**THEORY!!! Consequences of the man-made greenhouse effect for life on earth (Matthias)**

At the „Intergovernmental Panel on Climate change“(IPCC), several thousand scientists worldwide work together to investigate the influences and effects of climate change. They say that since the beginning of industrialization the air temperature has risen by 0.7 ° C (with a statistical uncertainty of +/- 0.2 ° C) and will increase by 1.1 ° C to 6.4 ° C in the following years.? The predictive models are still inaccurate and not all questions are resolved yet. But the majority of scientists agree that the global use of fossil fuels is the biggest culprit of this development and has to be stopped.

The temperature increase above does not sound dramatically (20°C instead of 14°C would be nice)

but would lead to unbearable extreme values (for example: the hottest temperature on summer days would be 42°C instead of 39°C, or the wind speed of a hurricane would be 160km/h instead of 130km/h). But it would also come to long-term changes, which can no longer be mastered by the ecosystem. Climatologists expect increasing periods of heat-, dry-, heavy rain- and high water phenomena.

This is followed by small and large catastrophes, such as the relocation of agricultural areas, the extinction of plants and animal species and the rising of the sea level, which endangers many states worldwide (for example: Bangladesh and the Netherlands). Another consequence is that the glaciers melt in the Alps.

Due to the increasing drought in summer and the higher probability of storms in winter (which was predicted especially for Germany) high costs arise (for example for flood protection).

**STATION 2: CONSEQUENCES OF GLOBAL WARMING (Matthias)**

To illustrate the consequences of the greenhouse effect, it is best to have a Power Point lecture with photos. Current informations on the effects of global warming can be found on the Internet. Photos make the presentation more vivid. It is important that the photos are only for your presentation in class and will not be published.

**Worldwide consequences of temperature increase in key words:**

* **Melting of the ice masses on the Arctic and Antarctic**
* **Melting off the glaciers**

 (Example: The glaciers of the Tibetan plateau are the most affected by global warming. 40% of the world population receive more than the half of their drinking water from seven Asian river systems, which all have their origin on this plateau

* **The sea temperature is rising and the storms are getting stronger**

Search on the internet for more information on the effects of different storms (hurricanes in the USA and typhoons in Japan), which have stepped up in the USA.

* **Rainfall and floods are increasing**
* **Droughts are increasing/ Distribution of precipitation changes**
* **Droughts are increasing and deserts expand**
* **Pathogens open up new habitats. This leads to the spread of diseases**
* **Extinction of animal- and plant species**