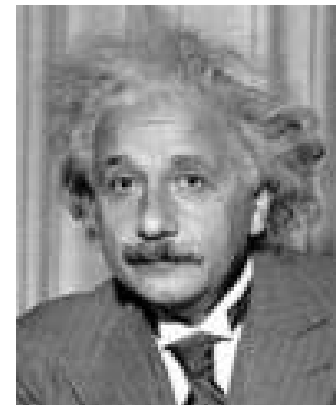




Sir Isaac Newton



Louis Pasteur



Albert Einstein

A
SCIENCE
Winter
Inquiry Land
Answer Key

Grade 7

Winter 2011-2012



Miami-Dade County Public Schools
Curriculum & Instruction

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ANSWERS

Exploring Acids and Bases

Material	Extract color	Approximate pH
Vinegar	red	2
Baking Soda	blue	8
Sprite or 7-Up	reddish/purple	3
Lemon Juice	red	2
Milk	unchanged or violet to blue	6/7
Liquid detergent	blue - green	9/10
Salt	color unchanged	7
Sugar	color unchanged	7
Milk of Magnesia	blue-green	10
Antacid tablet	blue to blue - green	Greater than 7
Aspirin	purple	3/4
Water	color unchanged	7

Reflecting on Your Observations

Directions: Write your conclusion within three paragraphs. Answer questions 1-3 in the introduction paragraph, question 4 in the body paragraph, and questions 5-7 in the conclusion paragraph.

1. Introductory Paragraph:

State the purpose of the experiment and explain the reasoning behind the experiment. (***This section answers question 1: "What was investigated?" (Using a vegetable (cabbage) product as an indicator to identify pH of different substances. The test variables were the different household materials and the outcome variable was the pH identified by the color change)***).

2. Body Paragraphs:

Answers may vary: The body paragraphs support the introductory paragraph by elaborating on the different pieces of information that were collected as data that either supported or did not support the original hypothesis. Using terms such as "as a matter of fact" or "for example" and "not only but also" for successive sentences is useful. The number of body paragraphs you have will depend on how many different types of data were collected. They will always refer back to the findings in the first paragraph. The concluding sentence can begin with a term such as "clearly" which would be followed by the statement that is true (support or non support) for the entire paragraph as it relates to the hypothesis. The commentary can include some inferences (opinions) although the major inferences should be reserved for the concluding paragraph.

3. Concluding Paragraph:

The concluding paragraph contains the major commentary about the problem statement and the hypothesis in the first paragraph of the conclusion. This is where **question 3, what possible explanations can you offer for your findings? (some acids and bases is their ability to change the color of certain vegetable materials.)** can be answered. The paragraph should also include answers to **questions 4 and 5 that include what recommendations do you have for further study and for improving the experiment and some possible applications of the experiment? (answers will vary – example easy and inexpensive way to identify the strengths of acids and bases, especially if something is very acidic or basic, it may be harmful to touch)** At the end of the paragraph the problem statement and hypothesis (introduction and thesis) is restated more specifically with an abbreviated version of the explanation of the findings to summarize the conclusion.

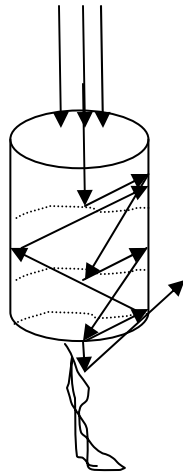
Happy New Year! The Origin of and Science Behind Fireworks

Statement	1 Agree Before <i>Answers will vary</i>	2 Disagree Before <i>Answers will vary</i>	3 Agree After	4 Disagree After
1. Fireworks are fairly new and were invented in the United States				X
2. Noble Gases are frequently used in fireworks because of their ability to glow.				X
3. Fireworks contain several elements that are metals.			X	
4. Metals increase the explosion in fireworks.				X
5. Through chemical reactions, sparklers form bright light and firecrackers explode.			X	
6. Pyrotechnics is the science of materials capable of undergoing self-contained and self-sustained exothermic chemical reactions for the production of heat, light, gas, smoke and/or sound.			X	

Bending Light

Source: <http://www.billnye.com/for-kids-teachers/home-demos/>

Sketch: **Answers may vary – sample rough sketch at various water levels**



Description of what is happening to the light:

The light from the flashlight bends and follows the water out of the hole in the can. The inside of the can and the surface of the water stream act like mirrors to reflect the beam of light. The light bounces around inside the water, and follows it wherever it flows.

ANTI-DISCRIMINATION POLICY

Federal and State Laws

The School Board of Miami-Dade County, Florida adheres to a policy of nondiscrimination in employment and educational programs/activities and strives affirmatively to provide equal opportunity for all as required by law:

Title VI of the Civil Rights Act of 1964 - prohibits discrimination on the basis of race, color, religion, or national origin.

Title VII of the Civil Rights Act of 1964, as amended - prohibits discrimination in employment on the basis of race, color, religion, gender, or national origin.

Title IX of the Educational Amendments of 1972 - prohibits discrimination on the basis of gender.

Age Discrimination in Employment Act of 1967 (ADEA), as amended - prohibits discrimination on the basis of age with respect to individuals who are at least 40.

The Equal Pay Act of 1963, as amended - prohibits gender discrimination in payment of wages to women and men performing substantially equal work in the same establishment.

Section 504 of the Rehabilitation Act of 1973 - prohibits discrimination against the disabled.

Americans with Disabilities Act of 1990 (ADA) - prohibits discrimination against individuals with disabilities in employment, public service, public accommodations and telecommunications.

The Family and Medical Leave Act of 1993 (FMLA) - requires covered employers to provide up to 12 weeks of unpaid, job-protected leave to "eligible" employees for certain family and medical reasons.

The Pregnancy Discrimination Act of 1978 - prohibits discrimination in employment on the basis of pregnancy, childbirth, or related medical conditions.

Florida Educational Equity Act (FEEA) - prohibits discrimination on the basis of race, gender, national origin, marital status, or handicap against a student or employee.

Florida Civil Rights Act of 1992 - secures for all individuals within the state freedom from discrimination because of race, color, religion, sex, national origin, age, handicap, or marital status.

Veterans are provided re-employment rights in accordance with P.L. 93-508 (Federal Law) and Section 295.07 (Florida Statutes), which stipulates categorical preferences for employment.

Revised 9/2008