Climate Change Article Questions

**Article 1: The Keeling Curve**

1. What was the CO2 concentration when Charles Keeling began collecting data in 1958? \_\_\_\_\_\_\_ ppm

2. Why do CO2 concentrations fluctuate in a periodic fashion?

3. Calculate the slope of the Keeling curve (with units) from 1965-1975 and from 1995-2005.

4. Referring to #3, why has the rate of CO2 increase changed?

5. According to the CO2 data based on ice cores (on the opposite side of the handout), what is the normal range of CO2 concentration?

6. Go to the link to the real-time CO2 measurement (Keeling Curve Real-Time). In what year did CO2 concentration pass 400 ppm for the first time? \_\_\_\_\_ What is the CO2 concentration today? \_\_\_\_ ppm

**Article 2: Sea Level Rise**

1. What was the average rate of sea level rise in the 20th century (with units): \_\_\_\_\_\_\_

What is the rate in the 21st century, so far? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Summarize in a chart: the three main causes of sea level rise and how much sea level rise is predicted from each in the 21st century, in cm and in inches (1 in = 2.54 cm). Include a row for totals. You will have to give a range for some of the numbers.

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
| total | cm | in |

3. Based on the current rate of 0.3 cm/year, how many years would it take for sea level to rise 6 inches? (1 inch = 2.54 cm)? (show work).

4. When floating ice melts, it does not directly affect sea levels (you can try this with an ice cube in a glass of water). However, it can cause additional warming. Go to the “Albedo Effect” link. Explain.

Cornell Notes (Start with Notes column, then go back to the Main Ideas column)

|  |  |
| --- | --- |
| Main Ideas/Key Points | Notes/Diagrams |
|  |  |
| Summary | |