

# 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**

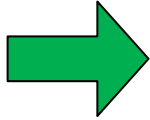
**Unchanged Variable**

**Unchanged Variable**

# Initiate & Plan

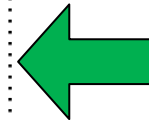
Step 4: What is the question I want to explore?

If I change this one variable...



Changed Variable

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



What will happen to:



Write your question here:

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 \_\_\_\_\_

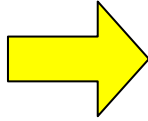
\_\_\_\_\_

# Plan, Perform & Record

Step 6: How do I test my prediction?

**My Test Set-Up**

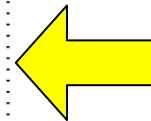
Here's how I will change the variable...



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: <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> (Changed Variable)	What I measured/observed: <hr style="border: 0; border-top: 1px solid black; margin: 5px 0;"/> (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?

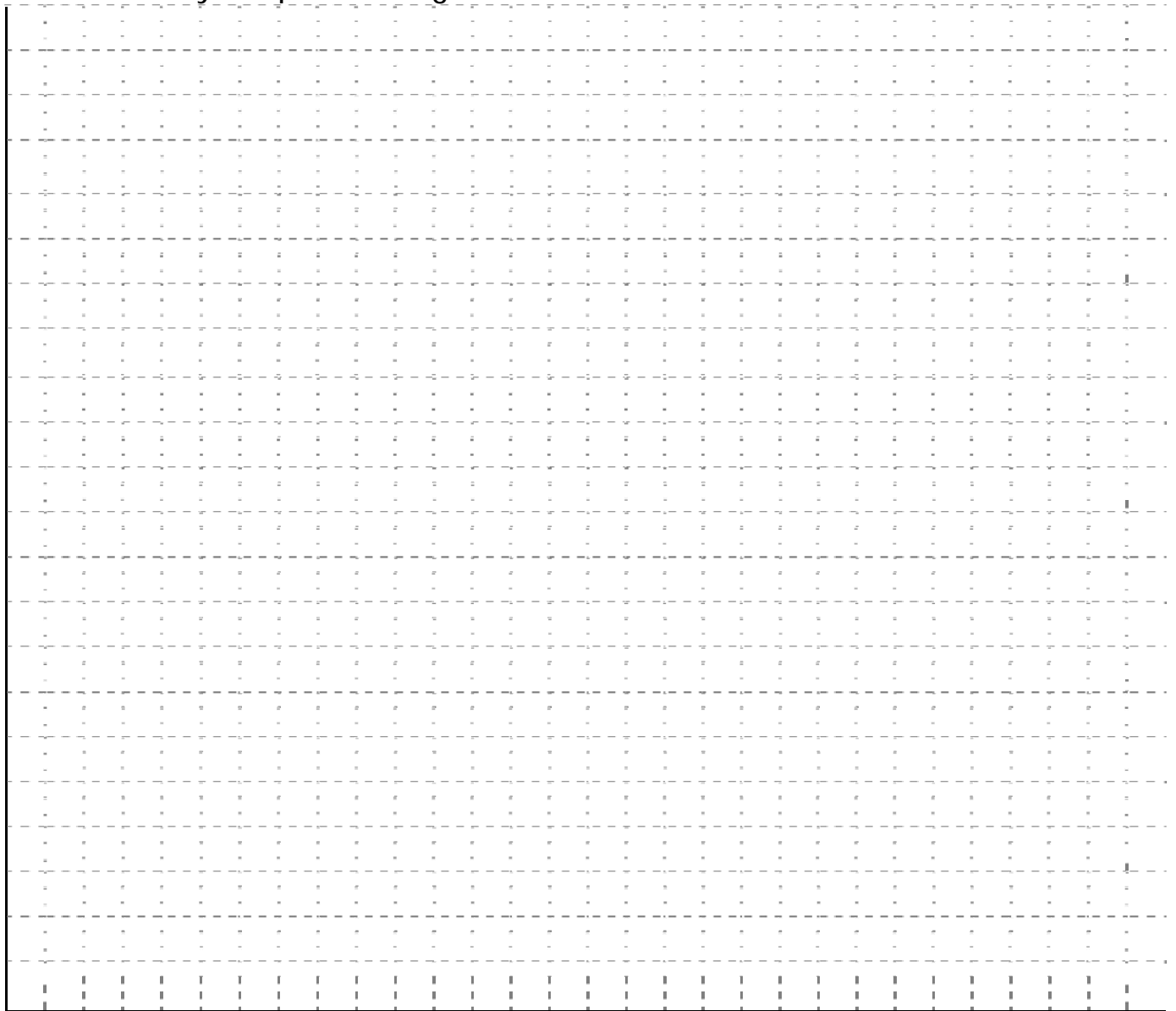
Bar Graph

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?)*

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

# 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 the changed variable

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?