

Nature of Science REVIEW Questions

1. What is a hypothesis?
2. Write a hypothesis about a dissolving sugar in tea that could be tested by an experiment.
3. What is one way you could test your hypothesis?
4. What should you do with the data (results) of your experiment?
5. Why do we use the scientific method?
6. What do you do with the results (data) of your experiment?
7. What is the difference between an independent and dependent variable?
8. What are the steps of the scientific method? (You also need to know what happens in each step)
9. How is data organized in an experiment?
10. What is qualitative data?
11. What is quantitative data?
12. What is an inference?
13. Study the hypotheses and results of the scientific investigations below.

Hypothesis: If I increase the air pressure in a basketball, then it will make it bounce higher.

Identify the:

Independent variable: _____

Dependent variable: _____

Data:

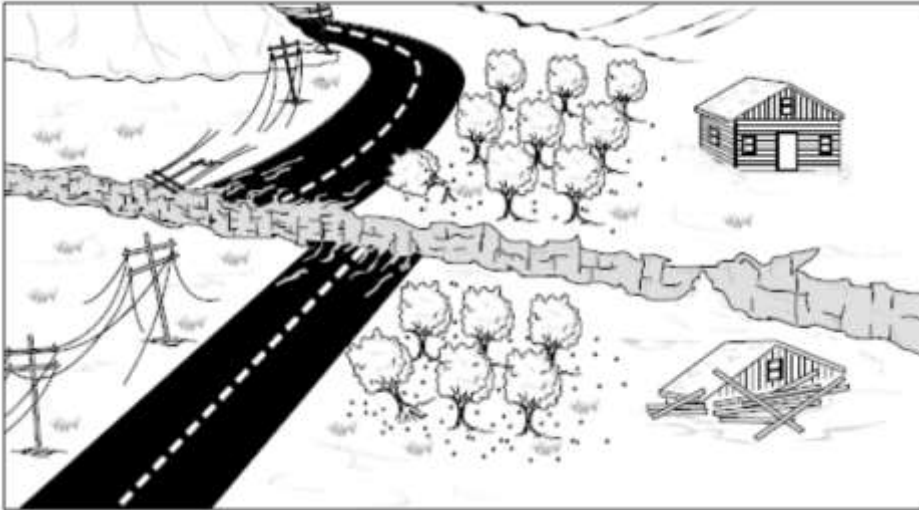
HEIGHT OF BOUNCE			
DROP	4 lbs. Air Pressure (cm)	8 lbs. Air Pressure (cm)	12 lbs. Air Pressure (cm)
1	53	131	176
2	51	140	171
3	52	136	173
4	56	133	180
Average	53	135	175

What does the data tell you about the hypothesis? Explain

14. Match the word with the definitions by putting a letter in front of each number

_____ Hypothesis	a. What you measure or observe to obtain your results.
_____ Dependent Variable	b. What is being measured in the experiment.
_____ Independent Variable	c. Prediction about the outcome of an experiment
_____ Observation	d. Statement that sums up what you learn from your experiment
_____ Data	e. The factor that is changed in an experiment
_____ Conclusion	f. What the person doing the lab sees, smells, feels, hears,

15. Use the picture below to answer the following questions.



- Write at least 3 observations:
- Write at least 2 inferences:
- Is the following statement an observation or an inference? *"The house collapsed at the same time that the poles fell down."* _____ Explain
- Is the following statement an observation or an inference? *"The road damage is serious, and it will be very expensive to repair."* _____ Explain
- Is the following statement an observation or an inference? *"The house is built on unstable land."* _____ Explain
- Is the following statement an observation or an inference? *"The damage at this scene was caused by an explosion."* _____ Explain