Design Your Experiment

Step 1: Observing & Wondering

Place green sticky notes in the space below.

Place purple sticky notes in the space below.

WHAT DID I OBSERVE?

(What do you notice about the object or event? Use your senses to describe the object or event. Include qualitative and quantitative observations.) Observe carefully and take time to discover details that you might miss at first.

WHAT AM I WONDERING?

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

Your observations can be expressed with words or labelled diagrams.

How can the questions be answered?
(Question Sort)

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Design Your Experiment

Step 2(a): **What could I measure, but can't directly change, about the object or event?**

Move selected green sticky notes from the "WHAT DID I OBERVE?" space on poster 1.

Possible Dependent Variables

Step 2(b): **What could I change or vary about the object or event that may affect what I could measure or observe?**

Move selected purple sticky notes from the "WHAT AM I WONDERING?" space on poster 1.

Variables

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Design Your Experiment

Step 3(a): What will I change?

ONE VARIABLE I WILL CHANGE:

Independent Variable

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

I WILL MEASURE OR OBSERVE THIS RESULT:

Dependent Variable

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

Step 3(b): What will I keep the same?

VARIABLES I WILL KEEP THE SAME

What conditions will be held constant so it is a fair test? Place remaining sticky notes from Step 2(b) here.
You can add more than six. The more controlled variables you have, the better.

Controlled Variable

Controlled Variable

Controlled Variable

Controlled Variable

Controlled Variable

Controlled Variable

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Design Your Experiment

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

IF I CHANGE **Independent Variable** → WHAT WILL HAPPEN TO **Dependent Variable**

COMPARED TO THE CONTROL?

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

BASED UPON MY QUESTION, I PREDICT THAT:

if the _____ is _____
Independent Variable   How the independent variable will be changed
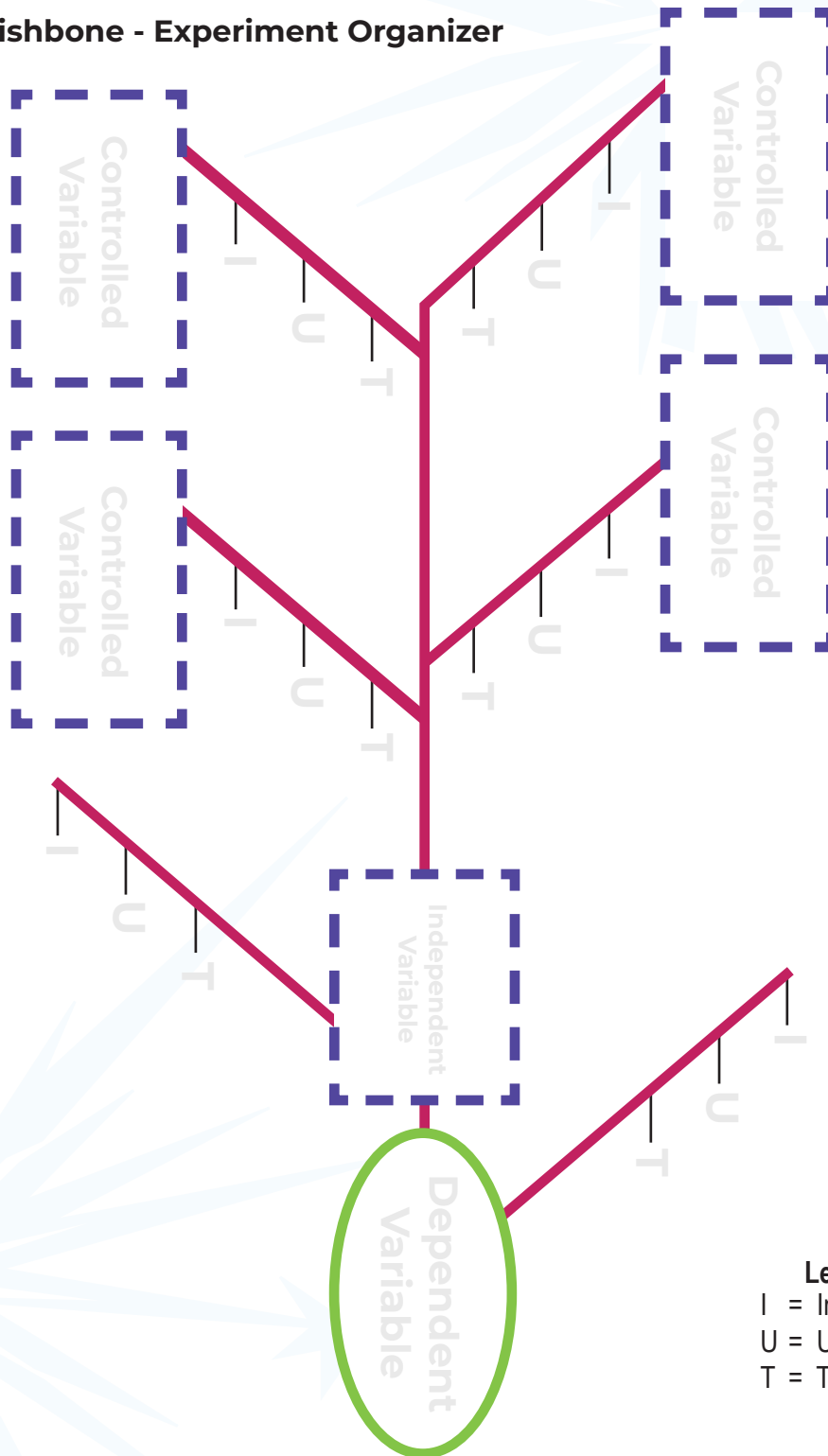(e.g. increased or decreased)

then the _____ will _____
Dependent Variable   How the dependent variable will be affected
(e.g. increased or decreased)

I think this will happen **because** _____

_____

_____

_____

_____

_____

Level: **2**

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STEPS TO INQUIRY

Design Your Experiment

Step 5: Fishbone - Experiment Organizer

Controlled Variable

Controlled Variable

Controlled Variable

Controlled Variable

Independent Variable

Dependent Variable

Legend
I = Instrument
U = Unit
T = Technique

Level: 2

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