

Chapter 1

Inductive and Deductive Reasoning

Sec 1.1

Making Conjectures: Inductive Reasoning

Activity 1:

<https://www.youtube.com/watch?v=ubNF9QNEQLA&safe=active>

Activity 2:



What do you think happened?

How do investigators determine what happened?

What reasoning do investigators use to help them understand what happened?

Conjecture:

- * a testable expression that is based on available evidence but is not yet proved.
- * like giving it your best guess.
- * more support for your conjecture strengthens it but does not prove it.

Inductive reasoning

- * drawing a general conclusion by observing patterns and identifying properties in specific examples.
- * the thought process on how you came up with this.
- * you've looked at patterns, made a conjecture, now try to test it.

Example 1:

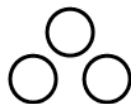
Mr. Baker wore a black tie the last four days it has been snowing. Today it is snowing. Make a conjecture about the color of his tie.

Example 2:

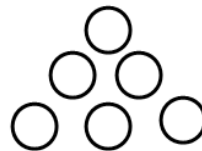
What would be the 6th diagram in the following sequence of diagrams?



1st Diagram



2nd Diagram



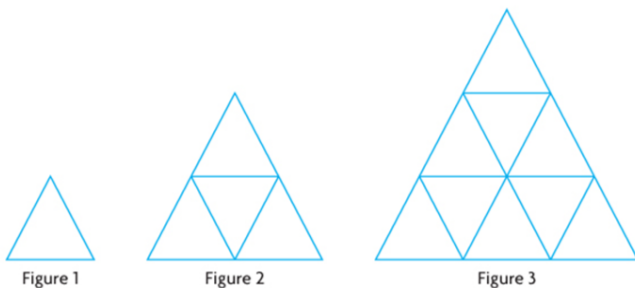
3rd Diagram

Example 3: (ruler needed)

Draw any quadrilateral (4 sided figure). Find the midpoint of each side and connect them. What type of quadrilateral did this form? Repeat for another quadrilateral. Make a conjecture based on your results.

Example 4:

Georgia, a fabric artist, has been patterning with equilateral triangles.



- A) Extend the pattern for 2 more figures.
- B) Complete the table below:

Figure	1	2	3	4	5					
Number of Triangles	1	4								

- C) Describe any patterns you see.
- D) Georgia made the following conjecture:
"I think Figure 10 will have 100 triangles, and all these triangles will be congruent to the triangle in Figure 1."
Is her conjecture reasonable?
- E) How did Georgia use inductive reasoning to develop her conjecture?
- F) Is there a different conjecture you could make based on the same figures?

Complete p.13 #6 and 8

Attachments

PM11-1s1.gsp

1s1e1 finalt highquality.mp4

1s1e2 finalt.mp4

1s1e4 finalt.mp4