**Chapter 19 Reading Guide**

**Vocabulary**

|  |  |  |  |
| --- | --- | --- | --- |
| 1. Global Change | 2. Global Climate Change | 3. Greenhouse Effect | 4. Greenhouse Warming Potential |
| 5. Ocean Acidification | 6. Kyoto Protocol | 7. Carbon Sequestration | 8. Global Warming |

**Opening Story**

1. How do polar bears conduct their hunting? Use the phrase “whack a mole” in your description.
2. Explain how the polar bear carcass is important to other species.
3. Why is the melting ice especially detrimental to the polar bear?
4. What will happen with the decline of the polar bear? (be specific there are multiple effects).

**Module 62**

1. What type of rays directly from the sun strike the Earth?
2. What type of energy is radiated directly from the Earth?
3. Explain how the Greenhouse Effect works.
4. Why aren’t nitrogen gas and oxygen gas considered to be greenhouse gases?
5. Explain the difference between stratospheric ozone and tropospheric ozone.
6. List the 5 natural greenhouse gases. What is the man-made greenhouse gas and where does it come from?
7. Why is water vapor not considered to be a concerning greenhouse gas?
8. List and briefly explain the four natural sources of greenhouse gases:

1.

2.

3.

4.

1. List and briefly explain the five anthropogenic sources for greenhouse gases.

1.

2.

3.

4.

5.

1. Look at the 3 pie graphs on page 672. For each greenhouse gas list the largest source.

**Module 62 AP Review Questions**

1. 2. 3. 4. 5.

Module 63: The Evidence for Global Warming

1. Why do carbon dioxide levels vary seasonally?
2. What countries have the highest overall carbon dioxide release, what countries have the highest per capita carbon dioxide release?
3. How much has the global temperature risen since 1880?
4. What are 2 ways we can measure past temperatures?
5. What anthropogenic event(s) occurred right around the 1800s and how did they lead to increased greenhouse gas levels?
6. Historically speaking, 400,000 years ago what changes could have given rise to the fairly regular shifts in temperature over a long period of time?
7. How do we know that it the increased concentration of carbon dioxide that is the cause of increased temperatures?
8. Give one example of positive feedback related to climate change.
9. Give one example of negative feedback related to climate change.
10. Why is ocean acidification an issue?

**Module 63 AP Review Questions**

1. 2. 3. 4. 5.

**Module 64: Consequences of Global Climate Change**

1. List and briefly explain the 4 ways in which global climate change is already affecting the environment.

1.

2.

3.

4.

1. List several ways global climate change is affecting living organisms.
2. Discuss the example of the pied flycatcher and how the change in temperature has altered its activities.
3. Why are corals particularly sensitive to global climate change?
4. What happens during coral bleaching?
5. What are 6 things that are predicted to happen due to climate change(be specific)?
6. Why is the US not in favor of the Kyoto Protocol?
7. What is carbon sequestration and is it a possibility?

**Module 64 Review Questions**

1. 2. 3. 4. 5.

**Chapter 19 AP Environmental Science Practice Exam**

1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11.