

The Nature of Science

Section 4 Science and Technology

Predict three things that might be discussed in this section after you read the Section 4 title.

1. _____
2. _____
3. _____

Review Vocabulary

Define ecosystem to show its scientific meaning.

industrialized

New Vocabulary

Use your book to define the terms below.

technology

society

Academic Vocabulary

Use a dictionary to define benefit to show its scientific meaning.
List three examples of things that are benefits to people.

benefit

Examples: _____

Section 4 The Nature of Science (continued)

Main Idea

What is technology?

I found this information on page _____.

I found this information on page _____.

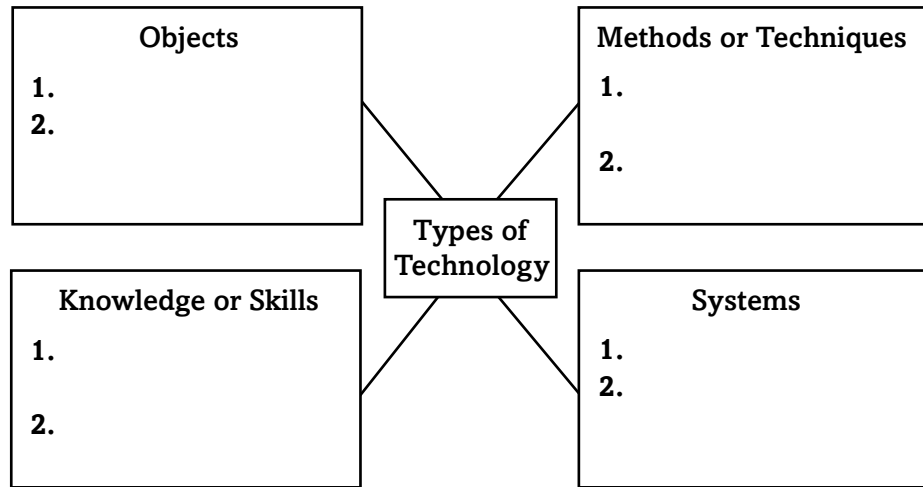
Global Technological Needs

I found this information on page _____.

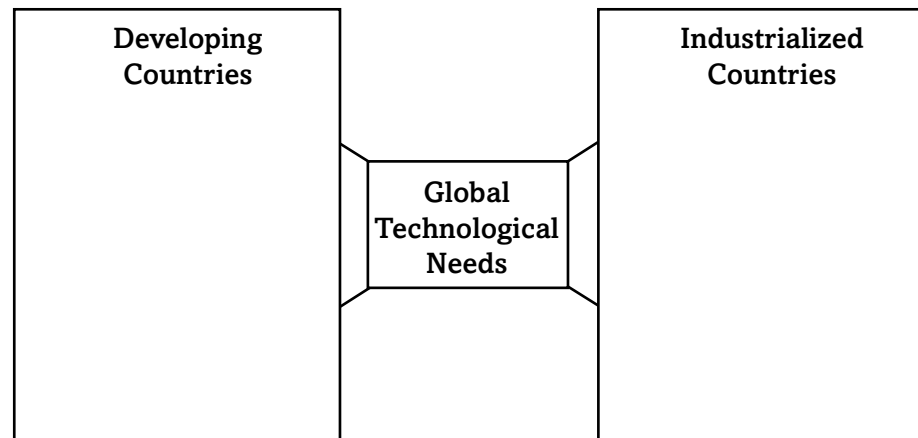
Details

Compare and contrast science *and* technology.

Organize information about types of technology by completing the concept web. Provide two examples of each type of technology.



Summarize how global technological needs differ in developing countries and industrialized countries.



Section 4 The Nature of Science (continued)

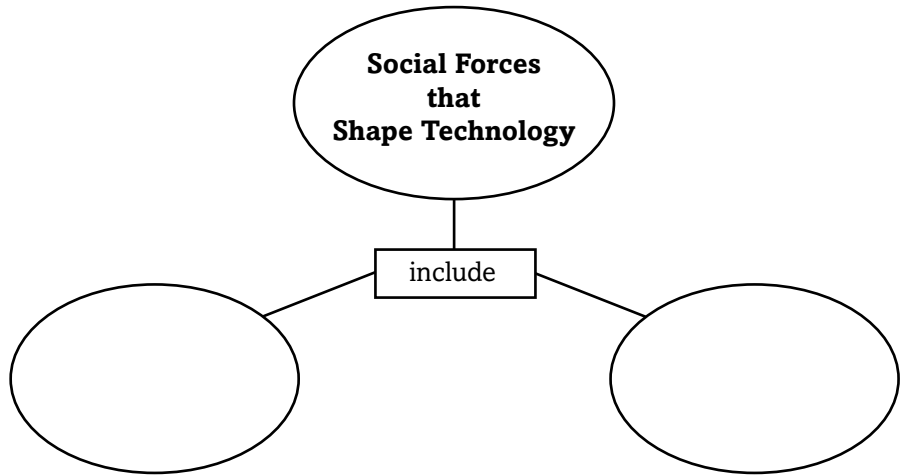
Main Idea

Social Forces that Shape Technology

I found this information on page _____.

Details

Complete the concept web to identify the social forces that shape technology.

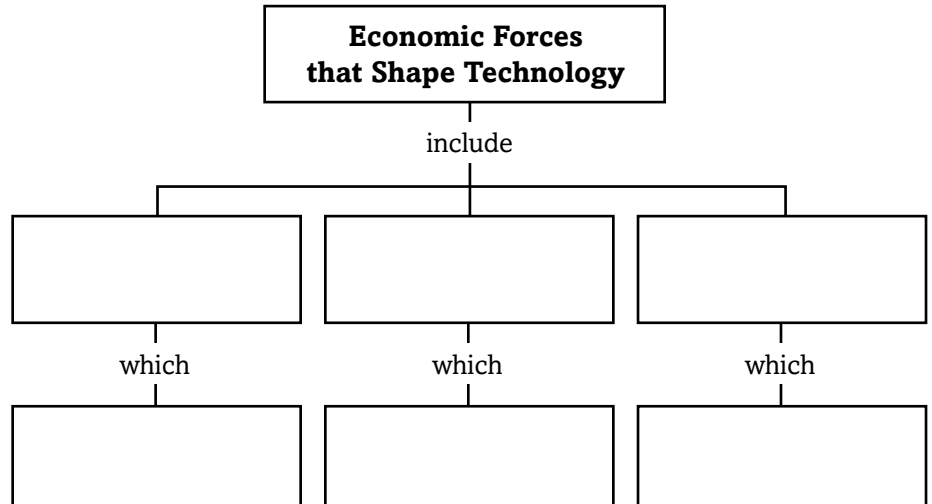


Summarize how social forces shape technology.

Economic Forces that Shape Technology

I found this information on page _____.

Organize information about economic forces that shape technology by completing the concept web.



Section 4 The Nature of Science (continued)

Main Idea

Details

Moral and Ethical Issues

I found this information on page _____.

Complete *the statement below about developing technology responsibly.*

To develop technology responsibly, people must evaluate both the _____ and the _____ consequences of the technology.

Summarize *the types of issues involved when developing technology responsibly by completing the table.*

| Issues Involved when Developing Technology Responsibly | | |
|--|--|--|
| Type of Issue | Description of Issue | Example |
| Environmental | how technology affects plants, animals, and ecosystems | |
| Moral | | |
| Ethical | | Humane treatment of organisms should occur during scientific investigations. |

SYNTHESIZE IT

Evaluate how moral and ethical values related to animals and humans have affected the methods by which technology is developed.

Tie It Together

The Nature of Science

Engage your imagination and sharpen your writing skills to produce a draft of an article for a science magazine. You have recently conducted a scientific experiment, and you want to report the results to your colleagues. Use the outline below to help you organize your draft. Provide as much detail as possible, and include units of measurement with all of your data.

1. Identify the problem that interested you in this experiment.

2. Summarize your background information.

3. State your hypothesis.

4. Describe your experiment.

5. Present and analyze your data.
Include a graphical display.



6. Draw a conclusion.

The Nature of Science Chapter Wrap-Up

Now that you have read the chapter, think about what you have learned and complete the table below. Compare your previous answers to these.

1. Write an **A** if you agree with the statement.
2. Write a **D** if you disagree with the statement.

| The Nature of Science | After You Read |
|--|-----------------------|
| • A scientific theory will always be true. | |
| • A scientific experiment is valid as long as you don't vary more than two factors. | |
| • By choosing an appropriate unit of measurement, you can avoid working with large-digit numbers with many decimal places. | |
| • Any type of graph is appropriate for displaying any type of information. | |

Review

Use this checklist to help you study.

- Review the information you included in your Foldable.
- Study your *Science Notebook* on this chapter.
- Study the definitions of vocabulary words.
- Review daily homework assignments.
- Re-read the chapter and review the charts, graphs, and illustrations.
- Review the Self Check at the end of each section.
- Look over the Chapter Review at the end of the chapter.

SUMMARIZE IT

After reading this chapter, identify three things you have learned about the nature of science.
