



## Learning Project **2** Understanding Charts and Diagrams

### Inquiry Activity 2-2: Drawing Conclusions from Information on a Chart

This Inquiry Activity has three charts and covers both science and social studies. At first glance, it may look a little overwhelming. However, the approach to locating information on these three graphics is very similar.

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

#### 1. Identifying the Problem (Items 21 & 25 Science PA and 6 Social Studies PA)

In this Inquiry Activity, learners will have to read the charts and draw conclusions from the information presented there in order to answer the questions.

*Read the questions before you look at the charts or any reading passages that make up the problem.*

*What will you have to do in order to be successful in this Activity?*

21. As many as 20 percent of patients who take prescription drugs including insulin consume herbal supplements, but without realizing that such a combination may pose a health risk under certain circumstances. Patients should always consult their pharmacists or physicians before taking herbal supplements with prescription drugs.

Herb Interactions		
Herb	Interaction	When Taken With
Garlic	Increased internal bleeding	Blood-thinning drugs
Gingko Biloba	Increased internal bleeding	Blood-thinning drugs
St. John's Wort	Increased sedation	Prozac
Ginseng	Lowered blood-sugar level	Insulin or blood-sugar regulators

From the information provided in the chart above, which of the following statements is true?

Herbal supplements:

- (1) are types of vitamins that have a high calorie content
- (2) interfere with all prescription drugs
- (3) are cheaper than prescription drugs
- (4) boost the human immune system
- (5) may change the effect of certain prescription drugs.



25. Earth’s environment has changed over the centuries. Such changes can be viewed by examining fossils below Earth’s surface. The fossils shown in the following diagram were found in a rock cliff.

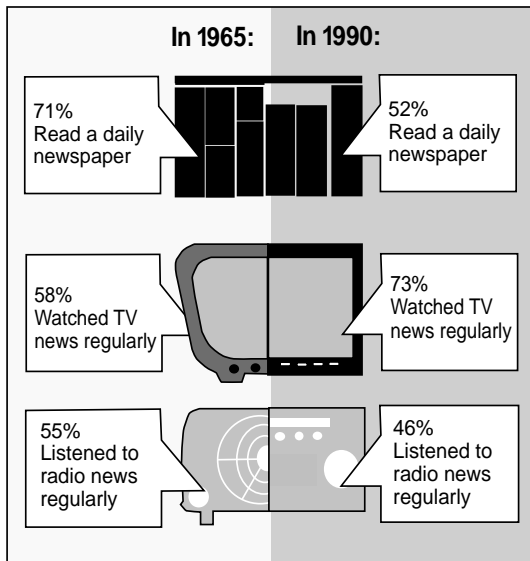
Location of Fossils in Earth’s Layers		
Surface ↓ Deep Below Surface	<b>D</b>	leaf, plant stem, animal footprints
	<b>C</b>	tree trunk, flower stem, animal footprints
	<b>B</b>	shark teeth, fish scales, plant stem
	<b>A</b>	plant stem, leaf, flower prints

What environmental change BEST explains the differences between layers A and B?

- (1) The weather changed.
- (2) Oceans covered the area.
- (3) Earthquakes occurred.
- (4) No observable changes are present.
- (5) Drought conditions prevailed.

Question 6 refers to the following diagram.

**News Media Usage by Americans**



Source: Adapted from Gary B. Nash, *American Odyssey: The United States in the Twentieth Century* (Lake Forest, Ill.: Glencoe/Macmillan/McGraw-Hill, 1997), 726.



6. Through which medium would the government in 1990 have been likely to attract the attention of most of the electorate to a political issue?

- (1) newspapers
- (2) magazines
- (3) television
- (4) radio
- (5) live theatre

*Where have you seen charts or diagrams like this before?*

*What words or symbols might be important to understand in order to answer the questions?*

*Is there anything on these charts or diagrams that you do not understand?*

## **2. Becoming Familiar with the Problem**

*Ask yourself questions like the following. You should pay attention to those that were helpful, so you can use them again.*

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

*From reading the titles of these charts and diagrams, what do you already know about the subjects of these charts and diagrams? What information do you already have from your experience or reading that will help you understand the charts and diagrams?*

Prescription drugs and possible drug interactions are parts of most of our lives. The rise in popularity of herbal supplements has brought these folk remedies into the mainstream. Most drug and grocery stores carry them.

Fossils may not be a part of everyday life, but they are not strange concepts. Many of us have seen leaf outlines in rocks. Making “fossils” is an elementary school art project many of us remember, and dinosaurs are always popular. In geology, a seemingly simple but important concept is that older fossils are found below younger fossils in a rock formation. There are situations when changes in the landform can shift rock layers and disrupt the geologic timeline, but this basic concept allows us to estimate the age of fossils and rock layers in relation to each other.

The term medium, as the singular of media, may need some explanation. The use of television and radio for getting news is a well-known phenomenon.

*How are the charts organized? How does the organization help you understand what is on the charts?*

*How is the organization of information similar on all three charts? How do the charts differ from one another in their organization and presentation of materials?*

This would be a good place to bring up making a chart to show the answers to these questions. Divide a piece of paper into two columns. Head the left column “Similarities,” and head the right column “Differences.” Recognizing similarities and differences is a critical thinking skill.

You may also raise the point that, for some learners, paragraphs filled with many details can be confusing. Charting that information can be a very useful learning strategy.

*Look at the pictures in question 6. How do the pictures make the information in the diagram clear?*

*Read the headings and labels. What information do they tell you?*

*Do these topics attract your attention?*



### 3. Planning, Assigning, and Performing Tasks

**Planning:** *You may decide to work in a group to do this activity.*

**Assigning:** *Decide who will read the information and who will lead the discussion of what is on the charts and how each is organized.*

**Doing the Work:** *As you read the charts, consider these strategies:*

*Find and mark any words you might not know. See if the chart gives enough information to clarify the meaning of the words. If not, use other resources to find the meaning.*

*What information does the chart provide that can answer the questions for each problem?*

*Find your answer to the questions.*

For question 21, the correct answer is (5) may change the effect of certain prescription drugs. The information on the chart shows some changes that will affect some drugs.

For question 25, the answer is (2) Oceans covered the area. Layer B contains shark teeth and fish scales indicating oceanic presence. Each layer shows changes.

For question 6, the diagram shows that more people got their news from television than any other medium in 1990, so, to get more widespread awareness, the government would make sure the television news would cover the issue.

*Be able to defend your answers and the ways that you found them.*

On all three questions, information from the charts will inform the choices for the answers. The information from the charts is sufficient for the learners to draw conclusions.

### 4. Sharing with Others

*Telling people what you know helps you to understand the material better. 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 to answer the questions. Take notes on any different ways of answering the questions the other groups gave.*

### 5. Reflecting, Extending, Evaluating

**Reflecting:** **Think about what you have learned.**

*Here are some questions to start your thinking about the experiences you just had. 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 you learned.*

1. *How helpful are charts for you to learn about new or complicated material?*
2. *What have you learned about how to read charts and diagrams that has been helpful?*
3. *What are some ways that materials can be organized on a chart that will help you learn better?*

**Extending:** **Extend what you learned to new situations.**

*In extending, you are being asked to transfer the information presented in this Inquiry Activity to other information or situations.*



## GED as Project

### Pathways to Passing the GED

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1. *Why do you think that manufacturers present information for proper use of their product on charts?*
2. *Your instructor will provide you with some other diagrams or charts. What information is being presented? Why is this format used?*
3. *Write a paragraph about the topic of one of the charts or diagrams you have studied in this Inquiry Activity. Use information given on the chart for your writing.*

#### **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. This is your chance to look more closely at your learning style and to state how you benefited or did not benefit from the content and/or the methods presented here.*

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