

# Get Involved! Exploring Endangered Species Data



Students gather and graph data about endangered species, identify trends, and draw conclusions. Then they create a persuasive poster to encourage people to continue to support the endangered Florida panther.

Grade Level: 3-5 | Length of Lesson: 35 minutes

*Note: This activity can be self-paced and assigned to individual students or groups. The activity provides students with all the instructions and resources they need to complete the activity and submit their work online.*

*Prerequisite: EasyTech spreadsheets lesson to help students create graphs*

## Optional Warm-Up

Make sure students have completed the EasyTech Trends and Forecasts.

**To warm up, discuss the following questions with students:**

What does it mean for an animal to be endangered? threatened? extinct?  
What animals do you know that are endangered?

Tell students that the class will test its knowledge of this important topic. As a class, take the quiz about endangered animals on the [National Geographic site](#). Or, create a Know-Wonder-Learn (KWL) chart and have students volunteer what they know about the topic as you record their responses. Have them also tell what they want to know.

After the results of the quiz or the chart, decide together whether the class is knowledgeable of the topic or whether they could be better informed.

Explain that a lot of work has been done by scientists to help us understand why some animal are becoming threatened or endangered. And, scientists are working hard to help these animals survive and their populations grow.

Tell students that as scientists study problems, they collect data, or numerical information, about the different species. This data can help them reach conclusions about the effect of their work. Sometimes, scientists are able to draw conclusions from data by looking at trends. Write the word trends and its definition on the board:

**Trend**  
noun \trend\

*The general movement over time of a statistically detectable change; also :a statistical curve reflecting such a change*

Younger students might have a difficult time understanding the difference between a fad and a trend. Explain that fads are short lived and do not have a deep influence on society or culture. Electronic devices, such as iPods and smart phones are evidence of a trend in communication. Fashions such as ballerina flats, Snuggies, leg warmers, and trucker hats, are fads. The key is looking at the success or influence over time.

Have the class brainstorm products that they use or see, and decide whether they are trends or fads. For example, interest in the Harry Potter series is a trend. It has been around for a long time and will probably continue its level of popularity for a long time. Tell students that they will be observing and working with data to notice trends and draw conclusions.

## Description of Student Activity

Students investigate what the word trend means and what they know about trends.

Students use Internet searches to learn about the endangered Florida panther.

Students watch a [short video on the Florida panther on YouTube](#).

Students examine a chart showing the “Get Involved! Minimum Number of Florida Panthers Over a Year Old Alive during the Year [PDF]” chart.

Using the online journal Get Involved! Florida Panther Project section, students will input the data from the chart onto the Get Involved! Florida Panther [XLS] spreadsheet.

Students graph the data onto a bar graph and a line graph and evaluate the effectiveness of each graph. They then explore trend(s) in the data and reflect on possible reasons for the trend(s).

Students will answer the questions on Get Involved! Noticing Trends in Data section in their online journal.

Students follow the Get Involved! Poster [PDF] resource to use what they have learned about the Florida panther to create a poster.

Students make their own assessments of their projects using the Get Involved! Poster Self-Assessment rubric. (See the Get Involved! Poster Rubric [PDF] for reference.)

If possible, students should get feedback from peers on their projects by having them fill-out the Get Involved! Poster Feedback [DOC] form. Students use any suggestions to make appropriate adjustments to their projects.

Students reflect on their experience of identifying trends, making predictions and creating a poster, and submit their responses using the Get Involved! Reflection form in the online journal.

### Optional Wrap-up and Assessment

Have students display their posters around the school. Ask students to share their learning based on their Get Involved! Poster Reflection responses.

### Optional Extension

Explore more data on [endangered and threatened species](#).

Scroll down and look TABLE 1.3 “*Number of U.S. species listed per calendar year, by category, 1980–2005.*” This table shows the number of each type of species that has been listed as endangered and threatened each year in the U.S. since 1980.

Choose one category of species, for example, Mammals or Reptiles. Create a line graph for that category of species.

Examine the graph to identify trends. Compare trends with the trends discovered in the data for the Florida panther. Discuss how they differ.

## Primary Objectives

- Student identifies trends by examining data in charts and graphs.
- Student predicts outcome based on identified trends.
- Student draws conclusion based on trends.
- Student uses technology to create an original design.
- Student uses trend information to identify tone for a message.

## Prompt

You will use a chart and create graphs to observe trends in data about one endangered animal—the Florida panther. You will observe trends and make predictions using this data. And, using your understanding of the data, you will create a poster to inform others about the Florida panther.

### Resources you will need as you complete this project:

#### Documents

[Get Involved! Minimum Number of Panthers Over a Year Old Alive during the Year Chart](#)

[Get Involved! What Can Numbers Tell Us about the Florida Panther spreadsheet](#)

[Get Involved! Poster Instructions](#)

[Get Involved! Poster Rubric](#)

[Get Involved! Poster Project Feedback](#)

#### Web Sites

[www.dictionary.com](http://www.dictionary.com)

[www.merriam-webster.com](http://www.merriam-webster.com)

[Panther Facts](#)

[Panther FAQ](#)

[National Wildlife Foundation - Panthers](#)

[Panther Video](#)

[Create A Graph Website](#)

#### Follow these steps

1. Complete the Get Involved! Trend Definition section in your journal.
2. Learn about the Florida panther. The Florida panther is one of the most endangered animals in the United States. Use a search engine to find information about the Florida Panther, such as the site Friends of Florida Panthers Refuge.

#### You can also use the following links:

[Panther Facts](#)

[Panther FAQ](#)

[National Wildlife Foundation - Panthers](#)

1. To see a panther in the wild, watch this four-minute video “Panther Project: How We Collar a Florida Panther” which is available on YouTube at: <http://www.youtube.com/watch?v=EvNphm7VQn4>
2. Now that you have learned a little about the Florida panther, do you think the state is succeeding in its efforts to help the panther? One way to answer this question is to look at the number of Florida panthers over the years. Look at the Get Involved! Minimum Number of Florida Panthers Over a Year Old - Alive during the Year chart.
3. One way to see trends in data is to make a graph. You will make two different kinds of graphs—a bar graph and a line graph. You will look at both graphs to see which graph is best for understanding the data about Florida panthers.

4. Open the Get Involved! Florida Panther Project spreadsheet to make your graphs.

*Note: You can make the graphs in a spreadsheet. Or, you may want to use a graphing program such as the Kids' Zone graphing program at: <http://nces.ed.gov/nceskids/createagraph/default.aspx>. Be sure to put the years along the bottom of the graph.*

After you have created your two graphs, answer the questions on Get Involved! Noticing Trends in Data form. You will turn in both completed graphs to your teacher.

Open the Get Involved! Poster file and follow the directions. You may use the Get Involved! Poster Rubric to help you create a high-quality poster.

Use the Get Involved! Poster Self-Assessment section in your online journal to assess your project. If possible, ask other people to use the Get Involved! Poster Feedback form to give you their ideas.

Make any revision that you think will improve your work.

Share your Poster. Let the entire school know about the Florida panther!

Write about what you learned in the Get Involved! Reflection section of your online journal.

When you are finished, attach all of your documents to the activity and submit your work to your teacher.

## Response Template

### Get Involved! Trend Definition

1. Use an online dictionary, such as [www.dictionary.com](http://www.dictionary.com) or [www.merriam-webster.com](http://www.merriam-webster.com) to look up the word trend. Copy the main definition and paste it into the text box.
2. Where have you seen or heard the word trend before?
3. What trends are you aware of now and in the past?
4. Write a definition of trend in your own words.

## Get Involved! Florida Panther Project

1. Open the Get Involved! Florida Panther spreadsheet.
2. Make a bar graph using the data from Minimum Number of Florida Panthers Over a Year Old Alive During the Year chart.
  - First, complete the spreadsheet by adding the rest of the years in column A and the number of panthers in column B.
  - Now, highlight Column B Rows 4 through 31.
  - Click the Chart Wizard icon on the tool bar.
  - Choose the bar graph.
  - Attach your spreadsheet with the bar graph to the space below:
3. Now make a line graph for the same data.
  - Highlight Column B Rows 4 through 31.
  - Click on the Chart Wizard icon on the tool bar.
  - Choose the line graph.
  - Attach your spreadsheet using the "attachments" button
4. Study your two graphs. Complete Get Involved! Noticing Trends in Data.

## Get Involved! Noticing Trends in Data

Which graph type, bar or line, best shows you the trends over time? Explain.

When looking at the data on the line graph, what do you notice about the number of Florida panthers over the years? What trend do you notice?

What did you discover in the information about the Florida panther that can explain the trend?

What other hypothesis do you have that might explain the data?

The graph ends in 2008. Based on the trends in the graph, predict what you think the numbers are for the years 2009-2012. Justify your prediction based on the data.

In the spreadsheet application, use the Trendline feature to show a future trendline on your graph. Does the trendline match what you predicted?

## Get Involved!

### Minimum Number of Florida Panthers Over a Year Old Alive during the Year

Year	Number of Panthers
1981	13
1982	20
1983	21
1984	20
1985	19
1986	19
1987	27
1988	26
1989	25
1990	29
1991	25
1992	26
1993	33
1994	27
1995	25
1996	31
1997	39
1998	48
1999	52
2000	65
2001	69
2002	72
2003	82
2004	73
2005	79
2006	91
2007	90
2008	77

<https://www.fws.gov/floridapanther/PDFs/FLPantherEstimateStatement.pdf>

# Get Involved!

## What Can Numbers Tell Us about the Florida Panther spreadsheet

Year	Number of Panthers
1981	13
1982	20
1983	21

# Get Involved!

## Poster Instructions

Trends in data can give us important information. In this activity, you learned that the Florida panther numbers are increasing. That is good news. We also noticed that the number of panthers did not increase every year. Some years the numbers went down. And, the total number of Florida panthers is still not very great.

**With this information, you can make decisions about what must be done next. One thing that you can do is inform others.**

1. Use what you learned about the Florida panther and create a poster that informs others and encourages them to continue working to help save the panther.
2. Use a word processing application, drawing program, free online poster design tool, or paint program to create your poster. Include:
  - Images of the Florida panther
  - Facts about the panther
  - Reasons why the Florida panther is endangered
  - What the trends in the number of Florida panther tells us. (Use this encouraging number to help motivate people to help. Because the numbers of panthers are increasing, the message and tone of your poster should be uplifting.)
3. Use the Get Involved! Poster Rubric to help create a great poster!



## Get Involved!

Use this rubric to help you create a high-quality poster.

	Excellent	Acceptable	Needs Work	Unacceptable
<b>Overall Information</b>	<p>Is interesting and engaging.</p> <p>Includes reasons for panther being endangered.</p> <p>Includes facts about the panther.</p>	<p>Is interesting.</p> <p>Includes facts about the panther.</p>	<p>Lacks interest.</p> <p>Includes some facts about the panther.</p>	<p>Includes little or no information about the panther.</p>
<b>Information about Trends</b>	<p>Includes information about the trend in the number of panthers.</p> <p>Uses trend as motivation for getting involved.</p> <p>Has a clear, uplifting tone.</p>	<p>Includes information about the trend in the number of panthers.</p> <p>Asks people to become involved.</p> <p>Lacks an uplifting tone.</p>	<p>Includes information about the trend in the number of panthers.</p> <p>Lacks an uplifting tone.</p>	<p>Includes no information about the trend in the number of panthers.</p>
<b>Visual Appearance</b>	<p>Includes effective visuals of panther.</p> <p>Uses very attractive text and graphics.</p> <p>Places text and graphics effectively.</p> <p>Uses white space effectively</p>	<p>Includes somewhat effective visuals of panther.</p> <p>Uses somewhat attractive text and graphics.</p> <p>Places text and graphics effectively.</p> <p>Uses white space effectively</p>	<p>Includes visuals.</p> <p>Uses ineffective text and graphics.</p> <p>Uses little or too much white space.</p>	<p>Uses few or no visuals.</p> <p>Text and graphic are messy and hard to read.</p>
<b>Correct Grammar Mechanics and Spelling</b>	<p>No mistakes in grammar, mechanics, and spelling.</p>	<p>1 or 2 mistakes in grammar, mechanics, and spelling.</p>	<p>Many mistakes in grammar, mechanics, and spelling.</p>	<p>Mistakes in grammar, mechanics, and spelling make it difficult to understand.</p>

## Get Involved!

### Poster Project Feedback

**Poster Creator:**

**Poster Reviewer:**

Give the poster creator honest, constructive feedback that can help him or her improve the poster.

Feature	Comments
The poster has attractive visuals.	
The poster has interesting information.	
The poster “catches my eye.”	
The text is easy to read and attractive.	
The poster tells about the trends in the number of Florida panthers.	
The poster has an uplifting tone.	
The poster is neat.	
The words are all spelled correctly.	
Correct mechanics are used.	