# Ch. 1 Content Brainstorming

1)Record Chapter title

2) Record Section titles

3) Record Section headings

4) Record Section Sub-headings (Blue)

5) Write all Vocab words that you know.

6) Record all Vocab words you kdngnut

7) Record 1 key concept from each Section.

* 8) 2 Sentences "Why is learning this important to you?"

9) Sketch 3 Visuals From the chapter. Record the entire caption Page # and figure # underneath.

*10) Make 3 predictions about what you will learn in this chapter.

*11) List 3 times in your life you have encountered any of these things before.

Sentence

SAMPLE

Synonym

1) organism
2) cell
3) unicellular
4) Multicellular
5) Stimulus
6) response
7) Development
8) Autotroph
9) Heterotroph
10) Homeostasis

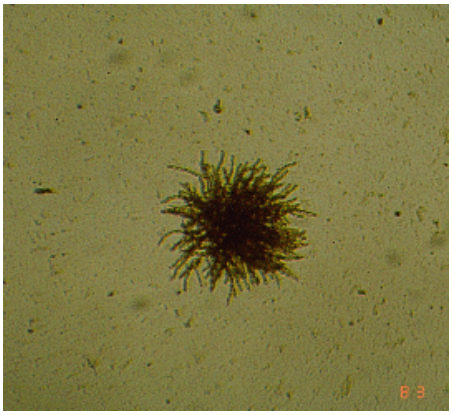
Word

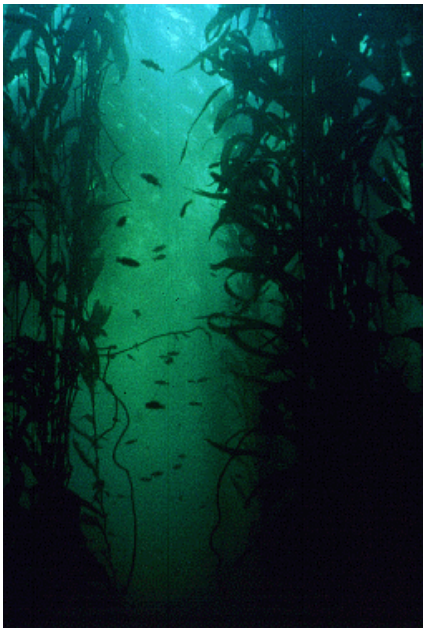
Def:

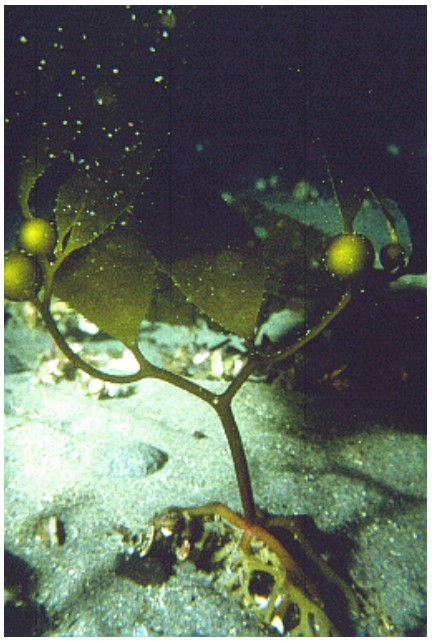
Antonym

Picture

| | Maple Tree | Bruce the Cat | Kelp | Mushroom |
|---|---|---|---|---|
| **Cellular Organization** | Plant cell<br><br>Multicellular | Animal cell<br><br>Multicellular | Bacterial Cell<br><br>Mulit-cellular | |
| Chemicals of Life | -Water<br>-D Nucleic acid<br>-Proteins<br>-Carbohydrates<br>-lipid | -water<br>-DNA<br>-Protein<br>-carbohydrate<br>-lipid | -water<br>-DNA<br>-Protein<br>-carbohydrate<br>-lipid | -water<br>-DNA<br>-Protein<br>-carbohydrate<br>-lipid |
| Energy Use | Autotroph | heterotroph | autotroph | heterotroph |
| response to stimuli | -Grows away from gravity | -hisses when he sees my dog | -produces sugars when in sunlight | -root-like hyphea grow into dead organisms |
| must grow or develop | Mape tree starts as seed, grows taller throughout lifetime. | Started as a kitten, grew MUCH larger throughout life | -starts as a spore, matures into full | -starts as a spore |
| Reproduction | Produces seeds | produces sperm and egg cells | releases spores | releases spores |







http://nutritiondata.self.com/facts/vegetables-and-vegetable-products/2617/2

http://nutritiondata.self.com/facts/vegetables-and-vegetable-products/2482/2

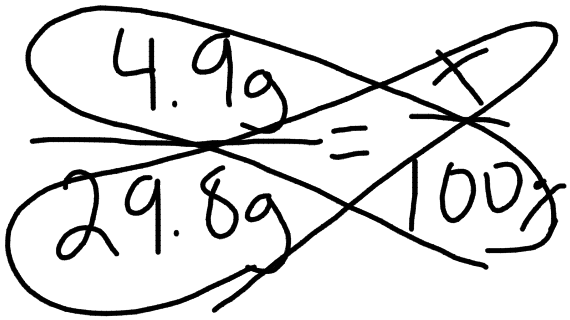
# The needs of living things.

1) Living Space
2) Stable Internal Conditions (Homeostasis)
3) Food
    - Autotroph
        1) Kelp
        2) tree
        3) Phytoplankton
    - Heterotroph.
4) Water.

# How much of a vegetable's total mass is $H_20$?

First measure mass of each, then:

$$\frac{\text{Mass of dried vegetable}}{\text{Mass of fresh cut vegetable}} = \frac{X}{100\%}$$




$$\frac{49\text{g}}{29.8\text{g}} = \frac{29.8\text{g}\ X}{29.8\text{g}}$$

16%=X

(how much is left)

84% = Mass of $H_20$

# Controlled Experiments

Only 1 potential variable should be changed at a time.

- Potential variables: Any detail that could affect the outcome of the experiment
  - --Can be:
    1) independent variables: a difference that you plan to change between the experimental groups.
    2) dependant variables: the effect of the change you planned between the experimental group.
- Hypothesis: What you expect to happen in the end. Must be testable.

- Experimental plan: should answer all these questions in paragraph form.

1) What is the overall plan for the procedure of the experiment?
2) What 1 potential variable will I change between the experimental groups? Call this the independent variable.
3) How will I control all other potential differences between each experimental group?
4) What observations will I keep track of as the experiment progresses? Call this the dependant variable.
5) In the end, what do I expect to happen?

http://www.phschool.com/atschool/phsciexp/active_art/redi_pasteur_experiment/index.html

http://www.phschool.com/webcodes10/index.cfm?fuseaction=home.gotoWebCode&wcprefix=cep&wcsuffix=1011

Sample Experimental Plan:

In the Spontaneous Generation Experiment, the scientist will take 2 pieces of raw meat and place them each in a jar. One jar will be covered so nothing but air can get into the meat and the other jar will not be covered. The meat will be left to rot until new life appears. The independent variable is the covering on the jars. All other potential variables will be identical. The jars will be made of the same material, be the same shape and volume and will be left to rot in the same place. Being in the same place will control any differences in temperature, atmospheric pressure or humidity. As the experiment progresses, the daily appearance of two pieces of meat will be recorded in a log. The scientist will specifically count the number of new living specimens that form on the raw meat and record this dependant variable in a data chart. In the end, the jar that is left uncovered will have the most new living specimens. The opening will allow organisms to lay eggs in the meat.

Homework:
Compose an experimental plan (like the last slide) for an experiment using the information below:

Title: Moldy Bread

Problem: What factors are necessary for bread mold to grow?

Focused Question: How does moisture affect the growth of mold on bread?

Materials:

- 2 small paper plates
- 1 plastic dropper
- 2 slices of bread without preservatives
- 50 mL of tap water
- 2 sealable plastic bags
- 30 cm of packing tape

Lab Write-up Rough Draft

Title: Moldy Bread: part 1 Water

Problem: How does Water affect mold growth on bread?

Hypothesis: If _____ then

Materials:

Procedure:

1)

2)

# Moldy Bread-Log

Day 1- 10/4/11

- There were large $H_20$ drops inside bag
- Bread was crusty around edges.
- Bread was warm to the touch.

Day 2- 10/5/11

# Moldy Bread Data chart

| Day | Bread Slice-No $H_20$ | Bread Slice- 5 drops $H_2O$ |
|---|---|---|
| 1 | 0% | 0% |
| 2 | 0% | 0% |
| | | |

# Conclusion

| Claim | Evidence |
| --- | --- |
| a claim based on data | Specifically list data that supports the claim |

# Domain Information

| Domain | Cell Type | Cell Number | Gets energy | More info |
|---|---|---|---|---|
| Bacteria | Prokaryote-No nucleus | unicellular | auto or heterotrophs | live almost anywhere |
| Archaea | Prokaryotes | unicellular | auto or heterotrophs | live in extreme environments |
| Eukaryotes | Eukaryotes- has a nucleus | unicellular or multicellular | auto or heterotrophs | includes plants, animals, fungi and protists |

# Kingdoms in Eukarya

| Kingdom | cell type | Energy | number of cells | Examples |
|---|---|---|---|---|
| Protist | eukaryotic | auto or heterotrophs | mostly unicellular | paramecium, amoeba, kelp |
| Fungi | eukaryotic | heterotrophic decomposers | mostly multicellular | mushrooms, yeast |
| Plant | eukaryotic | autotrophs | multicellular | cactus, sunflower, moss |
| Animal | eukaryotic | heterotrophs | multicellular | salamander, dog, flea |