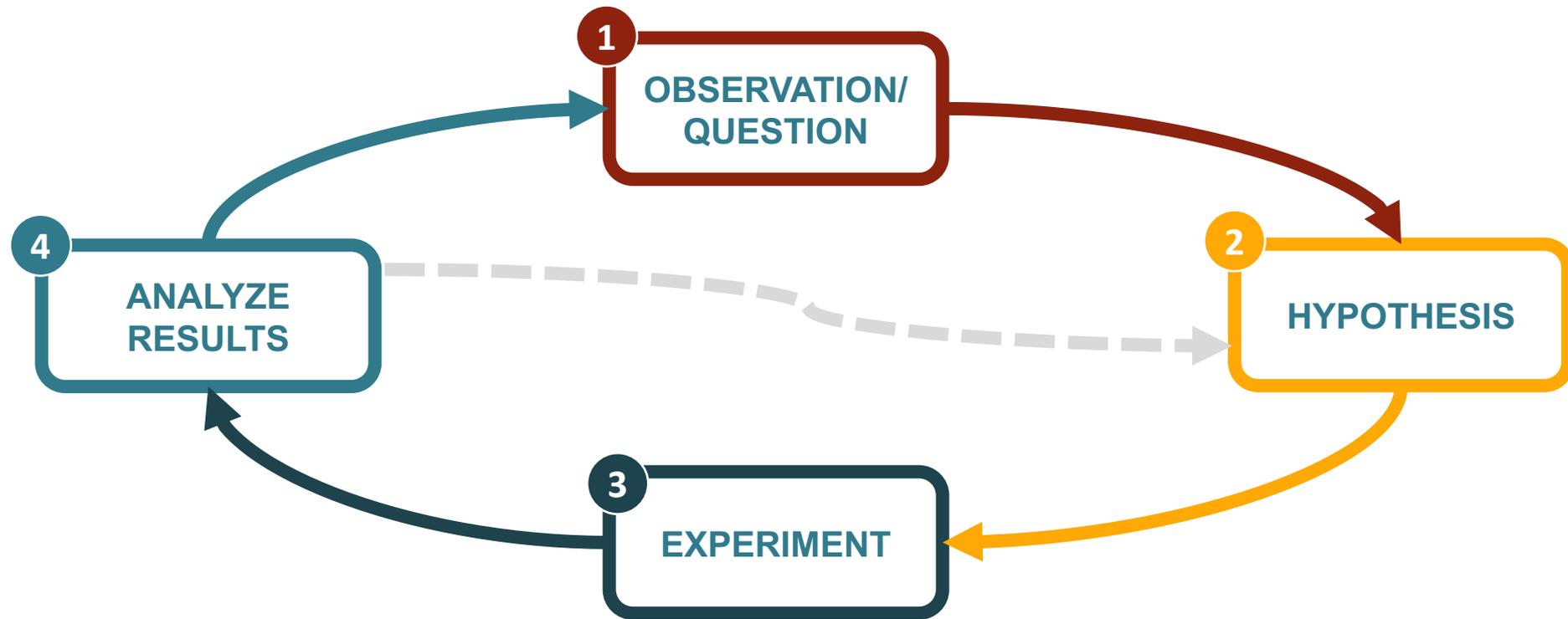


Fair for
Emerging
Researchers

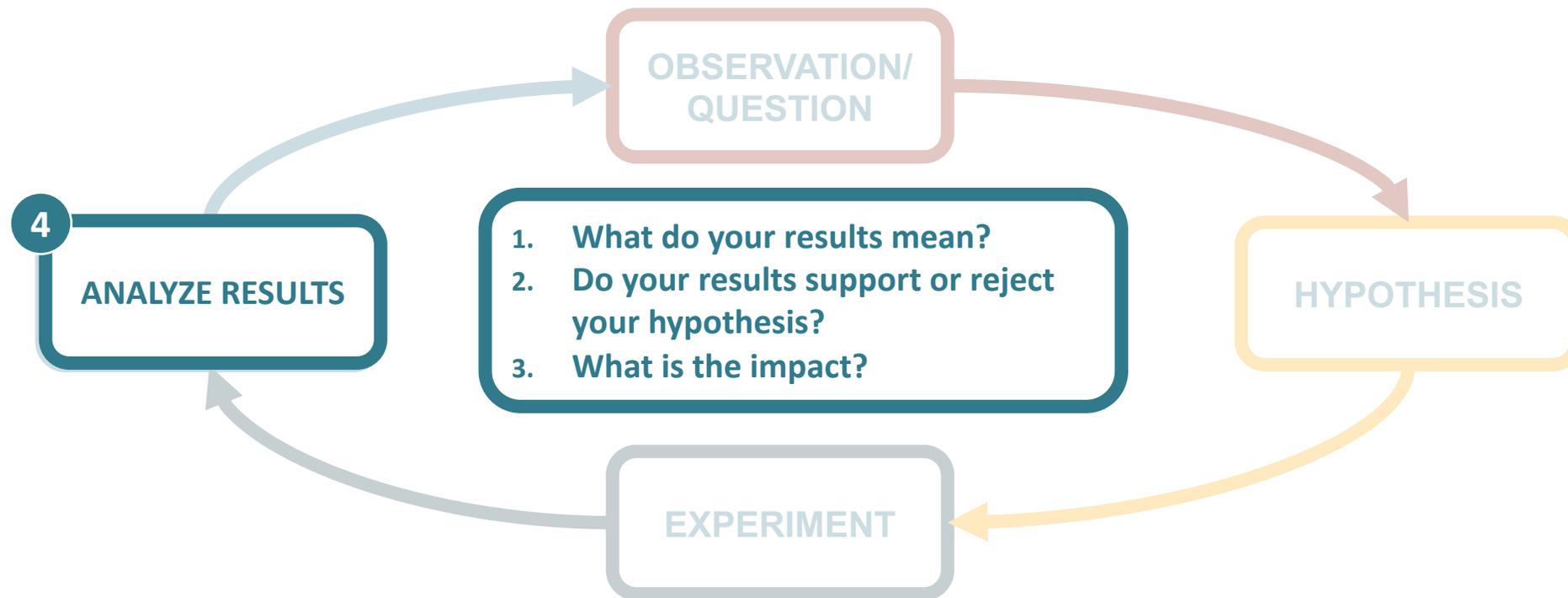


Mentorship Session 5
Analyzing Your Data and Results

LET'S REVIEW THE SCIENTIFIC METHOD



What is the Scientific Method?



What are we learning today????

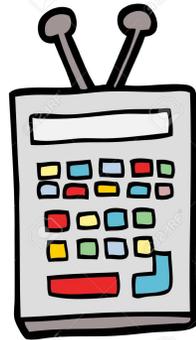
We are learning how to analyze the data we collected from our experiments

Key Points to Consider:

1. Is my data reliable?
2. What conditions do my results apply to?
3. Are my results meaningful?
4. What is the best way to visualize/present my data?

Is my data reliable?

Data that is reliable must be reproducible, meaning you can get a similar result each time you do the experiment



**Trustworthy
measurement
technique**



**Limited
Confounding
Variables**

What conditions do my results apply to?

After getting a result we need to define the scope of impact, meaning we must figure out what situations to the results apply to



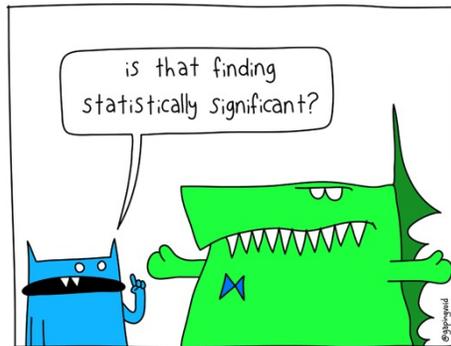
**Identify
limitations of
the experiment**



**What situations did
your experiment
directly address**

Are my results meaningful?

What do the results tell you about what is actually going on, AKA do the results answer your original question in a useful way



Are the results significant?



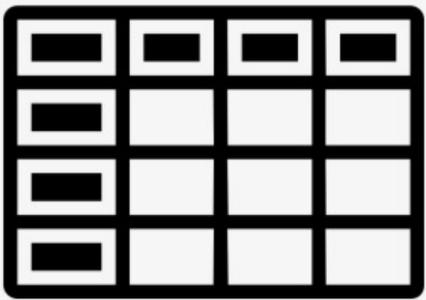
Does your data support your hypothesis?



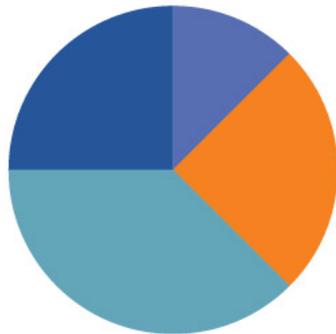
What should you do next?

What is the best way visualize/present my data

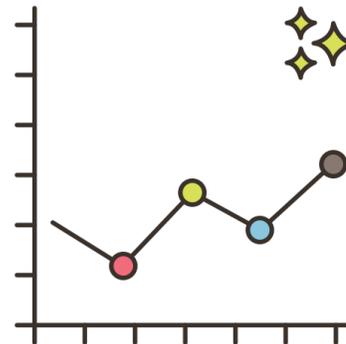
Depending on what you want to highlight about your results you may want to focus on a specific type of image to show your results.



DATA TABLE
To summarize all numbers from all conditions



PIE CHART
To show percentages of a whole



LINE GRAPH
To clearly show the relationship between two values



BAR GRAPH
To compare different conditions quickly

BREAKOUT SESSION TIME

- **GOAL 1: Icebreaker and introduce yourselves**
- **GOAL 2: Work on analyzing your data**

ICEBREAKER

- **Introduce yourself: say your name, grade, and school**
- **Tell us about your favorite part of your experiment/FER project**

Let's analyze your experiments

Map 3

- Phase 4

Are my results meaningful?

What is the best way to present my data?

Does my data support or reject my hypothesis?

What did I find?
(Mentorship Session 5)

The graphic organizer features a background with faint icons of a person and a globe. It includes a line graph with four data points, a bar chart with four bars (blue, green, orange, red), and a pie chart with three segments (red, blue, yellow).

SHOW US SOME DATA!!!

**CHECK OUT THE TUTORIALS TO MAKE
OTHER FIGURES OF YOUR DATA**

What's Next??

Week	Phase	Session	Type	What's Due	
1	1	10/30/23 - 11/3/23	Introduction to FER and The Scientific Method	Mentorship Session 1	Nothing!!! Just a curious mind!
2		11/6/23 - 11/10/23	Asking Good Questions	Module 1	Work through module/worksheet
3		11/13/23 - 11/17/23	Developing Research Questions and Finding Supporting Sources	Mentorship Session 2	Please Bring Module 1 Worksheet Completed
x		11/20/23 - 11/24/23	Thanksgiving	None	Break
4	2	11/27/23 - 12/1/23	Crafting Your Hypothesis	Module 2	Work through module/worksheet
5		12/4/23 - 12/8/23	Writing Testable Hypotheses	Mentorship Session 3	Please Bring Module 2 Worksheet Completed
6	3	12/11/23 - 12/15/23	Designing Your Experiment	Module 3	Work through module/worksheet
7		12/18/23 - 12/22/23	Writing Project Proposals	Module 4	Work through module/worksheet and SUBMIT PROPOSAL FOR FEEDBACK
x		12/25/23 - 12/29/23	Winter Break	None	Break
x		1/1/24 - 1/5/24	Winter Break	None	Break
8		1/8/24 - 1/12/24	Understanding Experimental Design	Mentorship Session 4	Please Bring Module 3 and 4 Worksheet Completed
9		1/15/24 - 1/19/24	Conduct Your Experiment	Experiment	Independent
10	1/22/24 - 1/26/24	Conduct Your Experiment	Experiment	Independent	
11	4	1/29/24 - 2/2/24	Analyzing Your Data and Results	Module 5	Work through module/worksheet
12		2/5/24 - 2/9/24	How to Analyze Your Data	Mentorship Session 5	Please Bring Module 5 Worksheet Completed
13	5	2/12/24 - 2/16/24	Abstract Writing	Module 6	Work through module/worksheet and SUBMIT ABSTRACT FOR FEEDBACK
14		2/19/24 - 2/23/24	Communicating Your Findings in Presentation	Module 7	Work through module to draft your presentation
15		2/26/24 - 3/1/24	Practice Research Presentations	Mentorship Session 6	Be ready to present your draft presentation to your mentor



Any Questions? Contact Us

Organization Contact: mentorship.fer@gmail.com
Organization Website: scienceFER.org