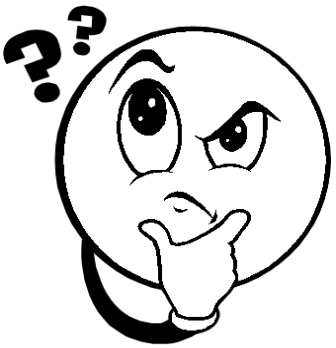
Name: _____ DUE: _____

Teacher: _____ SENT HOME: Week of Nov 30- Dec 4, 2015

How to write a testable question?



Exploring or making observations often makes scientists curious about specific questions. To answer these questions, most scientists carry out experiments using the scientific method.

What is a "Testable Question?"

Testable questions are always about changing **one thing** to see what the effect is on **another thing**.

Think of the **cause** and **effect** of your project.

DIRECTIONS: To complete this activity please follow the steps below.

1. With adult supervision go online, search and download the Power Point slide show [PPT] **How to Write a Testable Question – Sequoia Elementary.** View the slide show to review and practice how to write a testable question, by identifying what is changed (cause) and what is affected (effect).
2. In the spaces below write your project's title, abstract, and objective; then identify the cause and effect. Circle in red what will be changed and underline in blue what will be affected.

TITLE: _____

_____

ABSTRACT: _____

_____

_____

_____

_____

_____

OJBECTIVE: _____

_____

_____

_____

Name: _____ DUE: _____

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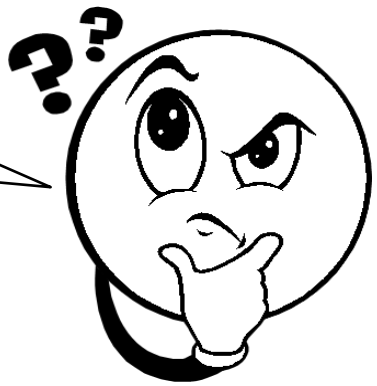
3. Your Science Buddies project has other components that can help you identify details to write a thorough testable question.
   - **Introduction** – as you reread your project's introduction identify what is being changed and what is being affected. .
   - **Procedure** – reading your project's procedure can also help identify what is being changed and what is being affected.
4. Once you have identified your project's **CAUSE** and **EFFECT** it can be easily turned into a testable question simply by using one of the three formats below and inserting the cause (**C**) and effect (**E**) in the corresponding blanks.

Testable Question Formats

- Does changing _____ affect _____?
- How does changing _____ affect _____?
- If I change _____, will it affect _____?



In a scientific experiment, these two blanks have special names: **VARIABLES**

5. Use one of the three testable question formats above to write your project's testable question.
   Circle in red what would be changed and underline in blue what will be affected.
   Don't forget to try to **add detail** to the question by listing between parenthesis the **factors you will be testing (changing).**

TESTABLE QUESTION: _____

_____

_____

_____

_____

Name: _____ DUE: _____

Teacher: _____ SENT HOME: Week of Nov 30- Dec 4, 2015

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EXAMPLE

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2. In the spaces below write your project's title, abstract, and objective; then identify the cause and effect. Circle in red what will be changed and underline in blue what will be affected.

TITLE: Roller Coaster Marbles: How Much Height to Loop the Loop?

ABSTRACT:

This is a really fun project even if you don't like going on roller coasters yourself. You'll build a roller coaster track for marbles using foam pipe insulation and masking tape, and see how much of an initial drop is required to get the marble to "loop the loop." It's a great way to learn about how stored energy (potential energy) is converted into the energy of motion (kinetic energy).

OJBECTIVE:

The goal of this project is to build a roller coaster for marbles using foam pipe insulation and to investigate how much height is needed in order for the marble to run through a loop of fixed size.

Name: _____ DUE: _____

Teacher: _____ SENT HOME: Week of Nov 30- Dec 4, 2015

3. Your Science Buddies project has other components that can help you identify details to write a thorough testable question.
   - **Introduction** – as you reread your project's introduction identify what is being changed and what is being affected. .
   - **Procedure** – reading your project's procedure can also help identify what is being changed and what is being affected.
4. Once you have identified your project's **CAUSE** and **EFFECT** it can be easily turned into a testable question simply by using one of the three formats below and inserting the cause (**C**) and effect (**E**) in the corresponding blanks.

EXAMPLE

Testable Question Formats

- Does changing ___C___ affect ___E___?
- How does changing ___C___ affect ___E___?
- If I change ___C___, will it affect ___E___?

In a scientific experiment, these two blanks have special names: **VARIABLES**

5. Use one of the three testable question formats above to write your project's testable question.

Circle in red what would be changed and underline in blue what will be affected.

Don't forget to try to **add details** to the question by listing between parenthesis the **factors you will be testing (changing).**

TESTABLE QUESTION:

How does changing the height of the track **(20, 30, 40 and 50 cm)** affect whether the marble can "loop the loop"?

Does changing the height of the initial drop **(20, 30, 40 and 50 cm)** affect the marble from completing the loop?

If I change the height of the track **(20, 30, 40 and 50 cm)**, will it affect the marble from "looping the loop"?