

Initiate & Plan

Step 1: Observing & Questioning

What did I observe?

(What do you notice about the object or event? Use your senses to describe the object or event.)

What am I wondering?

(What questions or predictions do you have about the object or event?)

Labeled diagram:

Initiate & Plan

Step 2(a): What could I change or vary about the object or the event?

- Brainstorm (Place sticky notes of the same colour in the squares below.)

Variable

Variable

Variable

Variable

Variable

Variable

Step 2(b): What could I measure or observe about the object, or event?

- Brainstorm (Place sticky notes of a new colour in the squares below.)

Measure /
Observe

Measure /
Observe

Initiate & Plan

Step 3: What will I change and not change?
- Choosing Variables

One thing (variable) I will change:

Changed Variable

(Place a sticky note from Step 2(a) here)



I will measure or observe this result:

**Measure /
Observe**

(Place a sticky note from Step 2(b) here)

Things (variables) I will NOT change:

What conditions will be held constant so it is a fair test? Place remaining sticky notes from Step 2(a) here.

Unchanged Variable

Unchanged Variable

Unchanged Variable

Unchanged Variable

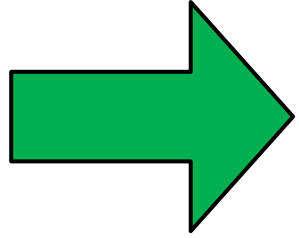
Unchanged Variable

Unchanged Variable

Initiate & Plan

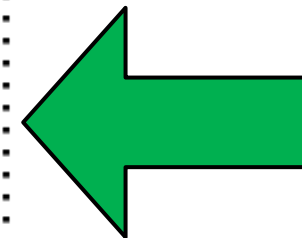
Step 4: What is the question I want to explore?

If I change this one variable...



Changed Variable

If I don't change this one variable...



Write your question here:

What will happen to:

Write your question here:

Measure / Observe

Step 5: What is my prediction (what and why)?

Based upon my question, I predict that :

What? if I change _____
(Changed Variable)

then I predict this will happen to what I will measure or observe:

(Measure / Observe)

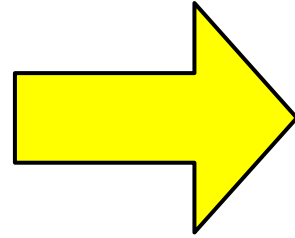
Why? I think this will happen because _____

Plan, Perform & Record

Step 6: How do I test my prediction?

My Test Set-Up

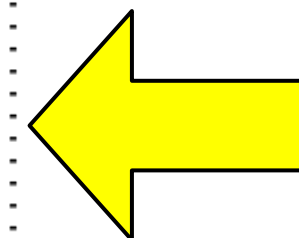
Here's how I will change the variable...



Changed Variable

My Control Set-Up

Here's how I won't change this variable...



(What will I do?
How will I change the variable?)

(What will I do?
How will I keep the variable the same?)

My Test Steps:

My Control Steps:



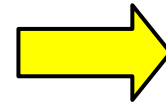
Steps to Inquiry (K-6)

Plan, Perform & Record

Step 7a): Preparing for Data Collection

When I changed:

Changed Variable



What measurements resulted?

Measure / Observe

Sample Chart for Recording Measurements / Observations

- Modify this chart to suit your investigation or design your own. (Specify units if appropriate.)

What I changed: _____	What I measured/observed: _____
(Changed Variable)	(Specify units if appropriate.)

Plan, Perform & Record

Step 7b): Equipment Set-Up & Check

Have I

- collected all of the materials?
- organized and/or set-up my equipment properly?
- reviewed my procedure and recording chart?
- made changes where necessary?

Step 7c): Perform Experiment and Collect the Data

Follow the procedure to complete the experiment.
Record the data in your chart. (See Step 7a).

Steps to Inquiry (K-6)

Analyze & Interpret

Step 8: Graphing Results

What type of graph best suits my data?

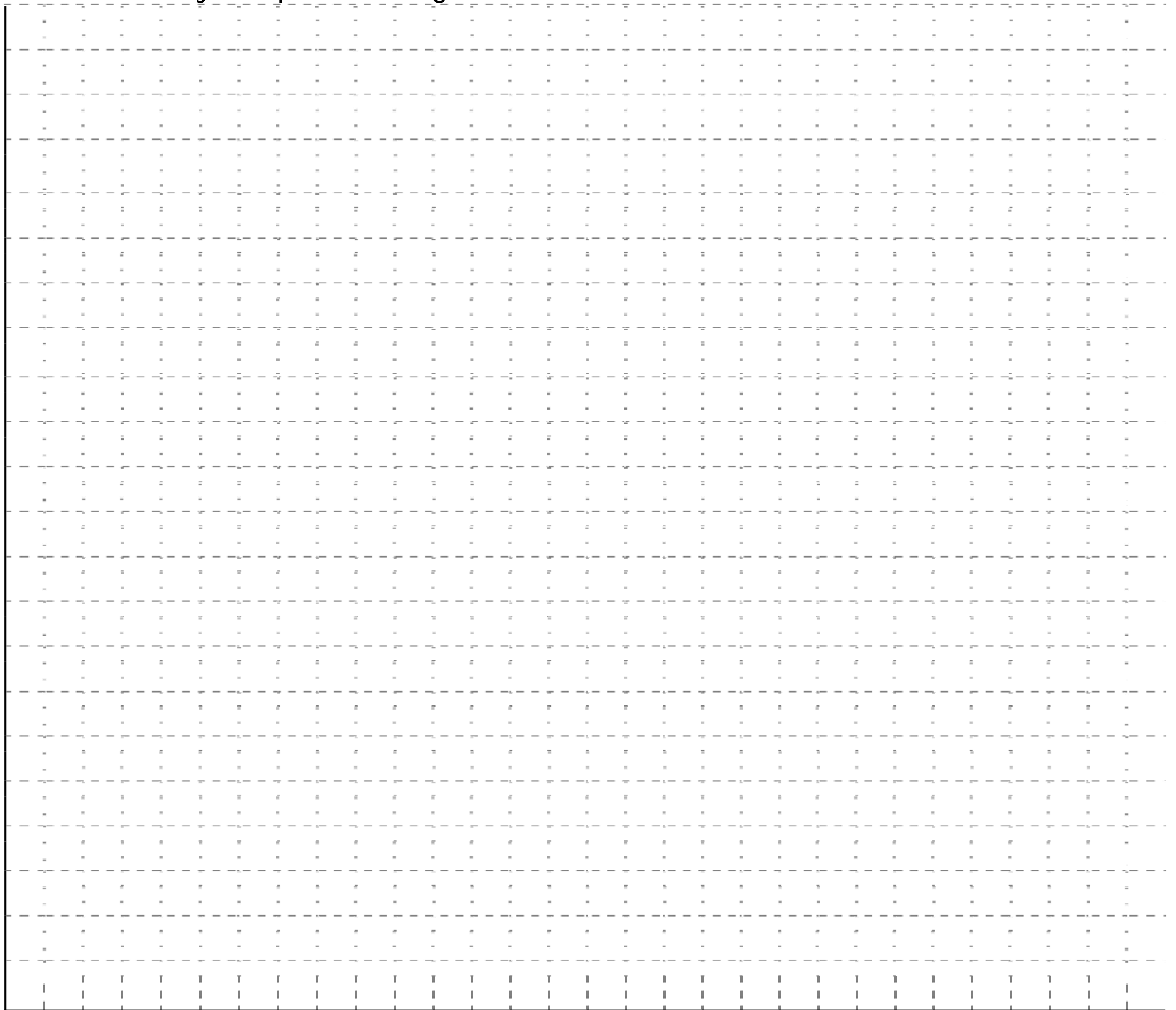
Bar Graph

Line Graph

Other

My Graph Showing _____

What I Observed...



What I Changed...

Remember to label axes and add scales appropriately.

Steps to Inquiry (K-6)

Analyze & Interpret

Step 9: Finding Patterns and Relationships in Results

From the graph/table:

The highest value/number	The lowest value/number	Values/numbers that are equal or constant

The graph/table shows that when change _____, the _____
 (Changed variable)

(Describe what happens to what you measure/observe.)

I know this because:

(What is my evidence?)

Data from my Senses	When I observed _____ I saw/heard/felt/smelled, _____ _____ _____
Data from my Measurements	When I measured _____ with _____, I found _____ _____ _____

Steps to Inquiry (K-6)

Communicate

Step 10: Communicating My Results

Answer the question in a general way.

When I _____ the _____ the
increased / decreased changed variable

_____ .
what I measured/observed increased / decreased

Make a concluding statement based on the evidence.

Therefore, changing _____ makes
the changed variable

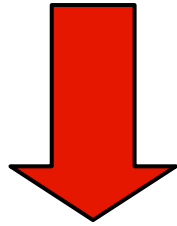
_____ .
the change in what I measured/observed

Steps to Inquiry (K-6)

Communicate

Refer to your prediction.

The data does support my prediction.



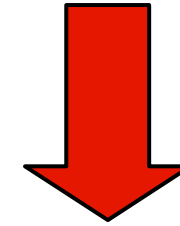
The data does support my prediction because I predicted that _____ change in the changed variable

would make _____ the change in what I measured/observed

I thought _____ would cause the changed variable

this change because _____

The data does NOT support my prediction.



The data does NOT support my prediction because I predicted that _____ change in the changed variable

would make _____ the change in what I measured/observed

I thought _____ would cause this change because _____

Now I know that _____ doesn't have that effect.

Make an inference:

I think this happened because _____

Steps to Inquiry (K-6)

Communicate

Step 10 b): Other Considerations

1. If you had data that was different from other groups (or was inconclusive or inconsistent), what might have caused these results?

2. How might have you improved your investigation?

3. What new/additional questions do you now want to investigate?