

The Nature Of Science (p. 5 - 12)

I. How Science Takes Place

1. What is the role of a scientist?

- p. 5*
1. Find a new aspect of the natural world
 2. Explain known phenomenon
 3. Check results of experiments
 4. Test current theories

2. List three types of simple experiments that you have conducted in your life.

- Dating*
1. Babies
 2. Make-Up
 3. Sports

3. What are some things you can do before performing an experiment?

- Generic vs. Brand Name Pop*
1. Write your plan
 2. Sketch (list) equipment
 3. Make a table

4. List three observations you have already made about Mr. Reuter.

- Ducks at Vander Veer Park*
1. - Answers vary!
 2. _____
 3. _____

5. It is important for scientists to repeat experiments to confirm results.

Circle One : True False

II. The Branches Of Science

1. Define the term science.

Science - observing, studying, + experimenting to find the nature of things

2. Define the term technology.

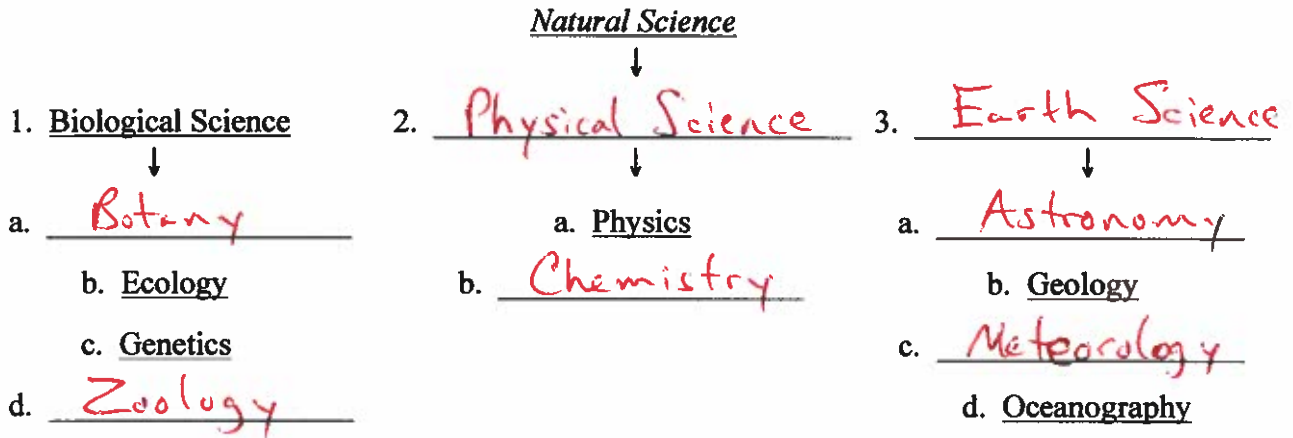
Technology - application of science for practical uses

3. List six uses (or types) of technology in your daily life.

- Students give examples!*
1. Answers vary
 2. Teflon
 3. Tang
 4. Internet
 5. Pencils
 6. Computers
- (1) Transferable (d) Can technology be bad?*

4. Complete the flow chart.

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III. Scientific Laws & Theories

1. Define the term law.

Law - describes a process in nature that can be tested by repeated experiments (No attempt to explain)

Give an example of a scientific law.

Law of Gravity ; Newton's Laws of Motion

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Universal Law of Gravitation

2. Define the term theory.

Theory - explanation of how a natural process works

Give an example of a scientific theory.

Evolution Theory ; Big Bang Theory

3. What is the difference between a qualitative and quantitative observation?

Qualitative : explanation based on words

Quantitative : explanation based on mathematical equations

$F = ma$

4. Theories are sometimes changed as new information is discovered.

Circle One : True False

Darwin's Theory of Evolution

Flat Earth Society

5. Define the term scientific model.

Scientific Model - representation of an object or event that can be studied to understand the real object or event

6. List three examples of scientific models.

1. Electron Dot Models
2. Globes
3. Time line (Geologic)

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