



Learning Project 1 Understanding Graphs

**Inquiry Activity 1-2:
Gathering Information from Bar Graphs**

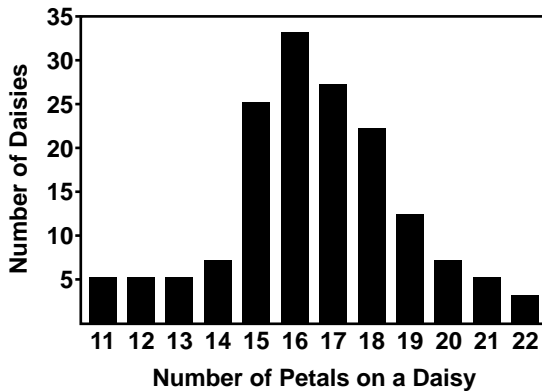
(Note: Italicized portions should be directed to the students.)

1. Identifying the Problem (Item 2 Science PA)

Read the introduction first, then look at the graph, and then read the question.

- A naturalist wanted to answer the question, “How many petals does an average daisy have?” He gathered a large number of daisies and counted the number of petals on each. He then listed his observations in the following graph.

A Survey of the Number of Petals Produced by Daisy Flowers



Which of the following statements could BEST be supported by his observations?

- The most common number of petals on a daisy is 15.
- The least common number of petals on a daisy is 20.
- The largest number of petals on a daisy is 19.
- The smallest number of petals on a daisy is 14.
- The number of petals on a daisy varies.

Where have you seen graphs like this before?

What words or symbols might be important to understand in order to answer the question, and what are they telling you?

Is there anything in the graph you do not understand?

In this graph, all the answers, except for the correct answer, are directly contradicted by the information given on the graph. The correct answer (choice 5) is the only one that is not specific in numbers. This is a variation on the approach to answers shown in the first Inquiry Activity. There, several answer choices called for information not provided by the graph.



2. Becoming Familiar with the Problem

Ask yourself questions like the following, taking note of those that were helpful so you can use them again.

Re-read the question. What are you being asked to find out?

The correct answer will be a statement that agrees with the information provided by the graph. The answer is not the same as the important finding of the study.

From reading the title, what do you already know about the topic of this graph?

Read the labels on the sides. What information do the bars tell you?

What do you already know about the information on the graph from your previous reading or experiences?

Does the topic attract your attention?

You might get some discussion here on silly science projects.

3. Planning, Assigning, and Performing Tasks

Try to answer the test question any way that you can, even if you have to guess. Be aware of the reasoning and steps you use. The following questions can be helpful.

What information does the graph provide that can answer the questions in the problem?

What information shown on the graph is different from the answer choices?

Most of the answer choices have incorrect numbers in them.

Select your answer to the question.

The correct answer is (5) The number of petals varies.

Is your answer choice defended by the information given in the graph?

Be able to defend your answer and the way you found it.

4. Sharing with Others

You may wish to do this Activity in a small group.

Telling other people what you know helps you to understand the material better. So take this opportunity not only to share the knowledge, but also to learn it more completely.

Whole class: Share with the whole class the steps you used in order to answer the question. Take notes on any different ways of answering the question the other groups used.

5. Reflecting, Extending, Evaluating

Reflecting: Think about what you have learned.

Thinking about what you have learned and experienced is part of the learning process. When the focus is only on the answer, you don't get much time to think about what was learned.

1. *Look at the answer choices for this question. How is the correct answer different from the other choices?*



The correct answer is the only one without a specific number. This may be a useful test-taking tip.



2. *How did focusing on the information actually given by the graph help you to understand problem better?*
3. *How necessary to understanding the question and getting the correct answer is the paragraph preceding the graph?*

The paragraph sets up the topic, but it is not necessary for reading and understanding the graph or answering the question correctly. This may also be a useful test-taking insight, as many of the questions with graphic components have reading passages that may be skimmed rather than read carefully.

Extending: Extend what you learned to new situations.

In extending, you are being asked to transfer the information presented in the Practice Test question to other information or situations.

1. *Make another graph that shows the results of a study your group might think of doing. You could study how many people you know who attended different movies, or what makes of cars (or any other products) are popular, or any topic you come up with in your group. Have your labels show the information you have gathered.*
2. *Write a multiple-choice question about the findings of your group study from question 1, and exchange it with others to answer.*
3. *Write an essay about another science study you did or have heard about.*

Evaluating: Assess what you learned and how you learned it.

In this last step, you get a chance to review the content of what you learned and the methods used to learn. These questions have no right or wrong answers; it is your chance to look more closely at your learning style and the opportunity to state how you benefited or didn't benefit from the content and/or the methods presented in this IA.

1. *What parts of the activity worked best for you? Explain.*
2. *What parts did not work well for you? Explain.*
3. *What parts of this this IA will you use when taking the GED test? Why?*
4. *How does following this 5-step format make you feel?*