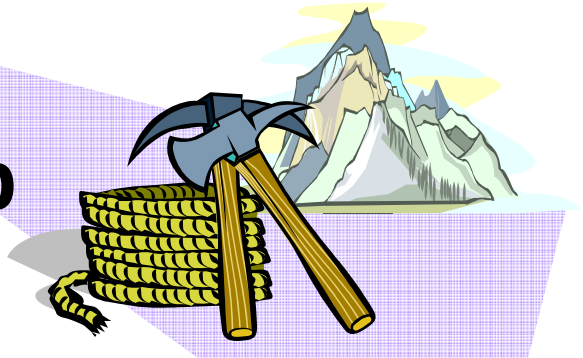
ES – Activity #2



Chain Lab

QUESTION: How does the scientific method help find an answer to a problem?

MATERIALS:

notebook paper transparent tape scissors

PROCEDURE:

1. Cut 15 strips of paper (l.0 cm X 15.0 cm) from the notebook paper.
2. Join the paper strips to make a circular, connected chain.
3. Use the paper chain to solve this problem:
   How can you separate the paper chain into 5 parts if part 1 consists of 5 rings, part 2 consists of 4 rings, part 3 consists of 3 rings, part 4 consists of 2 rings and part 5 consists of 1 ring?
   To make these parts you can cut and re-tape the rings anywhere you want. Each time you cut and re-tape a ring, it counts as one "cut-and-re-tape." Your goal is to make the least number of "cut-and-retapes" possible. What is the smallest number "cut-and-retapes" you need to separate the rings into the 5 parts? Record this hypothesis in DATA. **BEFORE YOU CUT, CONTINUE TO PROCEDURE 4.**
4. Answer Questions 1 and 2, below.
5. Using your scissors and tape, cut and re-tape you paper strips to see if your hypothesis was correct. Record the actual number of "cut-and-retapes" it took to solve the problem.
6. Answer questions 3 and 4.

DATA: Hypothesis # of "cut-and-retapes" _____

Actual # of "cut-and-retapes" _____

QUESTIONS:

1. This investigation began with observations and then a problem was presented. What was the problem?

2. What is your hypothesis regarding this problem?

3. Do your experimental results support your hypothesis? If not why not?

CONCLUSION: Write 3-5 lines about what you learned from this activity.