

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

Date: \_\_\_\_\_

**The Mystery of Mary Celeste**

Read through the handout then think about the following questions:

1. What information is the most significant?
2. What are some explanations for the mystery?
3. Decide on an explanation and develop an argument to support it.
4. What piece of evidence, currently missing, would further support your explanation?

Decide if you agree or disagree with the following:

1. When studying evidence or examples, the patterns you see will lead you to the correct conclusion. (True or False)
2. Examining examples can help you discover patterns and make predictions. (True or False)
3. There is only one pattern that can be used to predict the next three terms after 1, 4, 9, 16, .... (True or False)

## Definitions

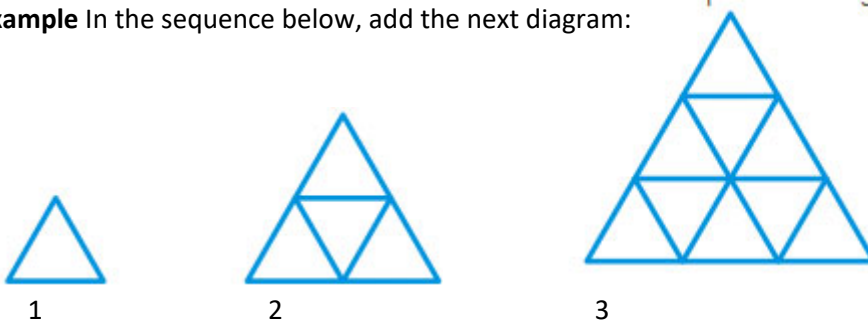
Inductive Reasoning

Conjecture

**Example** Make a conjecture for each of the situations below:

- a) Sunny days make people happy. It is a sunny day,
  
- b) An ambulance arrives at the school.
  
- c) Doctors are smart. Suzy is a doctor.
  
- d) One of these numbers doesn't belong: 2, 3, 4, 7, 11, 13, 17

**Example** In the sequence below, add the next diagram:



Complete the chart for the pattern above:

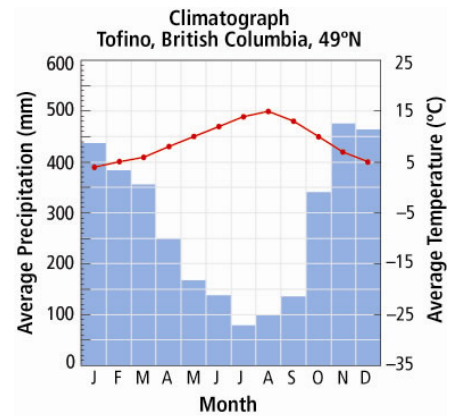
Diagram	1	2	3	4	5
# small triangles					

Based on your observations above, how many triangles would be in the 10<sup>th</sup> diagram?

**Example** The next number in the sequence 1, 1, 2, 3, 5, 8, 13, 21, ... is

**Example** What happens when you add two odd numbers together?

**Example** Make two conjectures based on the information in the graph:



**Figure 1.9** The statistics for this graph came from Tofino, British Columbia, which is in the temperate rainforest biome.