Name _____Date _____ Period _____ 82

ALL ABOUT THE OZONE

Activity 1 – Analyzing Local UV Radiation

Introduction: The electromagnetic spectrum consists of radio waves, microwaves, infrared, visible light, ultraviolet, X rays, and gamma rays. Ultraviolet radiation is a small portion of the electromagnetic spectrum that has a wavelength shorter than the wavelengths of the visible light spectrum. Ultraviolet light is not visible by humans but is visible by some birds and insects. Shorter wavelengths are more energetic, and are potentially more harmful to humans. Earth is bombarded by ultraviolet radiation from the sun. Thankfully, Earth's atmosphere has a protective layer of ozone, which prevents much of this UV radiation from reaching Earth's surface.

Directions - Go to the EPA page on Sun Safety by copying this link into your web browser: if you go to dixiemiddlescience.weebly.com, click on the link, then enter your zip code to find your local UV forecast

1. Date:

2. UV Index in my zip code:

3. What range does this index fall in?

4. What is the "Sun Protection Message" for your exposure category?

Return to the home page given in question 1. Click the buttons for Day 1, Day 2, Day 3, and Day 4 to see the UV index in your area for these days. Record the UV index for each day below. Give the date and the UV index for these days.

	Day 1	Day 2	Day 3	Day 4
Date				
UV Index				

In the sidebar on the right hand side of the website, click on the link that says, "Monthly averages of the UV index in the U.S.". Determine the average monthly UV index ***for your area*** for each calendar month and record in the data table below.

MONTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
UV Index												

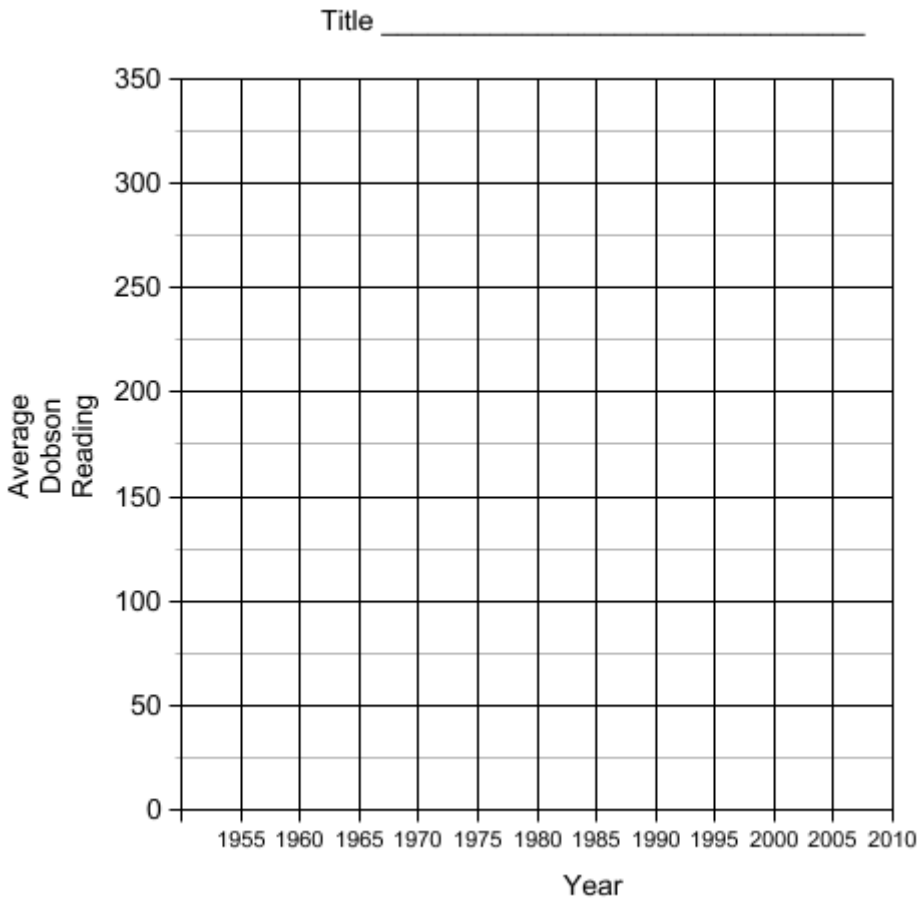
5. What conclusion can you reach about ultraviolet radiation levels in your area over the course of a year?

Activity 3 – Graphing Ozone Depletion

Use the following data to create a graph about the ozone and layer and answer the following questions.

Year	Average Dobson Ozone Reading	Year	Average Dobson Ozone Reading
1955	316	1985	247
1960	318	1990	231
1965	295	1995	210
1970	307	2000	214
1975	298	2005	208
1980	280	2010	197

Create a **line graph** to show the Average Ozone readings. Make sure to label the graph correctly using the following directions, then answer the analysis questions. **Make sure to give a title to the graph.



6. What pattern (ccc) does this graph show about the average amount of ozone in the stratosphere?

7. Based on what has been learned, is this good thing or a bad thing?

8. How do you think this will affect you 10 years from now if the pattern continues?

9. Based on what you learned about the ozone, what will happen if this pattern (ccc) continues?

10. How does this pattern show that ozone in the stratosphere is depleting? (depleting means getting less)