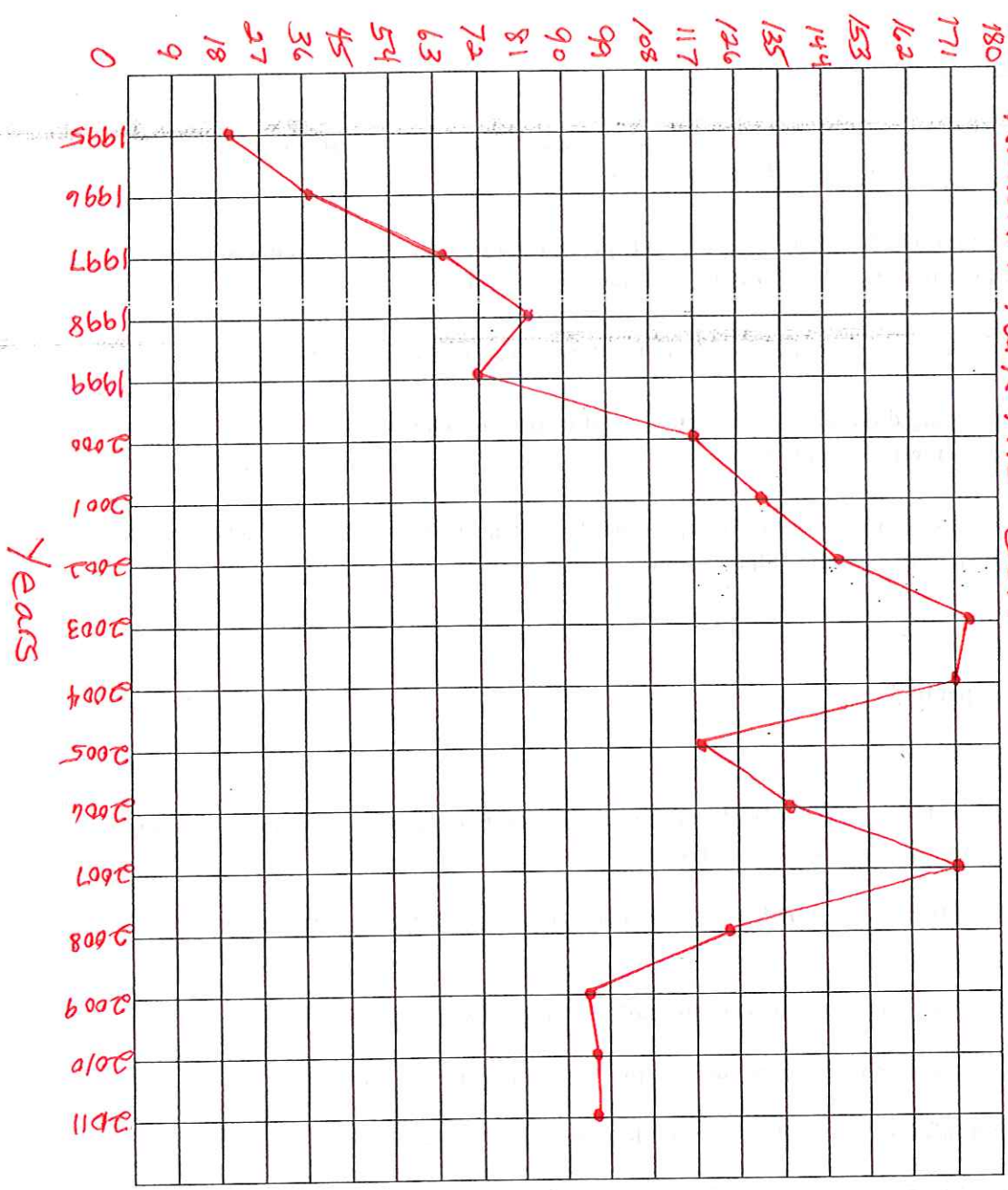


## Yellowstone National Park's Wolves

Researchers are using infrared cameras to look for signs of disease in the wolves living in Yellowstone National Park. Gray wolves were reintroduced to Yellowstone in 1995. Since then, biologists have been monitoring the park's wolves, whose numbers have fluctuated. Create a LINE GRAPH showing the number of gray wolves in Yellowstone National Park as seen in the chart below. Remember to label all parts and give a descriptive title!

*Populations of Gray Wolves in Yellowstone National Park 1995-2011*



Populations of Gray Wolves in Yellowstone National Park 1995-2011

Year	Number of Wolves
1995	21
1996	37
1997	69
1998	83
1999	72
2000	117
2001	131
2002	148
2003	174
2004	171
2005	118
2006	136
2007	171
2008	124
2009	96
2010	97
2011	97

ANALYZE IT – AFTER you have graphed!

1. In which year was the number of gray wolves in Yellowstone National Park the greatest? (Look for the highest plot.) 2003 The least? (Look for the lowest plot.) 1995

2004-2005 2. The greatest decline in the gray wolf population in Yellowstone occurred between which two years? (Look for the sharpest decline [going down] between 2 years.)

2003, 2004, 2007 3. In which years were there more than 150 wolves in Yellowstone? (Find 150; look above.)

3 4. How many years did it take for the number of wolves in Yellowstone Park to almost quadruple (x4) since their reintroduction in 1995?

5. What is the recent trend in Yellowstone's gray wolf population? (Look at the last few years – what do you see happening, what do you expect to happen next? That is what "trend" means.)

The population is remaining pretty constant.

6. Why do you think this is happening? I think this may be happening because scientists are helping to prevent wolves from getting mange.

Go to Google Classroom and read the article that has been sent to you titled "Color-Coded Wolves." This is from *Science World Magazine*. Answer the questions below:

Red 8. On an Infrared Temperature Gauge, what color represents the warmest parts of an object being scanned?

Sarcoptic Mange 9. What is the name of the disease that affected the wolves in Yellowstone?

freezing 10. Wolves with mange are vulnerable to \_\_\_\_, starvation, and infections.

purple/blue 11. On an infrared scan, what color do healthy wolves' bodies appear?

Thinking about the steps of scientific inquiry, match #12-14 with the choices given:

C 12. How is mange affecting the survival and reproduction of wolves?

B 13. Shades of purple and blue indicate cooler temperatures on an infrared scan.

A 14. Healthy wolves are well insulated, so their scans should appear purple and blue.

For #12-14
a. inference
b. observation
c. question

B 15. "As a test, Cross's team shaved small patches of fur off captive wolves to simulate the effects of mange." What is the independent variable in this test? (Independent variable=what "I" change)  
a. the wolves' skin temperatures    b. the amount of fur each wolf has    c. the air temperature

A 16. What is the dependent variable in this test? (Dependent variable=what scientists measure)  
a. the wolves' skin temperatures    b. the amount of fur each wolf has    c. the air temperature

17. What is one further question scientists have regarding this test?

Does genetics affect if a wolf gets mange?