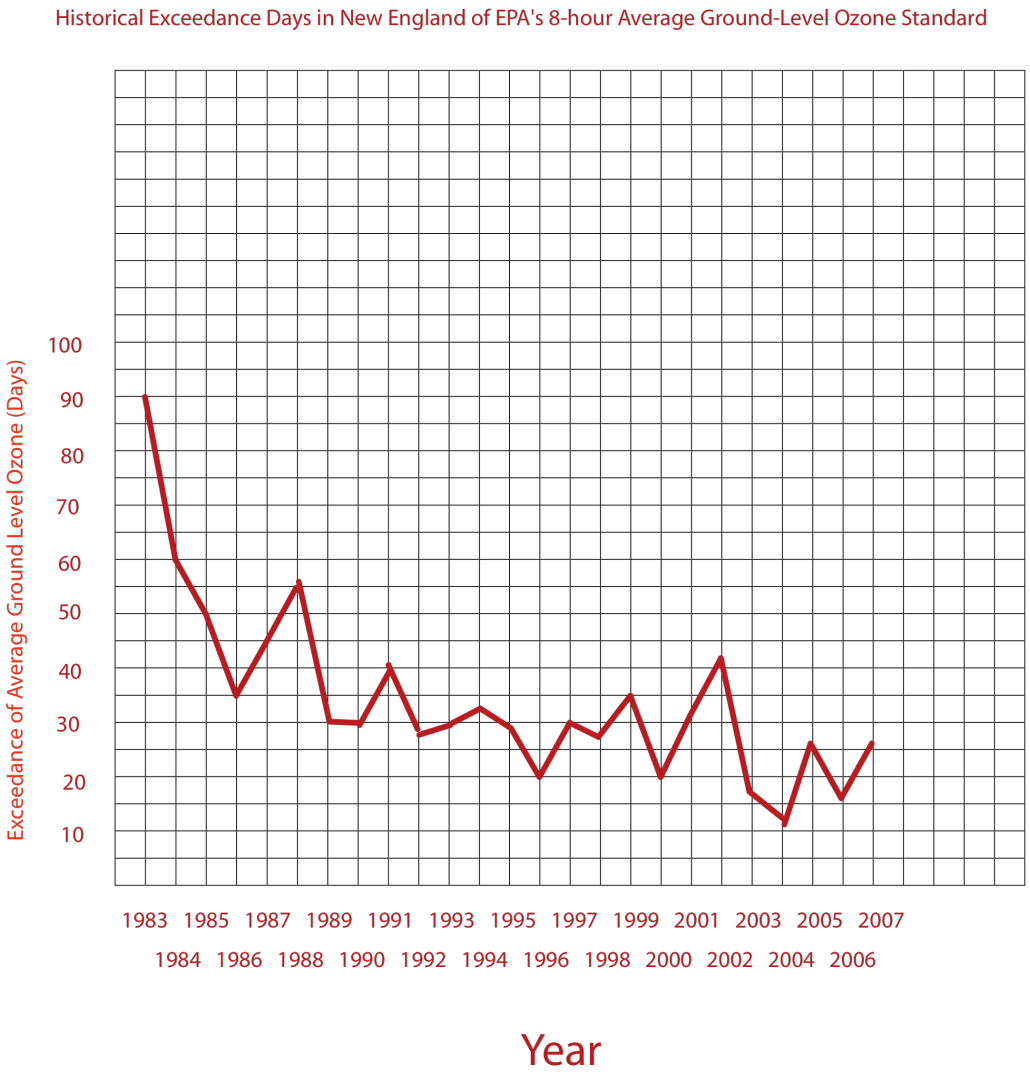
Name: _____*Teacher Version*_____ Period/Class: _____ Date:_____

Lesson 4.3: Is the Clean Air Act working in New England

Directions:

Look at the table on page 2. This data shows the number of days each year from 1983-2007 that New England exceeded the acceptable amount of ground level ozone for at least 8 hours. Using the column labeled New England, graph the points below, then answer the questions.



Historical Exceedance Days of EPA's 8-hour Average Ground-Level Ozone Standard

Exceedance Days Per Area(Click on an area for a graph of the data)

Year	New England	CT	ME	MA	NH	RI	VT
1983	90	84	21	62	10	24	4
1984	60	54	25	44	10	28	4
1985	50	41	21	38	8	16	6
1986	35	28	9	24	9	12	1
1987	46	37	10	24	13	18	3
1988	56	50	35	43	27	19	14
1989	31	26	11	21	11	9	2
1990	31	24	15	22	9	13	5
1991	40	34	17	26	13	20	10
1992	27	19	12	20	7	5	6
1993	30	27	14	23	8	7	4
1994	33	28	10	20	9	8	2
1995	29	24	14	20	9	11	3
1996	20	16	5	15	6	4	3
1997	30	27	11	24	10	11	2
1998	28	25	11	12	7	5	0
1999	35	33	10	22	9	13	2
2000	19	13	3	5	1	8	1
2001	32	26	15	27	10	15	2
2002	43	36	17	30	13	17	5
2003	17	14	5	11	1	10	0
2004	13	6	1	8	4	4	1
2005	26	20	4	20	3	8	0
2006	16	13	2	11	2	3	0
2007*	26	17	8	20	6	8	1

Questions:

1. Congress passed the Clean Air Act in 1963, the Air Quality Act in 1967, the Clean Air Act Extension of 1970, and Clean Air Act Amendments in 1977 and 1990. These Acts give the Environmental Protection Agency the authority to regulate the emissions associated with such sources as cars, factories, etc. Do you think the Clean Air Act is working in New England? Explain your answer using data to support it.

Although there may be some variation in the answers, overall there has been a decrease in the average number of ozone exceedance. Students may comment on the fact that it took some time after 1963 to see any drastic changes on the graph.

2. The graph does not represented by a straight line. Given what you learned in activity 4.2, what might be some reasons for zig-zag pattern you see?

Students can refer to weather as a major reason for the pattern. The amount of sunlight, wind, or inversion can all be factors.

3. Choose two states on the table and compare there overall exceedance of ground-level ozone. What might be some reasons for the differences?

Answers will vary. Students may discuss how many people live in the different states, how developed the states are (e.g. number and size of cities), and how the weather is different across the tow states (e.g. more sunlight or more wind).