

# Researchin'



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What is a research?



Evernote : Keeping track of your thoughts



Mendeley : Keeping track of your papers



iPython Notebook : Keeping track of your explorations



Github : Keeping track of your work,  
making blogs and websites

# Conducting Research

*Idealized Version*



Individuals conducting research

Collaborating on ideas





# Conducting Research

*Real World*



Individuals conducting research

Collaborating on ideas





# Conducting Research

Look things up



Ask Questions



Do an experiment



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Talk to your peers



Talk to your advisor



# Mini Research Project Activity

## 1 - ASK A QUESTION ABOUT ANYTHING IN SCIENCE

Some examples...

How do solar cells convert sunlight into useable energy?

What is black hole?

Why are leaves green?

Why do we use fruit flies to study the immune system?

# Mini Research Project Activity

1 - Ask a question about anything in science

**2 - FIND 3 RESOURCES THAT RELATE  
TO ANSWERING YOUR QUESTION**

# Mini Research Project Activity

- 1 - Ask a question about anything in science
- 2 - Find 3 resources that relate to answering your question

**3 - TAKE 3 SCREENSHOTS OF THINGS  
THAT YOU FIND INTERESTING IN  
YOUR ARTICLES**

Some examples...

A plot

An equation

A block of text you want to remember



# Mini Research Project Activity

- 1 - Ask a question about anything in science
- 2 - Find 3 resources that relate to answering your question
- 3 - Take 3 screenshots of things that you find interesting in your articles

**4 - THINK OF A WAY TO ANSWER  
YOUR QUESTION VIA AN TINY  
EXPERIMENT**

What is black hole?

- > How would I know a black hole is out in the universe?
- > Maybe I can make a computer simulation with the orbits of stars around a black hole

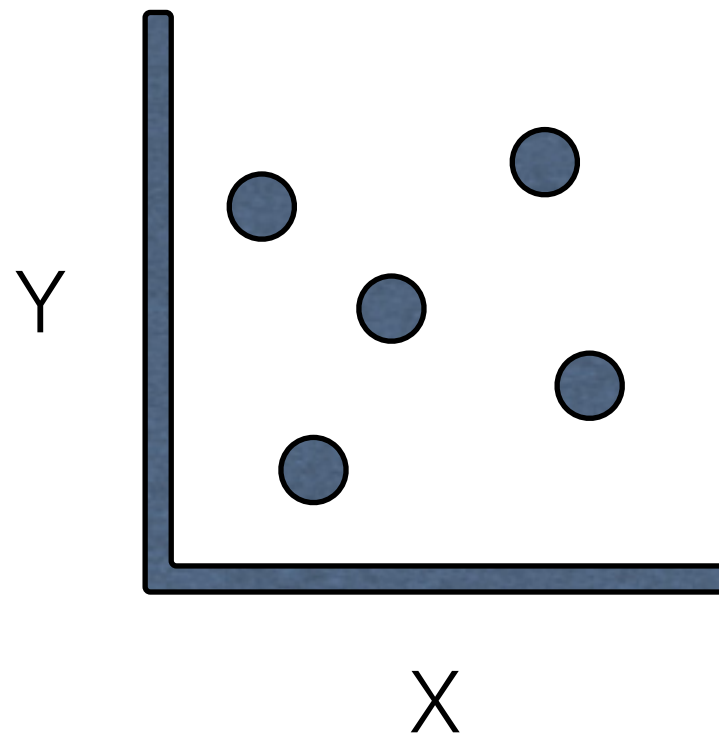
# Mini Research Project Activity

**5 - MAKE &  
SAVE THIS  
PLOT**

**Dataset**

**$x = (1, 4, 5, 6, 12, 30, 2)$**

**$y = (30, 8, 15, 66, 92, 1, 3)$**



# Collaborating

## 5 MINUTE PRACTICE

- 1 - Compile everything together from what you just did research on
- 2 - Write up a paragraph how everything hangs together (your question, your articles, the screenshots, the plot)

## 2 MINUTE PRACTICE

- 3 - Share this with your neighbor
- 4 - Read what your neighbor shared with you

# Discussion

What program did you use to bring together these thoughts?

What issues did you have compiling your research?

Did you have a clear sense of what your neighbor was thinking?

Did all of the attachments make sense with their thought process?