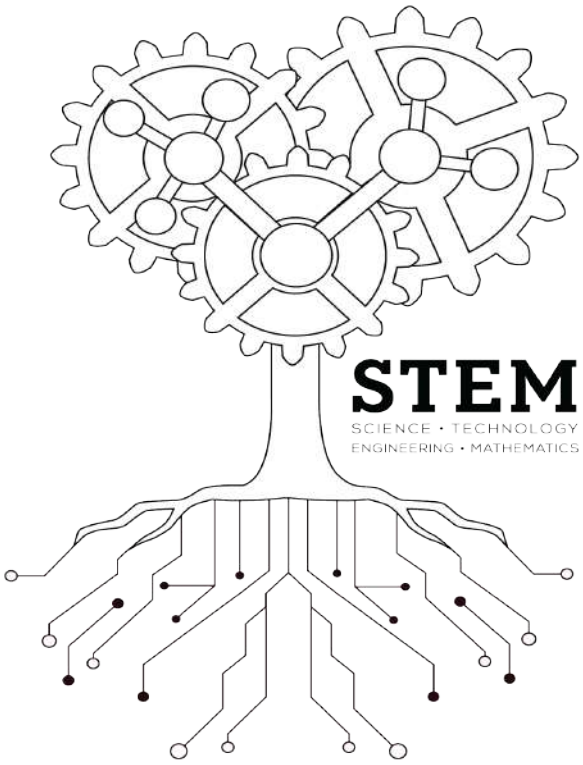
Elementary STEM Fair

Science, **T**echnology, **E**ngineering, and **M**athematics

Providing an opportunity for students to utilize science knowledge and skills as scientists do in the real world



Research Plan and Investigation Report Forms

Student Name: _____

Teacher: _____

School: _____

Part 1: Designing the Experiment

What I am wondering about (my beginning question):

I am wondering

Draw a picture of your problem you are trying to solve or question you are trying to answer:

Brainstorming Ideas Related to my Beginning Question

Part A: Things I could change or vary:

Part B: Things I could measure or observe:

Identifying Variables

I will change:

Place sticky note from Part A here

I will measure or observe:

Place sticky note from Part B here

I will not change (I will keep these the same so my test is fair):

Place sticky note from Part A here

Place sticky note from Part A here

Place sticky note from Part A here

I will not measure or observe:

Place sticky note from Part B here

Place sticky note from Part B here

Place sticky note from Part B here

Asking a Testable Question
(Refining my beginning Wondering)

When I change _____, the _____ will change.

I will be measuring and observing _____.

What I will change

What I will measure or observe

What do you already know about this problem or question?

I already know that

Asking a Testable Question
(Refining my beginning Wondering)

Predictions

(Note: List 3 possible outcomes: *Increase, Decrease, and No Affect*.)

I predict that ...

My Question
Write the question that you are trying to answer.

I am trying to find out if...

Research

List the information you collected during your research:

Sources:

Books:

Internet:

People:

Hypothesis

Cause and Effect

What do you think will happen or how will you solve your problem?

If I
,
then
because

Draw a picture

Cause	**Effect**

Materials List

Item	How many do I need?	How much does each item cost?	What is the sum for ____ items?

Picture of item	How did I find the total cost for the items?

Procedures

It is very important that the steps in your plan are very detailed so other people can understand what you did.

Scientists
Keep records
Compare observations
Repeat investigations

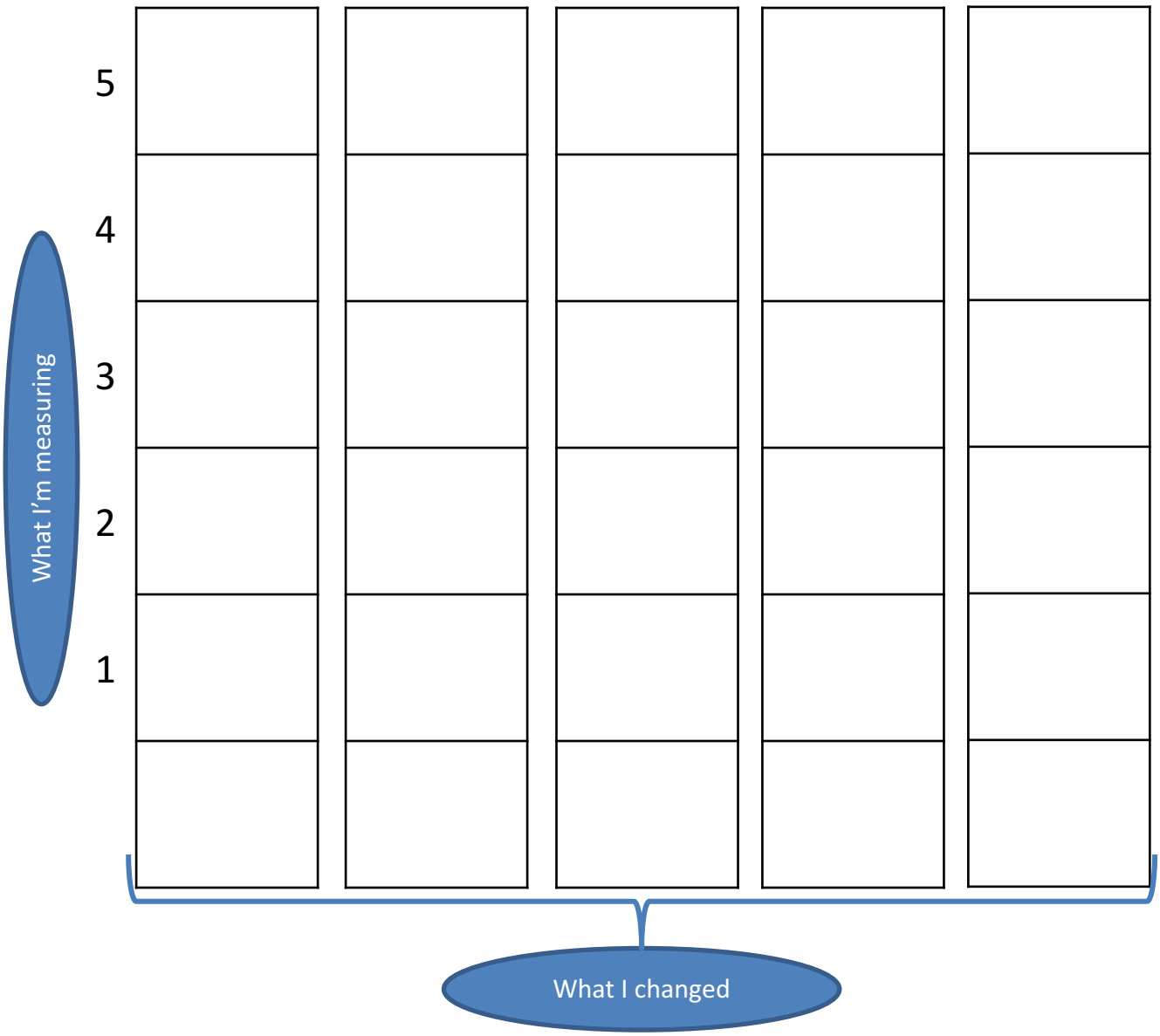
List the steps you followed in your investigation	**Pictures of steps**

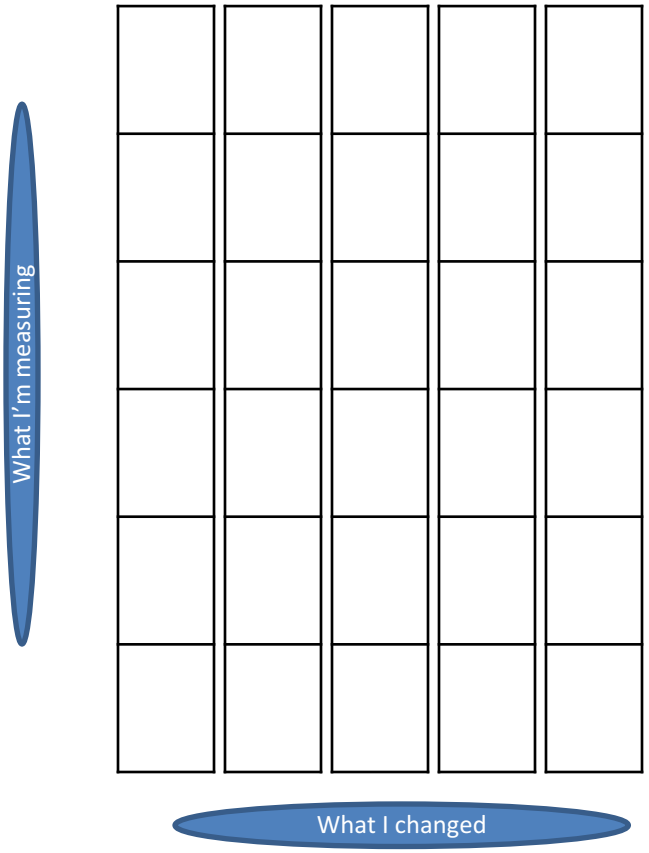
I will conduct _____trials.

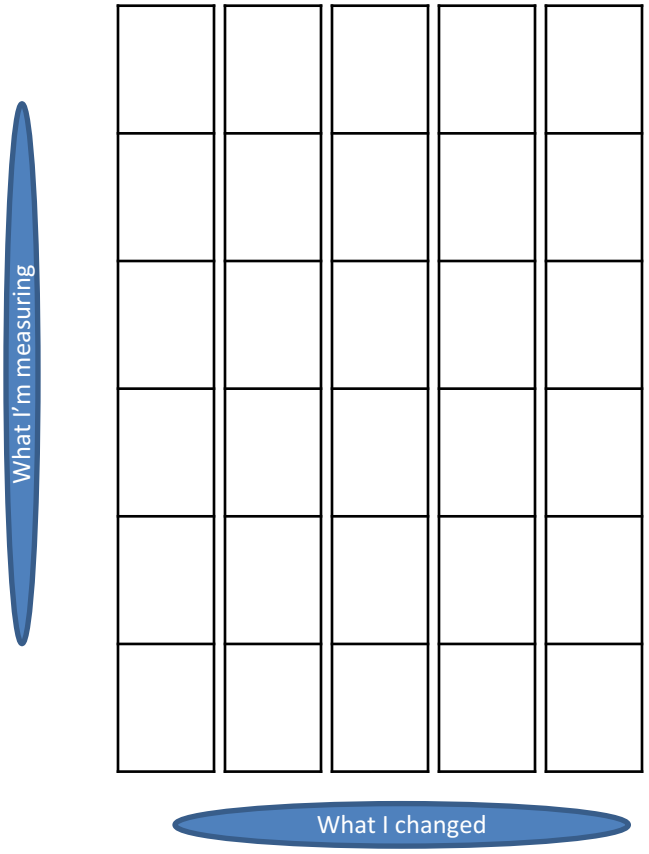
I will measure _____. (ex: height)

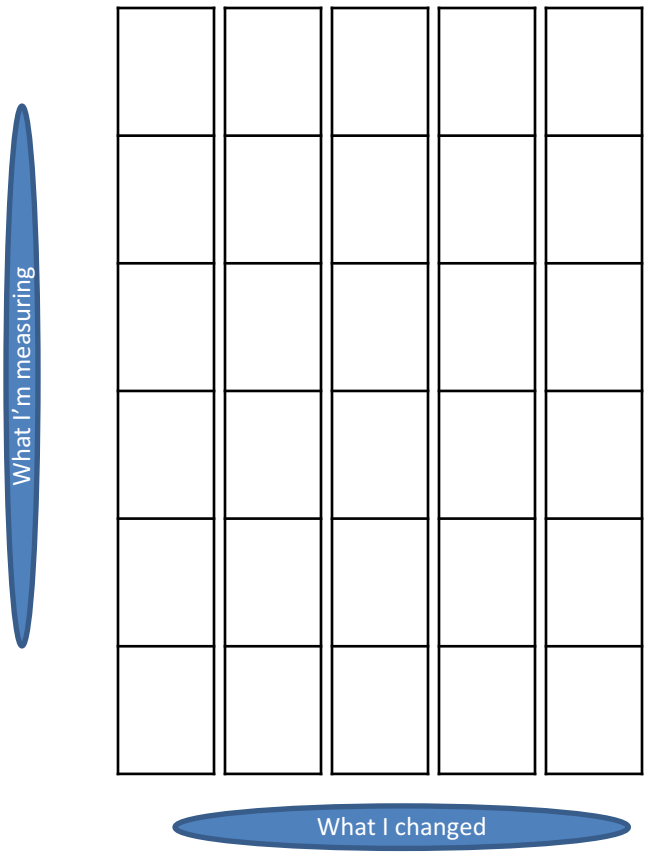
I will change _____. (ex: amount of light)

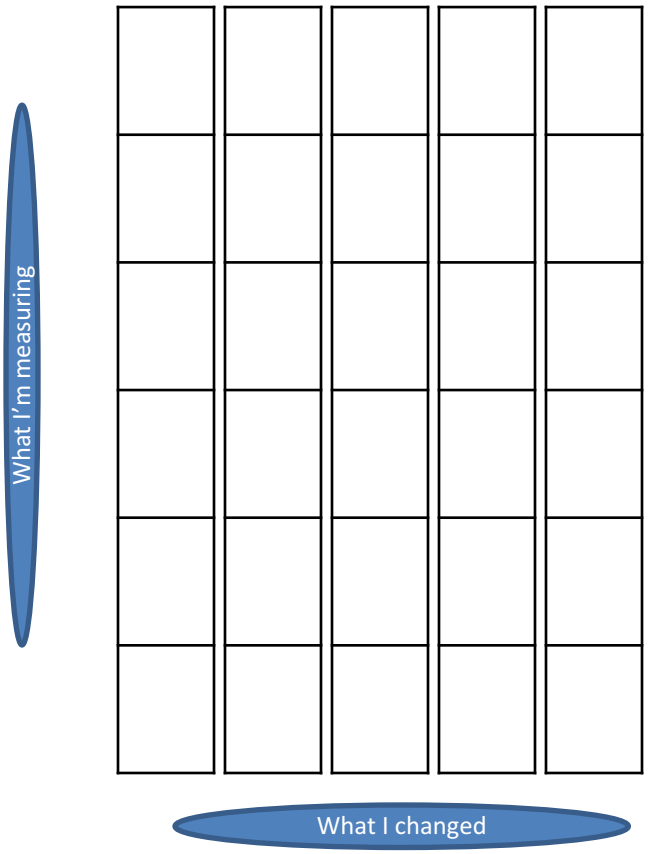
How I will record the data (for example: table, chart, picture):




What I'm measuring
What I changed


What I'm measuring
What I changed


What I'm measuring
What I changed


What I'm measuring
What I changed

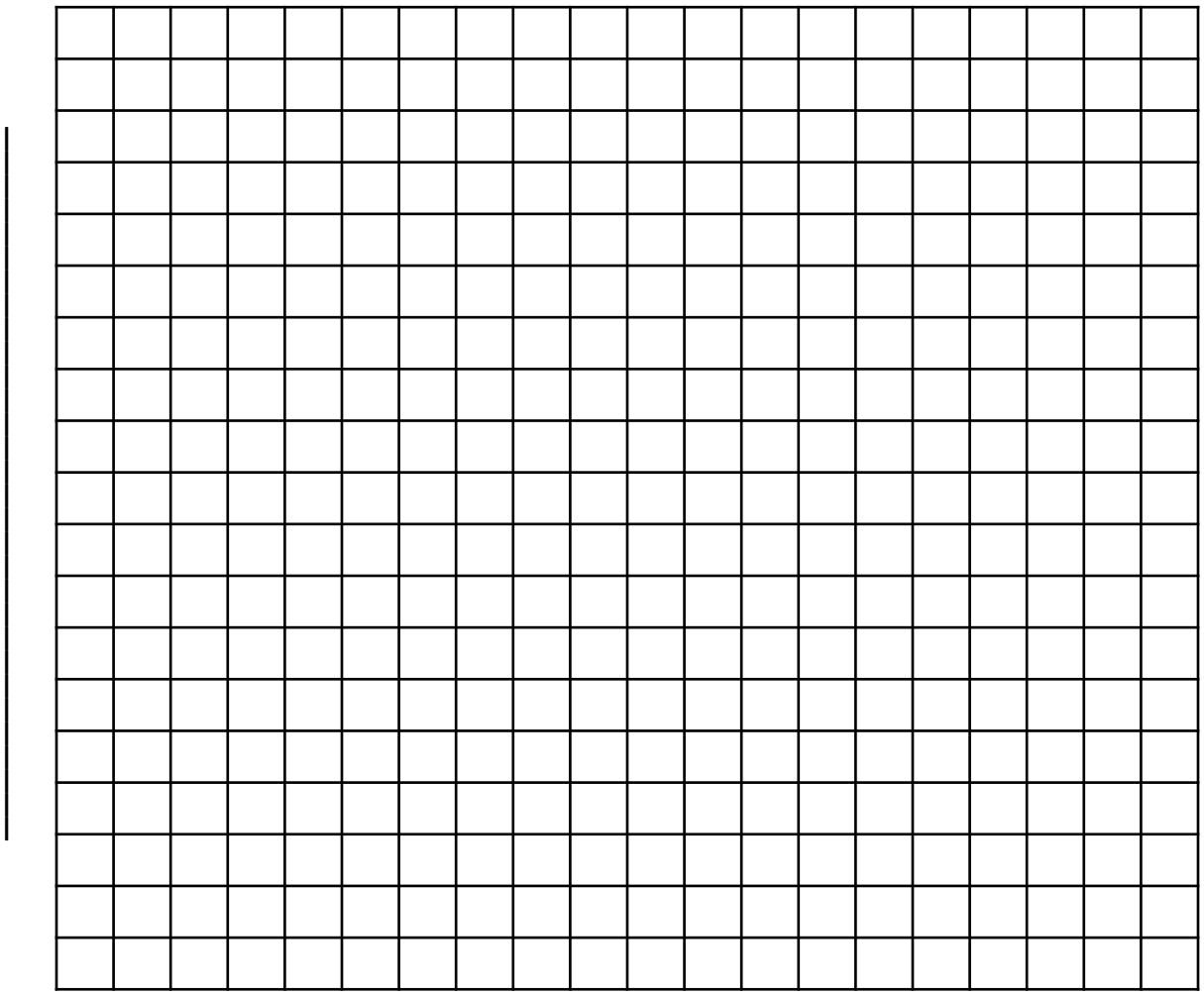
Data Collection

What I changed	Trials										
	1	2	3	4	5	6	7	8	9	10	

Data Collection

What I changed	Trials										
	1	2	3	4	5	6	7	8	9	10	

Title of Graph: _____



_____

When I changed _____, what happened to _____?

What I changed (independent variable)	What I measured or observed (dependent variable)

Results/Explanation

Summarize what you discovered from this experiment. Include:

- ✓ **Patterns I notice in my graph are**

- ✓ **From my investigation I learned**

- ✓ **This investigation can help us in real life by**