

## Available Specimen and Themes for Cellular Respiration Experiments

### Specimen:

Pinto Bean seeds – *Phaseolus vulgaris*, variety (Pinto bean), Family Leguminosae

Kidney Bean seeds - *Phaseolus vulgaris* variety (Kidney bean), Family Leguminosae

Little Marvel Pea seeds - *Pisum sativum*, variety *Little Marvel*, Family Fabaceae

Early Alaska Pea seeds - *Pisum sativum*, variety *Early Alaska*, Family Fabaceae

*Zebrina* - *Zebrina pendula* – can use cut off stems

Mealworms - *Tenebrio molitor* - please do not maim or kill the meal worms

Superworms – *Zophobas morio* - please do not maim or kill, larger than mealworms, can “bite” pinch onto your skin.

### Main Theme Suggestions

**(each group needs to pick a different theme to explore)**

Changes in Cellular Respiration between

1. Different species
2. Different varieties within the same species
3. Effect of salinity
4. Animal vs. Plant
5. Changes in light
6. Decreasing in Oxygen levels (adds carbon dioxide, Nitrogen and Argon)
7. Stems of the plant *Zebrina*
8. Temperature (NO WATER on probes!, can use bags with ice, bags of hot water to surround chamber)
9. Change in surface area with seeds and/or plant vs stems
10. Changes to the air composition
11. Other ideas? talk with your TA

In all cases, be able to rationalize the results. Being able to explain the observations/data scientifically is very important. Also think about what you still cannot fully explain based on your experimental design and results. What new questions might you have?