Environmental change and sustainable development (5a, 5b)
 Breadth of study (6d, 6h, 6j, 6k)

8. Causes and effects**Overview**

'Causes and effects' helps students understand the impact of climate change on plants. Groups of students are provided with a set of cards to sort into strings of linked cards. From this they produce their own table of causes and effects

Teaching activity

- Cut out a set of cards for each group of students and mix them up.
- Divide the students into groups of three or four and provide each group with a set of cards
- Ask the students to cluster the cards into threes, to show the links between causes and effects.
- Encourage them to discuss the findings
- Ask the students to produce their own table of cause and effects and write a summary paragraph.

Cause	Effect	Response

8. Causes and effects

Cause	Effect	Response
Industry, cars and aeroplanes produce more and more CO ₂ .	Increase in CO ₂ in the atmosphere causes trees and plants to grow more.	American poison ivy (Toxicodendron radicans) uses extra CO ₂ to produce more biomass and becomes more poisonous.
Climate change has meant that summers in some places are warmer and last longer.	Longer summers with hot weather delays frost which triggers chlorophyll in leaves to decay and this makes the leaves change colour	Leaves on trees in the United States of America have duller leaves in the autumn because of climate change.
Heavy frosts are important for encouraging buds to break. These buds eventually become fruit.	Warm winters in England have caused blackcurrants to have less juicy fruit.	It takes 16 years to develop strains of a fruit and if climate change keeps happening then some fruits may disappear before we can develop new strains resistant to drought.
Cold climates are important for some trees like the yellow birch.	With milder winters, trees are becoming less hardy.	Yellow birch used to be able to cope with frosty conditions but now they are dying back after late frosts.
Some areas are having less rain because of climate change.	Beech trees need to have enough water to grow and they do not like it when the weather is too hot.	Beech trees now grow in areas further north in Europe than they used to be found in the past.
Climate change is causing the bogs of Siberia to melt much earlier than in the past.	Peatlands hold large quantities of methane which is a Greenhouse Gas - 21 times worse than CO ₂ .	Large areas of Russia are covered in snow. Until now this snow has reflected the heat but now it is melting. Because the land is darker it is absorbing heat and this is increasing the warming effect.
Industry, cars and aeroplanes produce more and more CO ₂ .	CO ₂ increases the risk of plant and tree leaves freezing at warmer temperatures.	Maidenhair trees are affected by their leaves freezing in temperatures that they used to be able to cope with.