Squirt Gun Inquiry

Overview: Scientists answer questions about the world they live in by formulating hypotheses and designing experiments to test them. Formulating a hypothesis and designing an experiment to test it is the first steps in all scientific inquiry. This lesson will guide students to formulate and test a hypothesis, to identify variables that can affect their results, and to analyze the results of an experiment.

Inquiry:

A. Hypothesis

1. Formulate a hypothesis about the ability of various groups of students to hit a target with a squirt gun.

B. Design the Experiment

1. Select a recorder, a measurer, and several shooters

2. Push five golf tees into the Styrofoam block, and position a ping-pong ball on each tee

3. Select a distance of 3 to 15 feet from the Styrofoam block

4. Each group should then shoot at the ping-pong balls 5 times from the selected distance. Score the shot as a hit if the ball is knocked from the tee. (Be sure to replicate your experiment).

B. Results

1. Compile the results in the table provided

C. Conclusions

1. Did the data support your hypothesis?

2. Discuss variables that could have affected your results. Examples could include: Did the shooter practice? Did all shooters shoot from the same distance ? Did all shooters use the same gun?

Squirt Gun Experiment

Team Name

_____

Formulate a hypothesis about the ability of various groups of students to hit a target with a squirt gun.

Group Description:

Hypothesis:

Distance selected for shooting: _____

Test your hypothesis by firing at ping-pong balls.

	Number of hits per five shots	Number of hits per five shots
Replicate Number	Treatment 1 _____	Treatment 2 _____
Replicate 1		
Replicate 2		
Replicate 3		
Average of the 3 replicates		

Conclusions:

Make a list of variables that could have affected your results and discuss how you could control each variable.

2.

3.