Science All Around (p. 6 – 14)

I. Mysteries & Problems

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1. Define the term hypothesis.

Hypothesis – problem or question about an observation ("educated guess")

II. Scientific Methods

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1. Identify the steps of the scientific method.

1. Identify a problem
2. Gather Information (Research)
3. Develop Hypothesis
4. Test Hypothesis
5. Analyze Results
6. Draw conclusions

Not a rigid process

Ex: Fixing a car

III. Science

1. Define the term science.

WHY?

Science – process of observing, studying, + thinking about things in your world to gain knowledge.

2. Define the term Earth Science.

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Earth Science – study of Earth + space

3. Identify the four main fields of Earth Science.

Geology - the study of rocks, minerals, earthquakes, volcanoes, fossils, and erosion

Astronomy - the study of planets, comets, asteroids, stars, galaxies, and space

Meteorology - the study of storms, fronts, air pressure, precipitation, and climate change

Oceanography - the study of salinity, ocean currents, waves, sea life, tides, and seafloor

IV. Working In The Lab

1. **Define the term variables.**

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Variables – different factors that can change in an experiment

Ex - Temp. affects rates of evaporation

2. **Define the term independent variable (*manipulated variable*).**

Independent Variable – variable that you change

Constants – variables that you do not change in an experiment

Ex - Cups + color of pop

Give an example of an independent variable in a test between Coca-Cola and generic Cola.

- Different types of pop

3. **Define the term dependent variable (*responding variable*).**

Dependent Variable – variable being measured

Give an example of a dependent variable in a test between Coca-Cola and generic Cola.

- Responses to the taste test

4. **Define the term control.**

Control – standard to which your results can be compared

Give an example of the control in a test between Coca-Cola and generic Cola.

- X = Coca-Cola / Y = Generic Cola (Determined in advance)

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5. **Why is it advisable to repeat experimentation?**

- To see if you can confirm your original results (validity + reliability)

V. Technology

1. **Define the term technology.**

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Technology – use of scientific discoveries for practical purposes

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

- Answers vary.

3. **What does it mean to state that technology is "transferable"?**

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- It can be applied to new situations.

(Teflon, Tang, Internet)