Shining a Light on

Name_____

Date _____

Full Inquiry

Scientific Inquiry

Descriptive Investigations		Experiments	
Question: • "what-would-happen-if" • "measuring"	• What would happen if I put a paper towel in water? • How much water will a paper towel absorb?	Question: • "comparison"	Will different brands of paper towel absorb more water?
Prediction: • using prior observations and knowledge to make an educated guess stating an idea of an expected result	A paper towel will absorb half the water in the cup (125-ml).	Hypothesis: If … then • a statement about the relationship between the independent (manipulated) and dependent (responding) variables that can be tested experimentally	If a paper towel is a different brand, then it will absorb a different amount of water.
Materials:	Paper towel, measuring cup, 250 ml of water	Materials:	3 brands of paper towels, measuring cup, 750 ml of water
Procedure: • step-by-step procedure taking all the variables into account (so someone else could repeat it exactly the way you did it)	1. Pour 250 ml of water into the measuring cup. 2. Put the paper towel completely into the measuring cup for 30 seconds. 3. Take the paper towel out and let it drip into the cup for 30 seconds. 4. Subtract the amount of water left in the cup from 250 ml to find out how much water was absorbed by the paper towel.	Procedure: • Manipulated (Independent) Variable: what you will change • Responding (Dependent) Variable: what you will observe or measure • Controlled Variables: what you will keep the same	Manipulated (Independent) Variable: brand of paper towel Responding (Dependent) Variable: Amount of Water Absorbed Controlled Variables: paper towels sized 28 cm X 36 cm, same amount and temperature of water, same measuring cup, same of amount of time in water, same amount of time dripping 1. Record the brand of each paper towel. 2. Pour 250 ml of water into the measuring cup. 3. Put one of the brands of paper towel completely into the measuring cup for 30 seconds.

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My Guess

My Materials

My Results

My Next Question

Inquiry Rubric

Scoring Key

4 points	exceptionally accurate/logical/reasonable, complete, detailed
3 points	adequately accurate/logical/reasonable, complete, detailed
2 points	fairly accurate/logical/reasonable, complete, detailed
1 point	insufficiently accurate/logical/reasonable, complete, detailed

Scoring Criteria	1	2	3	4
Question can be answered with a simple investigation.				
Guess suggests a logical answer to the question.				
Listed or made drawings of all materials needed to do investigation.				
Listed or made drawings of each step required to carry out the investigation.				
Described observations and/or measurements using drawings or words.				
Described results in words or drawings and compared results to guess.				
Answer for the questions was based on actual results.				
Listed a follow-up question that could be investigated based on observations during the investigation.				
TOTAL				

Comments:

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My Question

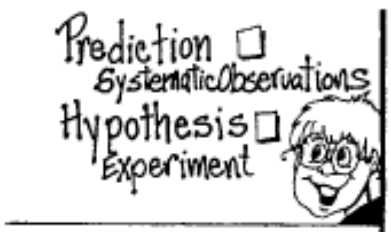
My Plan

My Observations

See
Smell
Taste
Touch

My Answer to the Question

Inquir· Rubric

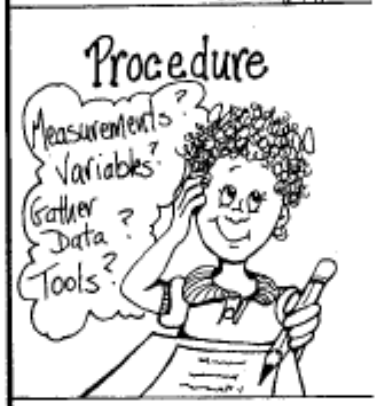


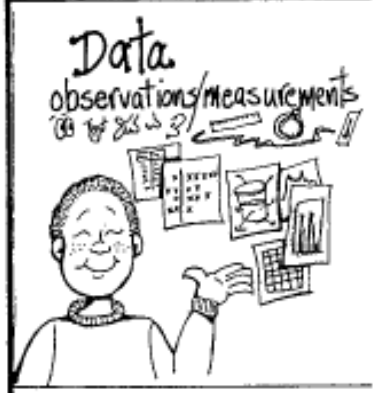
Scoring Key

4 points	exceptionally accurate/logical/reasonable, complete, detailed
3 points	adequately accurate/logical/reasonable, complete, detailed
2 points	fairly accurate/logical/reasonable, complete, detailed
1 point	insufficiently accurate/logical/reasonable, complete, detailed
0 points	not attempted

Scoring Criteria	1	2	3	4
Question can be answered safely using available equipment and materials.				
Prediction/Hypothesis suggests a logical answer to the question.				
All materials are listed including amounts that will be used.				
Procedure is clear; plan describes conditions for setting up the investigation accounting for all the variables and including observations and/or measurements that will be made.				
Collected data and displayed it appropriately (described observations/measurements in words, tables, charts, graphs, drawings, etc.).				
Analyzed and synthesized results to support a conclusion.				
Suggested a well-reasoned explanation of the relationships involving interactions, dependencies, and cause-and-effect between and among objects and events.				
Listed a follow-up question that could be investigated based on observations during the investigation.				

Comments:





Name _____ Date _____

Unfolding Petals Full Inquiry Rubric

Scoring Key

4 points exceptionally accurate/logical, complete, detailed
3 points adequately accurate/logical, complete, detailed
2 points somewhat accurate/logical, complete, detailed
1 point insufficiently accurate/logical, complete, detailed

Scoring Criteria	1	2	3	4	Comments
Listed at least two variables that might affect the unfolding time for the petals.					
Circled the variable tested.					
Listed what variable will be changed (manipulated/independent variable).					
Listed what will be observed or measured (responding/dependent variable).					
Listed variables that will be kept the same (controlled/constant variables).					
Constructed the hypothesis as *an If …then* statement giving the relationship between the variables.					
Listed the materials.					
Drew a sketch to show the set up of the materials.					
Listed a step-by-step procedure.					
Conducted the investigation.					
Recorded observational data by entering the times for petals to unfold in the chart.					
Converted the time in minutes and seconds to just seconds for the paper flowers.					
Constructed a graph to organize the data collected.					
Formed a conclusion by giving three true statements about the results shown in the chart and graph.					
Gave an explanation that suggested a logical reason for the results.					
Listed at least one "Next Question" that could be answered by doing an investigation.					
Total _____/64					

Comments: