



Welcome Freshman!

Hope you're having a Great Day!

Icebreaker

Blobs and Lines

Line up alphabetically by first name

Line up alphabetically by last name

Gather with people that have the same eye color as you

Gather with ppl who get to school the same way (bus, car, walk,
bike)

Gather with ppl who have as many chores as you: LOTS, FEW,
NONE

Find one other person that you have something else in common
with (anything)

Icebreaker



Concentric Circles

Form two circles, one inside circle facing out, the other outside facing in like this →

Discuss the questions-

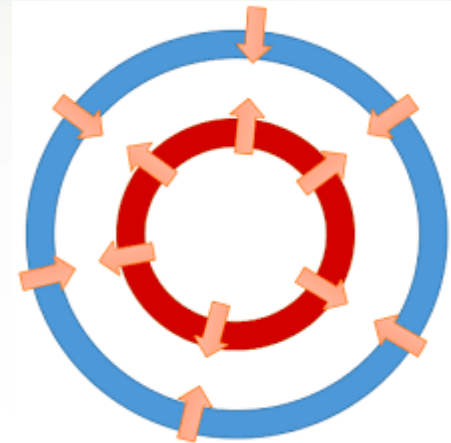
Do you play a sport, instrument?

Do you consider yourself shy or outgoing?

What was the last movie you saw?

What would you do with a million dollars?

What is one thing you are good at?



[Why Study Biology? Video clip](#)

Tuesday
8.15.17

Welcome! Today you will...

- Participate in the Marshmallow Challenge!
- Rube Goldberg Fail

Announcement: You will need a 1 inch 3 ring binder by Monday with approximately 10 dividers

◆ Make sure your PHONES are in your bags unless given permission to have them out!

QUESTION:

- Can I build a really tall structure using spaghetti, tape, string, & a marshmallow...?

TITLE:

- The Marshmallow Challenge

PURPOSE:

- To be able to work collaboratively (4/group) to build the tallest free-standing structure, using only specific materials

MATERIALS:

- 1m string, 1m tape, 1 marshmallow, 20 sticks spaghetti, scissors

PROCEDURE:

- Build the tallest free-standing structure
 - A. Entire marshmallow must be attached to top of structure
 - B. Use materials however you choose – No extras given!
 - C. You have 15 minutes!

CONCLUSION:

- Measure your structure to see who has the tallest! Measure from top of table; in m/cm; must be FREE standing!

Wed
8.16.17

Today you will...

- Participate in the Marshmallow Challenge “Rebuild”! Then Reflect and answer some questions.

But first...

- Read the poem.
- **ATTITUDE is EVERYTHING!**

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Today was the absolute worst day ever
And don't try to convince me that
There's something good in every day
Because, when you take a closer look,
This world is a pretty evil place
Even if
Some goodness does shine through once in a while
Satisfaction and happiness don't last.
And it's not true that
It's all in the mind and heart
Because
True happiness can be obtained
Only if one's surroundings are good
It's not true that good exists
I'm sure you can agree that
The reality
Creates
My attitude
It's all beyond my control
And you'll never in a million years hear me say that
Today was a good day
Now you'd better believe



REFLECTION: *THIS IS DUE TODAY*

1. Was there a leader on your team? Who was it and who decided who the leader would be?
2. How helpful was everyone on your team in challenging the process of building the tallest structure? Did anyone appear to be an expert?
3. Did any team members tune out of the activity — out of frustration with other members or for some other reason? What could you have done to keep all members of the group fully engaged?
4. Did you feel everyone's ideas were well received during the activity?
5. How did you feel as the time limit was approaching? Did pressure increase? If yes, was that helpful or not?
6. In retrospect, what could you have done better to enhance your ability to Challenge the Process?
7. Did you celebrate small wins? If yes, how did you do this?

<https://www.youtube.com/watch?v=rC3wcvDQfml>

Thursday
8.17.17

Today you will...

- Pick up: Syllabus from desk
- Learn more about what is required to be successful in this class
- Sign up with Remind and Online textbook

◆ Make sure your PHONES are in your bags unless given permission to have them out!

Course Requirements

- 1 inch 3-Ring Binder due by **Monday**!!!!!!
- BRING YOUR BINDER **EVERY DAY**!!
- BRING SOMETHING TO WRITE WITH **EVERY DAY**!!



Your Grade



40% Formatives

- Participation
 - 0,1,2 pt checks
- Quizzes
- Labs/Activities/POGILs

Diagnostics 0%

- Content Checks
- POGILs, etc

60% Summative

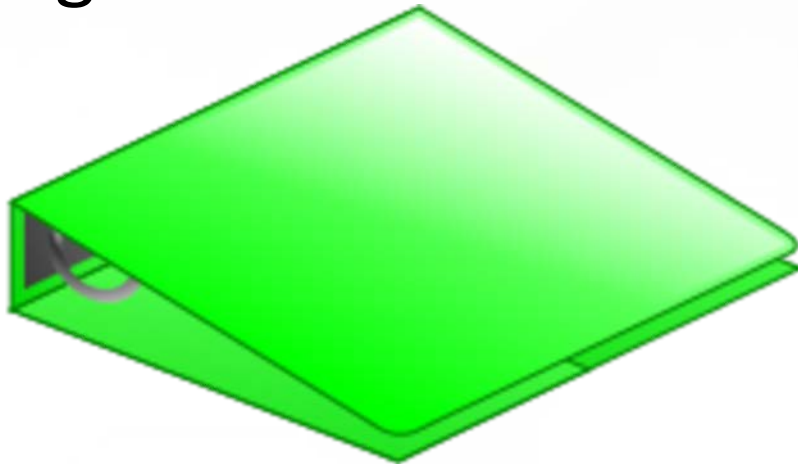
- DIA/Tests
- Labs
- Activities
- Projects

30% EOC – End of Course

Focus on the Learning, NOT the Grade!

Technology

- VIMS- gradebook
- It is **YOUR** responsibility to keep track of your grades



- Remind-
 - Text @nsbbio
 - To 81010



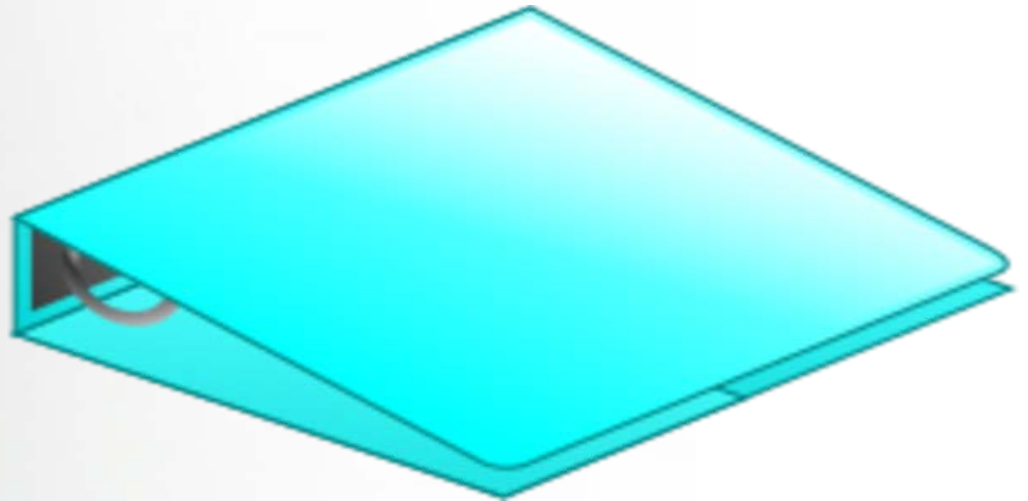
Assignments will be uploaded to my website on

www.nsbscience.weebly.com

Online Textbook-tab on website

Contact info

- PG-13 and last page of syllabus-Return to me by **Friday**
- Binder by Monday



Honors- IBIS



- IBIS- Investigating Biomes in Science
- It is **required** for you to attend this trip
- November 2017



- More information to come

Kahoot It Pre-test

- Get out a device (phone, tablet, etc.)
- Connect to BYOT to save your data
- Search Kahoot It, stop when you see this.



Kahoot!

Game PIN

Enter

Friday
8.18.17

Today you will...watch Eclipse video Eclipse explained

- Bottom half of blue syllabus to green bin
- Find your bubble sheet (Alpha order), see diagram on board to help you
- Take the SMT-Pretest for 1st Semester Concepts
 - Don't worry! This is a Diagnostic grade, you may not know this stuff.
 - We want to have a BASELINE to compare your score in December when you take it
FOR REAL!
- **When finished, read a book or do other work**

◆ **Today PHONES go in bags & ALL bags up front!**

Monday
8.21.17

Today you will...

- Finish SMT
- Set up Binder
- Copy Graph-pg 7
- Wordle
- Solar Eclipse
- Some Guidelines to follow:
 1. # your pages when I give them to you
 2. Date your pages
 3. If gluing, use FOUR dots. Please don't waste it.

◆ Make sure your PHONES are in your bags unless given permission to have them out!

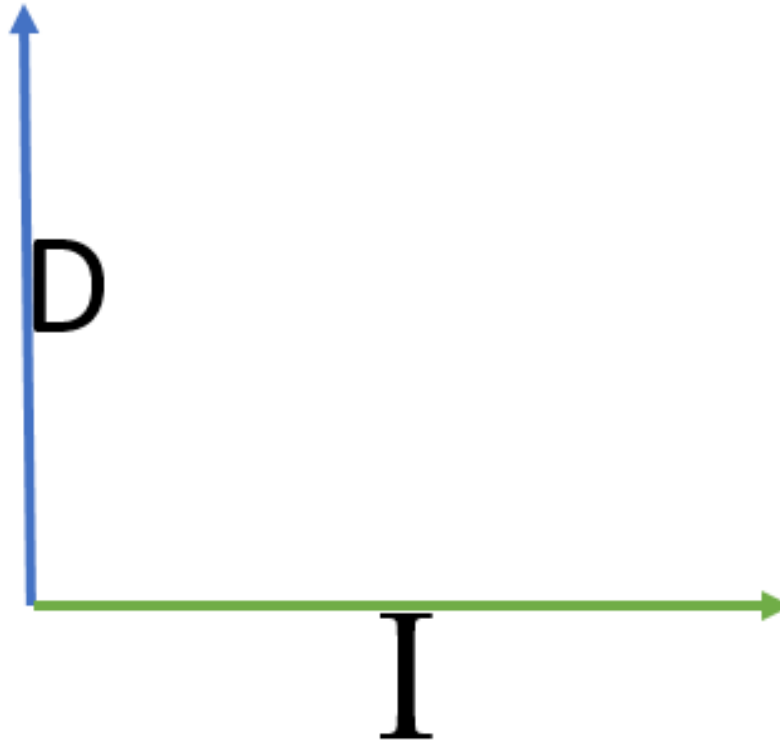
Binder Pages

1. Syllabus
2. Chapters
3. Bell Schedule
4. Lab Report Template
5. Cornell Notes-Mark text
6. Costa's Levels
- 1st divider
7. Graph with IV & DV

Divider Labels

1. Science Process
2. Water/Macro/Enzymes
3. Cell Structure/Transport
4. Cell
Cycle/Mitosis/Meiosis
5. DNA/Genetics
6. Evolution
7. Human Health
8. Energy/Plants
9. Ecology

When finished, Copy onto paper



Independent Variable-

Dependent Variable-

Wordle.net

- Make a list of 20-30 biology related words.
- Enter into Wordle and make your picture. Save to Office 365 and print from home or media center.
- This will be your front cover of your notebook. Please add your name, period and Rm 6-206 Jarrett to it.



Tuesday
8.22.17

Today you will...

- Watch [Ants Can Count?](#) Answer Questions
- Brainstorm Experiment for Mealworms
 - ◆ Tomorrow you will implement your plan
 - ◆ Thursday you will write a formal lab report!

[Independent and Dependent Variable](#) -

<https://www.youtube.com/watch?v=nqj0rJEf3Ew>

[Controlled Experiment](#) -

<https://www.youtube.com/watch?v=D3ZB2RTyIR4>

◆ Make sure your PHONES are in your bags unless given permission to have them out!

Get a piece of paper number 1-6 and put your name in top RIGHT corner.

“Ants Can Count?” CORNELL Questions

1. What was the question the scientist had to begin?
2. What would be an appropriate hypothesis?
3. In the first part of the experiment, what was the Independent Variable?
4. In the first part of the experiment, what was the Dependent Variable?
5. What was a constant in the experiment?
6. What was the purpose of the second part of the experiment?

Mealworm Experimental Design

- With your group, design an experiment to answer a question regarding the preference of mealworms using a choice chamber.
- Tomorrow you will implement this experiment, **SO BRING THE SUPPLIES YOU CHOOSE**
- Thursday each individual will write a formal, graded lab report.



Wed
8.23.17

Today you will...

- Implement your plan
 - Glue lab handout (flip) onto ISN pg 10
 - get into your assigned groups
 - Use Binder pg 13 to create a data table to record info and make notes for your lab report.
 - Reflection Qs-pg 12

Thursday you will write a formal lab report!

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Daily Science Question-ISBN pg 15

Tiny Bubbles

Two students were doing an investigation in which they studied the effect of light intensity on the rate of photosynthesis of elodea, an aquatic plant. To determine the rate of photosynthesis, they counted the number of bubbles of oxygen (O₂) produced in the water. The results of their experiment are shown in the data table.

Data Table 1

Light Intensity (Candelas*)	Rate of Photosynthesis (Bubbles per Min)
0	0
400	1
800	2
1200	3
1600	4
2000	6
2400	6
2800	6
3200	6
3600	6
4000	6

1. Identify the independent variable for this investigation.
2. Identify the dependent variable for this investigation.
3. Write an appropriate hypothesis for this investigation.

*Candelas: The SI base unit of light (luminous) intensity.

Experimental Variables:

Independent Variable =

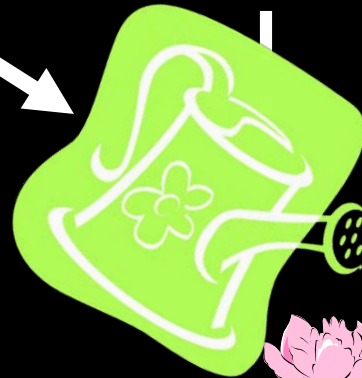
- ▣ controlled by experimenter

Dependent Variable =

- OUTCOME
- ▣ Something observed and measured

CAUSE

Fertilizer



EFFECT...

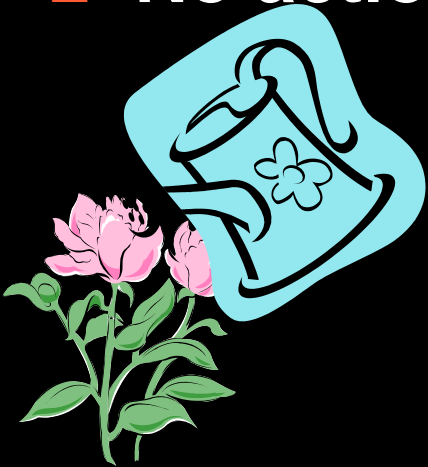
Growth of plant

Experimental Set up:

CONTROL

GROUP:

- ▣ NO changes- *All conditions kept the same – cont. as usual*
- ▣ Baseline for comparison
- ▣ No action taken



Continue as normal with regular fertilizer or none

EXPERIMENTAL

GROUP:

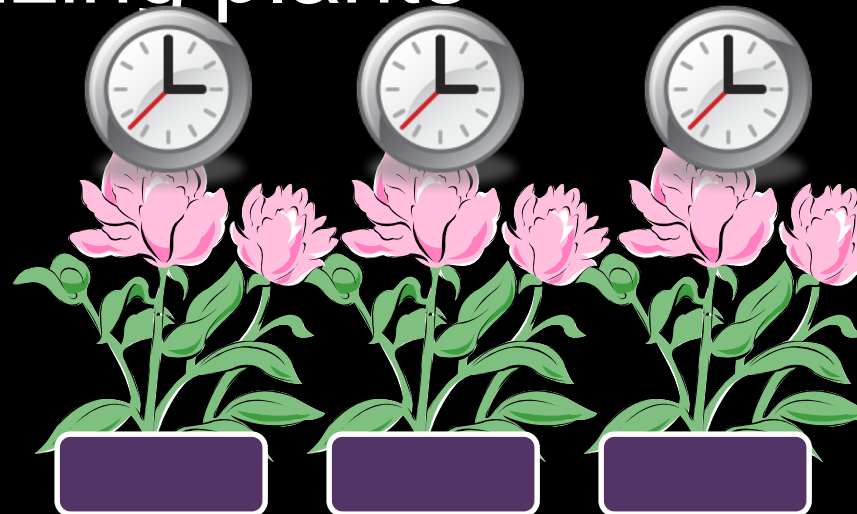
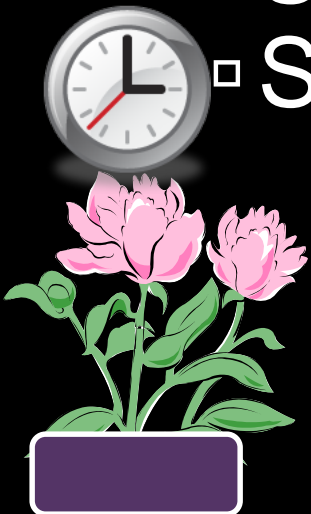
- ▣ Change made – called the test group- *kept the same except for the ONE thing being tested*
- ▣ Action taken



Change **ONLY** the fertilizer

Constants

- ▣ Are all things kept **THE SAME** in the experiment to make it **RELIABLE**.
- ▣ Examples:
 - ▣ IDENTICAL kind of plant
 - ▣ SAME size of container
 - ▣ EQUAL amounts of dirt
 - ▣ SAME time of fertilizing plants
 - ▣ SAME kind of....



Thurs
8.24.17

Today you will...

- Pick up: DSQ-glue to ISN pg 15 & DO IT!
Mealworm Lab Binder pg 14
- Write your formal lab report
 - Use ISN pg 6 as your guide
 - Write **NEATLY** on lined notebook paper
 - Use a ruler to create your data table and graph
 - Use complete sentences, reread to be sure it makes sense. Do your **BEST** work!
 - Due **Tomorrow** for a **formative grade!**

◆ Make sure your PHONES are in your bags unless given permission to have them out!

Fri
8.25.17

Today you will...

- Pick up:

◆ Make sure your PHONES are in your bags unless given permission to have them out!

Daily Science Question

- Smithers thinks that a special juice will increase the productivity of workers. He creates two groups of 50 workers each and assigns each group the same task (in this case, they're supposed to staple a set of papers). Group A is given the special juice to drink while they work. Group B is not given the special juice. After an hour, Smithers counts how many stacks of papers each group has made. Group A made 1,587 stacks, Group B made 2,113 stacks

Identify the:

1. Control Group

2. Independent Variable

3. Dependent Variable

4. What should Smithers' conclusion be?

5. How could this experiment be improved?

'Marking the Text'

1. INTERACT with text!

☞ When you do this, the info goes IN YOUR BRAIN → Memory Cells!

2. ISN p.4 has the directions:

- A. Step 1 is to READ THE TEXT!!!
- B. Highlight main ideas & circle key words.
- C. Confused? put a ? next to it.
- D. Possible Test Questions – put a Star next to it.

3. Refer to ISN page 5 for help

- 1. For EACH CHUNK of information, Create Level 1 or 2 question on the left side
- 2. At least 8-9 questions!



Topic: Science Processes and What is Biology?

Determine an experiment's validity and justify its conclusions based on the experiment's components

Compare and contrast Qualitative Data to Quantitative data.

Science is a human process of trying to understand the world around us. All scientific inquiry begins with careful and systemic observations. Of course, **observation** includes using our senses to study the world, but it may also involve other tools such as computers collecting measurements.

Observations can also be recorded as data which can be analyzed.

Scientists collect two general types of data:

Qualitative data is a description of a phenomenon (sights, sounds, and smells)

Senses, Words

Quantitative data can be counted or measured (mass, volume, and temperature)

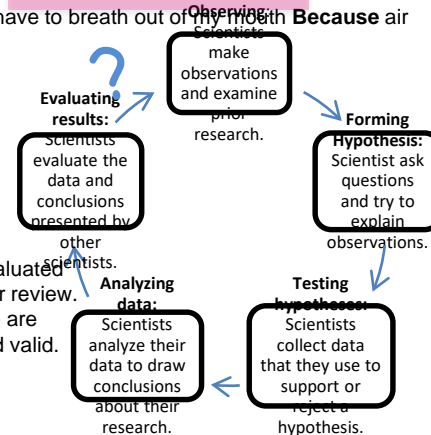
#s

Observations lead scientists to create a logical conclusion or **inference** based on previous knowledge. A **hypothesis** is a proposed answer for a scientific question. A hypothesis must be specific, testable and measurable. Therefore it should be a cause and effect statement or more specifically an If...Then...Because statement.

If I stuck peas up my nose **Then** I would have to breath out of my mouth **Because** air could not get through my nasal passages.

Science is a cycle.

The steps are shown in a certain order, but the cycle does not begin or end at any one point, and the steps may take place in various orders.



Experimental methods and results are evaluated by other scientists in a process called peer review. Only after this review process is complete are Research results accepted as reliable and valid.

When designing, conducting and analyzing results for an experiment scientists need to make sure that they are not bias, (prejudice, unfair or slanted) towards a specific outcome. This helps increase the experiments validity and reliability.

Ethics: Society's idea of what is right and what is wrong, or moral responsibility is another factor that scientists must consider when experimenting.

Recall that a hypothesis is a proposed answer to a scientific question.

A Theory is a proposed explanation for a wide range of observations and experimental results that have been supported with repeated testing. They are broadly accepted. Theories may change based on new evidence.

A Law generalizes a body of observations based on mathematical equations, and can not change.

Did we reach the goal for the day?



... to Mark the Text & write left-side questions...

What are YOU going to do if YOU did not reach the goal for the day?

HOMEWORK



- ❧ What you don't finish in class is your HW
- ❧ Study for Monday's Quiz on Scientific Process!

Theory vs. Law Video Clip

Into To Biology

- <https://www.youtube.com/watch?v=7L7x0BAqWis&feature=youtu.be>



My Robot is Better than your Robot

- <https://www.youtube.com/watch?v=vYuOKb3gO7E>

A Bath Without Water

- <https://www.youtube.com/watch?v=MpYrJs0rX84&feature=youtu.be>

What is BioEthics? ISN pg 28

STEP #1: Read p.64-66 in textbook

STEP #2: Read p.24-27 in textbook

STEP #3: Answer the questions below:

- 1. What is BioEthics?**
- 2. Should scientists do ALL the things that technology has made it possible for them to do? Why or why not?**
- 3. Who should decide how biotechnology is used? Explain.**

ISN p. 29

Bias

- Favoritism
Ex?

Ethics

- Society's idea as to what is right and wrong
 - Ex?

BioEthics... Consider these....

#1 Dwarfism

What if this was your child or sibling being picked on?



#2 GM tomatoes

Do you want food made in a petri dish in a lab?



#3 Pet cloning

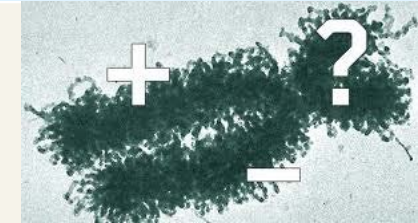
\$155,000.00 - \$500,000.00

What happens when THEY move to cloning people.... Bin Laden? Hitler...



#4 Making the "perfect" baby

Would want to make your baby in the lab or have your baby naturally?



#5 Cheating!

The person who took the picture was NOT caught... BUT the people who cont. sending the text are now known as cheaters by the teachers!



ISN page

Comparing Hypothesis, Theory, Law

HYPOTHESIS

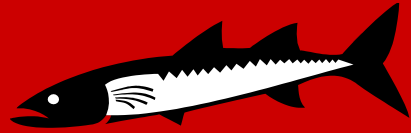
- Testable statement (NOT opinion)
- Supported thru experimentation

THEORY

- Summarizes or explains a hypothesis or a group of hypotheses
- Valid as long as there is no evidence to refute it, so it CAN change

LAW

- Generalizes or describes a body of observations
- At the time it is made, NO EXCEPTIONS have been found



Today you will:

1. Bellringer-page 18

2. Review

3. ISN Quiz

4. Water Stations

1. You don't need to go in order

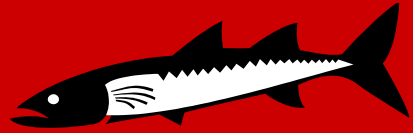
2. Please leave station clean and neat

3. Add Station 8 to back of packet

Homework:

None

Please make sure your phones are in your bags



Tues, Sept 8, 2015

Today you will:

1. Bellringer-page 18

2. Water Stations

1. You don't need to go in order

2. Please leave station clean and neat

3. Add Station 8 to back of packet

Homework:

None

Please make sure your phones are in your bags