

Application of Science, “The Nature of Science & Technology” pages (pgs x - 41)

Effort Credit

C1 Definitions (21)

WS - Investigate a “Nonscience” Career (pg 36 for reference)

Lab Zone: At-Home Activity “Help Wanted” pg 37

WS - Branches of Science

WS - Common Beliefs (Teaching Resource pg 42 - 43)

Present a Safety Demonstration or Skit to the Class

Writing in Science - “Comic Strip” pg 29

WS - Key Terms (TR pg 81)

5-ETS1-3 Plan and carry out fair tests in which variables are controlled and failure points are considered to identify aspects of a model or prototype that can be improved.

PACING GUIDE

Day 1	<p>“Organizational Clues for Reading” Worksheet (demonstrate)</p> <p>Hand out - Guided Reading & Study “Thinking Like a Scientist (Teacher Resource pg 48 - 50)</p>																					
Day 2	<p>Using Guided Reading & Study WS - Observing, Inferring, Predicting, Classifying, Making Models</p> <p>Quick Lab - Using a common object, have students practice <u>observing</u>, <u>inferring</u>, <u>predicting</u> and <u>classifying</u>.</p> <p><i>HW: pg 9 “Math: Analyzing Data - Chimp Food”</i></p>																					
Day 3 - 4	<p>Quick Lab: Classifying - give students different objects and let them classify - SHARE their choices</p> <p>Using Large Sticky Note - give students a copy</p> <p>Questions & Problems Arise - ASK Pick a Path</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Hypothesis with Experiment</td> <td style="width: 10%; text-align: center;">OR</td> <td style="width: 40%;">Engineering Design</td> </tr> <tr> <td>Variables</td> <td></td> <td>IMAGINE</td> </tr> <tr> <td>Constants</td> <td></td> <td>PLAN</td> </tr> <tr> <td>Test</td> <td></td> <td>CREATE</td> </tr> <tr> <td>Record</td> <td></td> <td>IMPROVE</td> </tr> <tr> <td>Conclusion</td> <td></td> <td></td> </tr> <tr> <td>==Laws & Theories</td> <td></td> <td>==Technology</td> </tr> </table>	Hypothesis with Experiment	OR	Engineering Design	Variables		IMAGINE	Constants		PLAN	Test		CREATE	Record		IMPROVE	Conclusion			==Laws & Theories		==Technology
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Day 5	<p>Hand out - Guided Reading & Study “Scientific Inquiry” (Teacher Resource pg 58)</p>																					
Day 6	<p>Teacher Led Lab - Floating An Egg</p> <p>http://www.stevespanglerscience.com/lab/experiments/floating-egg/</p> <p><i>WS - Identifying Scientific Experiment Words</i></p>																					
Day 7 - 8	<p>LAB - Using Scientific Inquiry to Investigate Potato Sprouting (Teacher Resource pg 84 - 86)</p>																					
Day 9	<p>Students should read S3 - <i>Complete WS “Why Study Science?” (TR 69)</i></p>																					
Day 10	<p>Hand out - Guided Reading & Study “Careers in Science” (TR 74-75)</p>																					

Day 11	**Check Potatoes! <i>Complete lab with questions</i>
Day 12 - 13	Demo: Using Common Lab Tools Graduated Cylinders & Scales
Day 14	Review
Day 15	C1 Test

INVESTIGATE A “NONSCIENCE” CAREER

20 Points

In your textbook, read pg 36 “Science in Nonscience Careers.”

You will find these words in bold “In many nonscience careers, a knowledge of science is essential in order to perform the job.”

Investigate a “nonscience” career (other than the three listed in the text). Answer the following questions.

Nonscience Career

What are the duties of this career?

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—

—

Explain the science would be useful to be successful in this career.

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BRANCHES OF SCIENCE

FLEX POINTS

According to our textbook, there are three main branches of science. You are to create a POSTER that includes three columns - life science, physical science, and Earth science. Under each of the headings, you will write words or draw pictures that communicate the subject areas or fields of study in those branches.

For example, under Life Science, you could draw a picture of a Doctor or write the word "Biology - Study of Life."

Floating an Egg - Lab Report

Drop a boiled egg into water, all day long, at it will always sink to the bottom. That's because the egg is more dense (the parts that make up the egg are more compact than the parts that make up water). Scientists suggest that adding salt to water will make the water more dense. If enough salt is added, the boiled egg will float.

Question or Problem?

Develop a Hypothesis (our educated guess we want to try)

Plan the Experiment (list tools, amounts of supplies, times, or procedures for the test)

EXPERIMENT - Be sure to start recording information as soon as you can (drawings or tables)

CONCLUSION (Summarize the results of your experiment into 1 or 2 sentences.)

Floating an Egg - Identifying Scientific Experiment Words

Now that you have seen an actual science experiment and you have been taught the scientific experiment definitions, define the following words or list examples from the Floating Egg Experiment. You MUST use your OWN words and ideas for these!

Hypothesis:

Constants:

Manipulated Variable:

Responding Variable:

Data:

Scientific Theory:

Scientific Law:

Conclusion:
