Testable Question Notes

Success Criteria: 1. Identify and explain the steps of the scientific method (question).
2. Develop a scientifically testable question that is specific, testable, and not based on an opinion.

What is a “___________” vs. “______________” question?

*A ________________ can be answered by designing and conducting an _________________.

Examples:
1. How does the type of pop affect the amount of carbonation?
2. What is the effect of cigarette smoke on lung cancer?

*A ____________________ cannot be answered by conducting an experiment.

Examples:
1. Why is PINK the best color in the world?
2. Was Albert Einstein the best physicist in the world?

_____________________________ should be:

1. ________________
   -Is it worth your time?

2. __________, ____________, ________________question that ends with a question mark.

3. not based on __________ or __________________
4. a question you can make a ________________ from.

5. ________________ & ________________.
   - Can you answer it with a scientific investigation?

6. ________ / ___________ to investigate.

7. ________________. (sparks your attention)

Other considerations:
Are the ______________ available/accessible?

Examples:
*What is the effect of cigarette smoke on lungs?
*Does the sun heat cement and grass at the same rate?

Non-examples:
*Is cigarette smoke cool?
*How does the sun heat objects?

Using the guidelines for writing testable scientific questions work with your partner to determine which question in each pair of questions on the next slide is the better testable, scientific question. Be prepared to explain WHY.
1. a. What makes up water and why do we need it?
b. Does the temperature of water affect the time it takes a sugar cube to dissolve?

2. a. How does the sun affect your mood?
b. How does the color of your car affect the temperature of the interior?

3. a. Does the amount of light affect the growing rate of plants?
b. Do roses or tulips create a happier atmosphere in your home?

4. a. How does the height of a ramp affect the speed of a car traveling down the ramp?
b. What makes cars move?

5. Try to create your own testable, scientific question.

__________________________________________________
__________________________________________________
Testable Question Formats

Here are some possible sentence starters to create a testable question.

Does changing (independent variable) affect (dependent variable)?

How does changing (independent variable) affect (dependent variable)?

If I change (independent variable) will it affect (dependent variable)?