	Global Warming and Flooding	*Lesson Plan*
Activity		*Note*s T: Teacher P: Pupil
1	**Introduction** T: Working in pairs, discuss the following questions: What you understand are the causes of global warming? What could be effects of global warming on the U.K.? T: The key points to be looking for in the feedback are: • burning of fossil fuels; • cutting down of rain forests; • pollution of air travel; • flooding; • adverse and extreme weather conditions; • change in the gulf stream An website aimed at schools and produced by DEFRA is Defra, UK - Environmental Protection - Climate Change - Schools www.defra.gov.uk/environment/climatechange/schools/index.htm	This activity could be used in a Maths/ICT lesson. Whole class discussion. Feedback from the class taking an answer or an idea from different pairs of Ps. There may be some Ps who do not accept that global warming is as serious as others!
2	T: The burning of fossil fuels and the increase in car and air travel add carbon dioxide to the atmosphere around the earth. Although this may be partly removed by biological reactions the concentration of carbon dioxide is gradually increasing. This leads to a rise in the average temperature of the earth. Give out the data on the **Datasheet**. T: Discuss how to represent the data so that predictions for the future can be made. T: Discuss whether the data on a scatter graph suggest a linear graph or otherwise. T: How could we use the data to predict the average temperature rise in 2010 or 2030? T: Compare the predictions based on the different models.	Ps should be encouraged to draw a scatter graph by hand or using appropriate software. T reminds Ps if necessary. If there is disagreement then encourage Ps to draw graphs showing their models.
3	**When will the UK be flooded?** T: If the average temperature of the earth rises by about 7^oC from its 1880 value then most of the UK may be flooded. **Question**: When might the UK be flooded?	Individual work using appropriate ICT software. For example Excel can be used to draw a line graph and the function GROWTH can be used to make predictions based on the data.

4	**Discussion** The solution sheet shows the graph and predictions using Excel. The predictions suggest that soon after 2070 there will not be much land remaining above sea level in the UK! T: Should we be concerned? During the 19th century people in London were concerned that because of London's rapidly growing population - and the extra horse drawn carriages that would be needed - the amount of horse manure on London's roads would reach a point where it would block major thoroughfares. The motor car was introduced in the later parts of the century and the potential problem of 'horse manure mountains' disappeared. This has now led to a new threat: global warming and flooding. The **Homework Task** reinforces the dangers associated with predictions by extrapolation.	Individual work, monitored. Class agrees/disagrees. Class discussion. Stress the importance of the dangers of extrapolation from a dataset. In the discussion 's could discuss alternative technologies, e.g. nuclear power cells. What might the headlines actually read in 100 years time?