Claim Evidence Reasoning Foldable and Activity for Interactive Notebooks

By Caitlin Miller

CLAIM

EVIDENCE

REASONING

Glue this section in your journal.

Cut on the solid lines and fold on the dashed lines.

CLAIM

EVIDENCE

REASONING

A claim is what you are stating is happening in the lab results.

You cannot write a claim until you have completed the lab experiment.

The evidence is the specific data you collected that supports your claim.

Your data table and analysis will help you find the evidence.

The reasoning is why YOU think this is happening.

Based on prior knowledge and what you observed, this could be a reason for the results.

The Bean Plant Experiment

Question: What liquid other than water will allow a bean plant to grow the tallest the fastest?

Materials: 4 lima bean seeds, potting soil, 4 beaker, milk, orange juice, coke, water (control group), graduated cylinder, centimeter ruler

Procedure:

1. Fill each beaker with potting soil. Place 1 bean seed in each beaker. Label each of the 4 beakers a different liquid.
2. Every day, add 20 mL of the labeled liquid to each beaker.
3. Every other day, measure plant growth and record in the data table.
4. Continue steps 2 and 3 for 14 days.

Data:

Plant Growth in Centimeters				
Day	Water	OJ	Coke	Milk
2	1	1	0	0
4	3	1	0	1
6	5	3	1	1
8	8	5	1	2
10	12	9	2	4
12	15	11	3	4
14	15	12	3	5

Analysis: Create a line graph to communicate your data.

Use C.E.R. to effectively communicate a scientific explanation for the lab conclusion.

Claim: The bean plant that was given orange juice grew the tallest after 15 days.

Evidence: It grew a total of 12cm tall while the bean plant given milk only grew 5cm, and the bean plant given Coke only grew 3cm in the same 14 days.

Reasoning: Orange juice has nutritional value that people benefit from, so it may also be beneficial for plant growth because of those same nutrients.

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Roller Race

Question: Does mass affect how quickly a car will travel a certain distance?

Hypothesis: _____

_____

Materials: 3 toy cars with differing mass, 2-3 large books for ramps, a sentence strip for a ramp, scissors, tape, stopwatch, balance to measure mass, meter stick

Procedures:

1. Find the mass of each car and record it.
2. Measure 40 cm on the sentence strip, and cut it off at that point. Fold in a small amount on both long sides to make bumpers so your car does not fall off the ramp.
3. Set up the ramp on the floor. Stack the books and place the sentence strip on them as a ramp. Tape the strip to the top edge of the book stack. Tape the other end of the strip to the floor.
4. Use Car 1 and drop it from the top of the ramp. Use the stopwatch to determine how long it takes to get to the end of the ramp. Record the time. Repeat this step 2 more times for Car 1.
5. Repeat step 4 for the other 2 cars.

Data:

	Mass
Car 1	
Car 2	
Car 3	

Car 1	Time
Trial 1	
Trial 2	
Trial 3	
Average	

Car 2	Time
Trial 1	
Trial 2	
Trial 3	
Average	

Car 3	Time
Trial 1	
Trial 2	
Trial 3	
Average	

Analysis: Find the average time for each car.

Write a CER for the Conclusion:

Claim: _____

_____

Evidence: _____

_____

_____

_____

Reasoning: _____

_____

_____

_____

In the Roller Race Lab, say your question was how does paint color affect how fast a toy car travels. If all of your data returned the same results, rewrite your CER with this new question as your guide.

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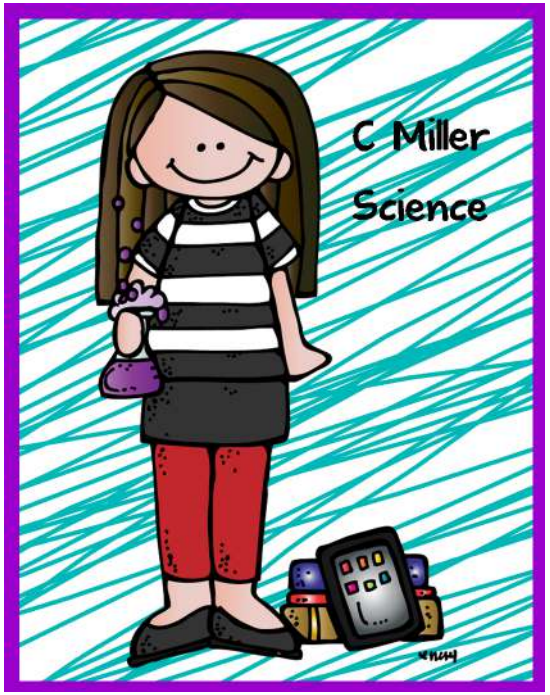
This is my Claim Evidence Reasoning Foldable and Activity for Interactive Notebooks. This foldable focuses on how to write clear scientific explanations to conclude lab experiments. The foldable has two versions, a filled version and an outlined version. Then there is an activity where students conduct a lab and write their own CER. Last, there is a journal prompt to allow students to show what they have learned. I hope you find this foldable and activity helpful in teaching students to communicate their scientific explanations in a clear, easy way! For more activities and foldables, visit my Teachers Pay Teachers store:
http://www.teacherspayteachers.com/Store/Caitlin-Miller/



Graphics from: