Experimental Design Graphic Organizer

Question: Who can accurately taste the difference between soda brands: Boys or girls?	Is this a comparison or the relationship between two things? Comparison
What is this about? Soda Brand, Boys VS Girls	What is the Dependent Variable (DV)? Accuracy of Guesses

What affects the DV? How will I manage the effect of these? (Look to right)

Boys or Girls	→	INDEPENDENT VARIABLE
Taste Buds	→	Ignore
Frequency of Drinking Soda	→	Ignore
Volume	→	½ of a Dixie Cup
Temperature	→	Ice Cold All Day
What you ate for lunch	→	Ignore
Flat Soda	→	Keep tightly Closed
Labels, Caps	→	Remove Labels
Cups	→	Same Color, Size
Order	→	Random Order of tasting

Options:

- Set levels at _____
- Hold IV constant at _____
- Equal numbers of ___&___
- Use same subject at different times: _____
- Divide equally between control and experimental groups
- Observe and measure

*****From the list above, circle or highlight the Independent Variable (IV).**

Comparison: Is this control VS experimental? No OR Is this group VS group? Yes

What is the first group or control? Girls What is the second group or experimental? Boys

What am I measuring or observing?	Units?	When will I measure?	What formula will I use?
DV: Accuracy of Guesses IV: Boys VS Girls	None	After Tasting	None

Hypothesis:

If [I.V.] Boys and Girls taste unlabeled soda,

Then [D.V.] _____ will have a higher accuracy of guessing.

How will data look if I am correct? _____ will have higher accuracy

How will data look if I am wrong? _____ will have lower accuracy

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

Experimental Checklist

Complete the checklist below and check each step as it is completed.

What could go wrong in this experiment?	How can I prevent or deal with these problems?
Spilled soda, teacher mixes up soda, Flat, cheating	Teacher will be careful, students will not cheat

- ☐ Make a timeline showing the events in your experiment and the times you will measure or observe.
- ☐ Write a clear procedure that other people can follow step by step.
- ☐ Create an organized data table.
- ☐ Complete the experiment.
- ☐ Make adjustments to the written procedure if necessary and explain changes.
- ☐ Display the data in an organized chart or graph (if possible).
- ☐ Complete required follow up for the experiment (questions, lab report, evaluation, etc.).
- ☐ Complete the sections below on results and the next step.
- ☐ Sign and date this form.

Results: When (I.V.) Then (D.V.)	
SCIENCE DOES NOT STOP: What is my next step?	What NEW questions need to be answered?

Name Date