



Lesson 4 QUESTION



Coming up with a question to ask

Science & Engineering Projects usually start with a question. There are two types of questions that work well to help design your project:

1. Comparison/Choice Questions use a set of similar items and compare the action between them. Use a topic, a variable that is changed, and a measurable observation. Remember to change only one variable at a time.

Example: WHICH PAPER TOWEL SOAKS UP WATER THE FASTEST?

What is the topic?

What variable changes?

What can be measured?

2. Yes or No Questions get yes or no answers but still have variables and measurement. Use the topic, a variable that is changed, and a measurable observation.

Example: CAN A PERSON TELL SOUND DIRECTION WHEN BLINDFOLDED?

What is the topic?

What variable changes?

What can be measured?

Here are some other questions to try. Find the topic, the variable that is changed, and a measurable observation.

Which brand of soap makes the most suds?

In which type of liquid do plants grow best?

Which model car design will be the fastest?

B. Below or on scratch paper try to form your own question. Remember you need your **TOPIC, CHANGEABLE VARIABLE, and MEASURABLE OBSERVATION.**

C. Do I have a good question?

After you write your question, ask yourself:

1. Can it be answered through experimentation or investigation?

Example:

Question 1 - What is the temperature on Venus?

Question 2 - Which color gets warmest in sunlight?

Which question can be answered through experimenting? Which question can be answered by looking up the information in a resource book?

2. Is my question suitable for a Science or Engineering project?

- a. Does it interest me?
- b. Do I know a little about it?
- c. Would it involve measuring?
- d. Are equipment/supplies readily available to me?
- e. Is it useful to find out about?

3. Are the materials workable and obtainable?

4. If I am doing a Science project, are there variables I can change?

Are there conditions that should stay the same? Can I think of a control?

5. If I am doing an Engineering project, can I design and build a prototype to test? Will it be too expensive to redesign and test again?

Let's Recap:

1. What is your question?
2. Why is this important to find out?
3. What materials will you need to answer your question?
4. Will you follow the Science process or the Engineering process for your investigation?