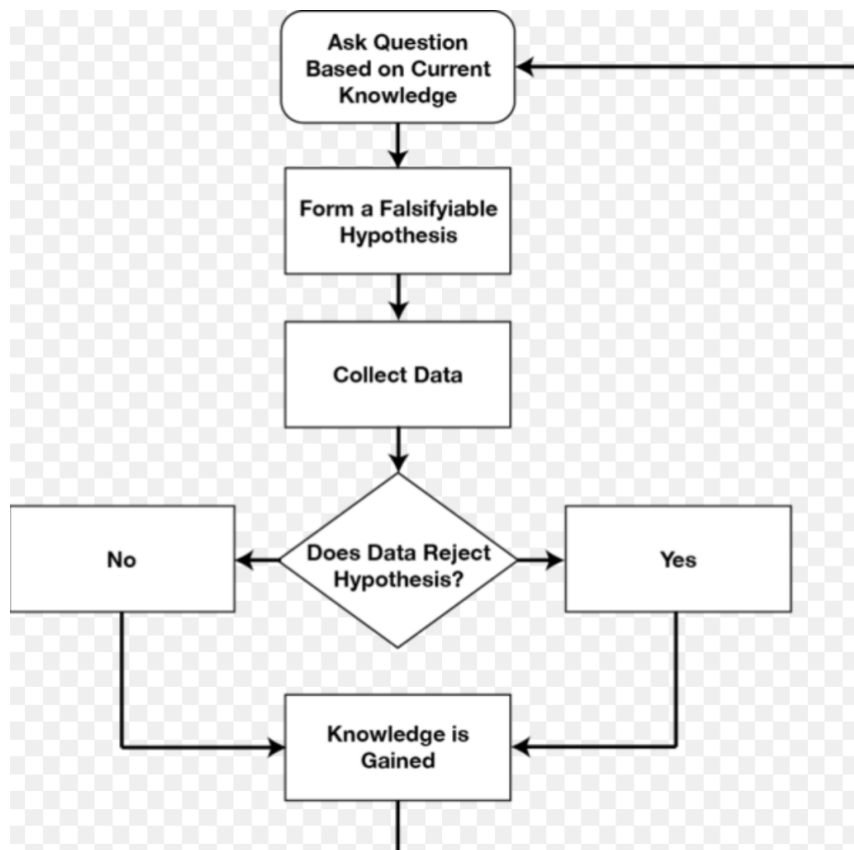


Hypothesis

Learning Intention:

- Use observations as the basis for formulating a hypothesis
- Apply their knowledge & understanding of agricultural science to develop arguments or draw conclusions related to both familiar & unfamiliar situations
- Compile & interpret data or other information gathered from print, laboratory & electronic sources (including websites), to research a topic or solve a problem
- Make a prediction based on the hypothesis



What is a hypothesis:

Proposed explanation made, on the basis of limited evidence as a starting point for further investigation.

There are 2 types of hypothesis:

1. **Null Hypothesis** (H_0) is a hypothesis which the researcher tried to disprove, reject or nullify. The 'null' often refers to the common view of something
2. **Alternative hypothesis** is what the researcher really thinks is the cause of a phenomenon

[Type here]

1.1 Hypothesising

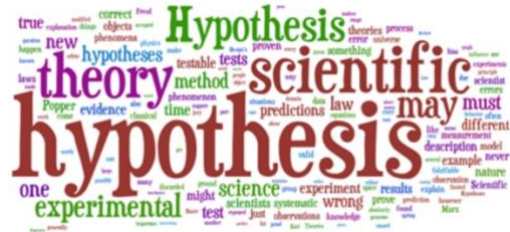
Question:

(a) State the null & alternative hypothesis for the following:

- A new organic fertiliser which is environmentally safe has come on the market claims to have no effect on average yield of 70 vegetables per plant
- Department of agriculture wants to test the claim again as they suspect that the new fertiliser has an effect on the average yield of 70 vegetables per plant

A hypothesis should always:

- Be clear & easy to understand
- Explain what you think will happen
- Be testable
- Be measurable
- Contain an independent & dependent variable



(**independent variable** – variable that is being tested & **dependent variable** is what you will see as a result)

Example of a hypothesis in agriculture:

Read the following examples & state if you think they are good hypothesis & give a reason for your answer

1. When fertiliser is added to plants then it will make it grow
2. **If** you add the correct amount of fertiliser to a crop, based on soil test analysis **then** the crop will reach its peak yield **because** it has the correct amount of nutrients required for the plant to grow.

In the hypothesis that you think is a good hypothesis, can you:

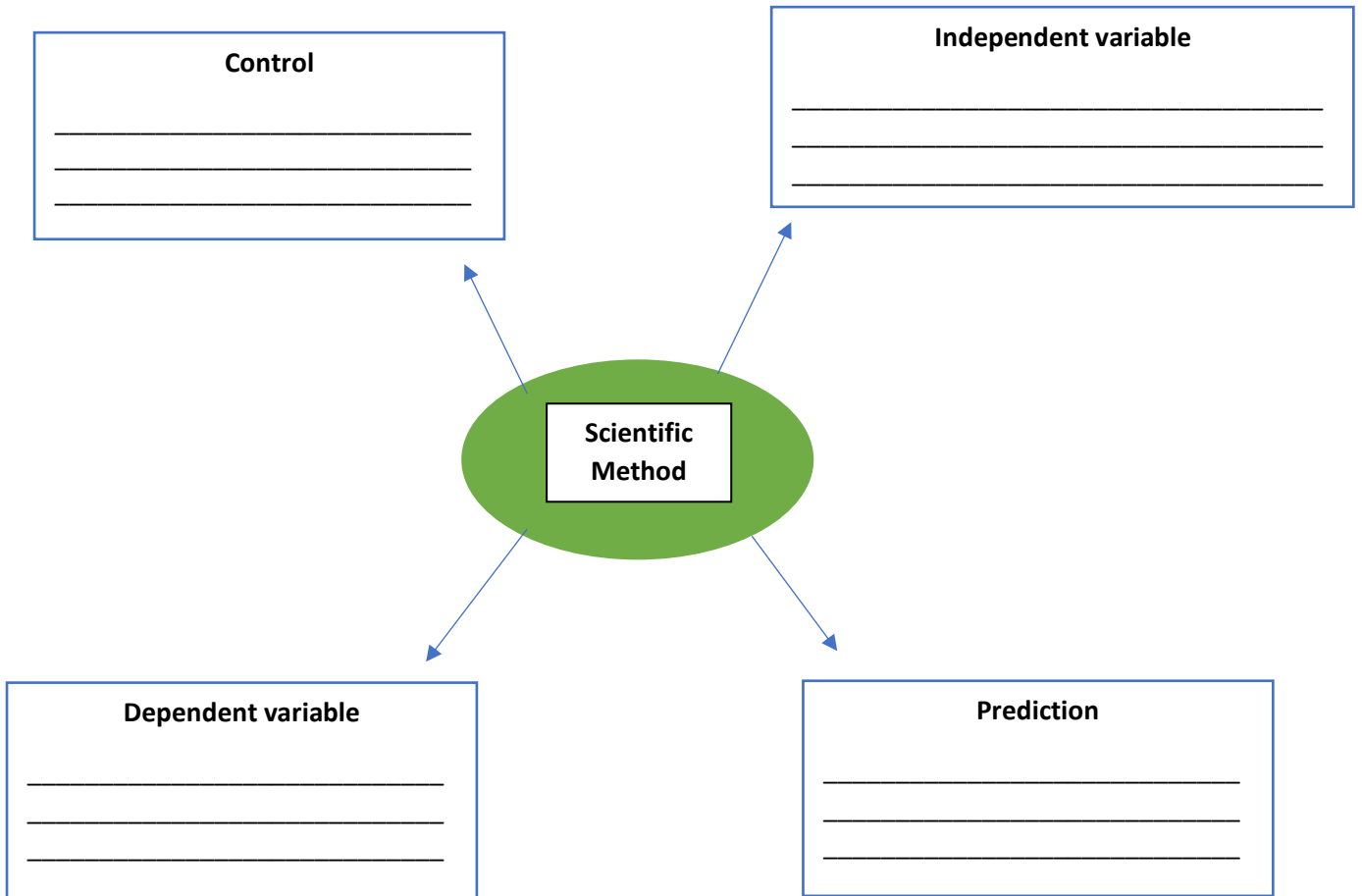
- (a) Carryout research relating to the hypothesis (research 3 reliable sources of data) & record 3 pieces of data from each source
- (b) Name a control that could be used in the experiment
- (c) What is the independent variable?
- (d) What is the dependent variable?
- (e) What do you predict will happen in this experiment?

[Type here]

1.1 Hypothesising

3 reliable sources of data

<p>Source: _____</p> <p>Information:</p> <p>4. _____</p> <p>5. _____</p> <p>6. _____</p>	<p>Source: _____</p> <p>Information:</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p>	<p>Source: _____</p> <p>Information:</p> <p>1. _____</p> <p>2. _____</p> <p>3. _____</p>
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