**Student Handout 2**

**Earthquakes and Gas Wells Correlation vs. Causation**

**Practice Activity**

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

For each of the following situations, decide whether there is a correlation or causation. Then identify any linking or lurking variables involved that affect correlation.

1. The older a car, the lower its resale value.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. The more points a student earns in class the higher their final grade.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. When students have a high number of cavities their math test scores will be lower.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. The distance you drive and the number of gallons of gas burned.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. The total amount of money spent on concessions at Phillies games and the number of wins the Phillies have.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 6. Around the world, higher numbers of Nintendo games per person relate to longer life expectancy.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 7. As ice cream sales increase, the rate of drowning deaths increases. Eating ice cream causes drowning.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 8. A study found a relationship between air-conditioning bills and lemonade sales for a sample of households.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 9. Fewer calories eaten results in more weight loss.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. A study was done and the results showed that people who drove more expensive cars were better golfers.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Taller people tend to have more money than short people.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. The more minutes a basketball player stays in the game the more points he will make.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. The more firemen fighting a fire, the more damage there is going to be.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Students who use tutors have lower test scores than those students who do not use tutors.

 Correlation \_\_\_\_\_\_\_\_ Causation \_\_\_\_\_\_\_\_\_ Linking/Lurking variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_