

Chapter 26 review questions

Case Study -

1. If depletion of ozone predicts a skin cancer increase of 20-30%, what are some possible explanations for the increase being 90%?

26.1 - Ozone

2. What is the chemical difference between the kind of oxygen we breathe and ozone?

3. What are the differences between uvA, uvB, and uvC? What happens to each type in the atmosphere?

4. What units are used to measure ozone?

5. How is stratospheric ozone measured? Why is the ozone "hole" not a hole?

26.2 - Ozone depletion and CFCs

6. Summarize the major features of Molina and Roland's hypothesis regarding CFCs and ozone depletion? What are some of the major uses of CFCs?

7. What equations describe the breakdown of ozone? Why is this set of reactions called a "catalytic chain reaction?"

8. Describe two ways chlorine could be diverted into other chemical reactions in the atmosphere.

26.3 - The Antarctic Ozone Hole

9. What time of year is the ozone hole observed? What patterns of change have occurred related to the ozone hole?

10. Explain why polar stratospheric clouds play an important role in ozone depletion. Use the text on page 579 along with figure 26.10.

26.5

11. How long do CFCs persist in the atmosphere and why does this add to their destructive effects?

12. Describe the possible environmental effects of ozone depletion (there are several described on pgs 581-5282).

14. Describe the Montreal Protocol. Include: a) who it involves, b) what the agreement is, and c) whether it is working or not.

15. Describe how (a) CFCs could be reused (b) CFCs could be substituted for.

16. How could injection of chemicals help with ozone depletion?

ENVIRONMENTAL ISSUE

17. Describe the debate between whether humans or natural chemicals are causing the Ozone hole.