Experimental Design Graphic Organizer **Name(s):**_____

What is your **research question**:	Will this study compare two things or show the relationship between two things? Explain.
What is your Independent Variable (IV)?	**What is your Dependent Variable (DV)?**

Independent Variable	**Dependent Variable**	**Constant**	**Control**
Part of the experiment changed by the experimenter	Part of the experiment that changes because of the IV- is measured or observed to get data	Parts of the experiment that remain the same to prevent affecting the experiment's outcomes	Level of the IV that you compare back to- unchanged or in the natural state

What can affect the DV?		How will I manage the effect of these?	Notes
_____	→	_____	
_____	→	_____	
_____	→	_____	
_____	→	_____	
_____	→	_____	
_____	→	_____	

Describe your Experimental Group (The group exposed to the IV):

Describe your Control Group/Variable(The group that gets no treatment/no exposure to the IV- This should help to show that any changes in the DV or measurements were due to changes in the IV or other manipulations):

What am I measuring or observing?	Units?	When will I measure?	What formula might I use?
DV:_____	_____	_____	_____
IV:_____	_____	_____	_____

Hypothesis (What do you think the outcome will be?):
If [I.V.] _____,

Then [D.V.] _____.

What has previous research found or concluded regarding your question?

How will data look if I am correct?_____

How will data look if I am wrong?_____

What are some things to keep in mind that could go wrong in this experiment?	How can I prevent or deal with these problems?

Results:

When (I.V.) _____,

Then (D.V.) _____.

Experimental Checklist: Complete the checklist below

Using your graphic organizer:

- Perceive the question/generate research idea
- Form an EDUCATED hypothesis; be sure to look for previous research conducted regarding your question?
- Design a method to collect data and test your hypothesis
- Make a timeline or list showing the events in your experiment including:
  - Procedures (specific)
  - Supplies needed
  - Assigning of roles
  - Factors to be controlled
  - Data collection and analysis
  - Presentation of Data/ Create an organized data table/chart/graph
- Complete the experiment.
- Writing of Report
  - Write a clear step-by-step procedure that can be repeated
  - See handout on specific of report writing

NOTES