Background Research Questions

Entity (the general area/thing being studied)
- Types that can be studied
- Handing/care/safety/ethics within a controlled environment

Independent Variable
- Structure and Function
- How can it safely and ethically be manipulated

Dependent Variable
- Structure and function
- Best method to measure, record and observe

Relationship
- Previous research on the topic
Class Research Project

- **Area:** Food Production

- **Observation:** Many people claim there is a noticeable difference between organic and conventional food products.

- **Question:** Can people tell the difference between organic and conventional food products?

Background Research Questions

- **Entity**
- **Independent Variable**
- **Dependent Variable**
- **Relationship between Entity and Variables**

**Entity:** What are the different types of food production exist?

**Independent Variables:** What makes a product organic/what is organic production? What makes a product conventional/what is conventional production?

**Dependent Variables:** What senses can be used to assess food products?

**Relationship between Entity and Variables:** When looking at consumer preferences of food production products, which senses can be used to distinguish between organic and conventional food products?
Creating a Citation:
Author: Rachel Tobin, Siobhan Moane and Tracey Larkin
Article Title: Sensory evaluation of organic and conventional fruits and vegetables available to Irish consumers
Pages: 157-162
Name of Journal: International Journal of Food Science and Technology
Year Published: 2013

- **Organic**
  - A labeling term that indicates approved methods were used to produce the product without synthetic fertilizers, irradiation or genetically modified product.


- **Conventional**
  - Primary method of food production using highly efficient practices and “technology, large scale production, hybrids, chemicals (pesticides/herbicides), fertilizers.”

  Source:
  “Sustainable Agriculture: Terms and Definitions” compiled by Mary V. Gold (2007)
**Null Hypothesis**

- The null hypothesis is the hypothesis that the researcher is testing. The null typically states that there is no difference between two characteristics.


**Significant Difference**

- Statistical significance is determined through statistical calculations and indicates the likelihood the outcome was related to the results or due to chance.

Step 1: **Read** the Introduction and Materials and Methods sections and **glue** the appropriate term at each arrow. **Stop** when you get to the Results section. **Do Not glue without checking your results!**

Step 2: After the class discussion on the Results Table, **analyze** the results using the instructions at the top of page 160.

Step 3: Return to page 159 and **read** the Results, Discussion, and Conclusion sections and **glue** the appropriate term at each arrow.

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Journal Work for Agriscience Project:
- Observation/Ask a Question
- Primary Research Question/Sketch
- Non Directional Hypothesis
- Entity/Variables
- Background Research Questions