Respiration Pre-Lab Activity

Record in your notebook because you will need to post information from this with “Energy Labs” on your Google Site.

Resources for completing these questions:

* Campbell Textbook
* <http://www.nclark.net/GasLaws>
* <http://www.phschool.com/science/biology_place/labbench/lab5/intro.html> OR search Pearson Lab Bench and find Lab 5
* Pictures of respirometers
* Lab pages

1. Draw and label a picture of a respirometer. Write a statement describing what they measure.
2. What is the purpose of the KOH in the respirometer.
3. Why is it necessary to correct the reading of the respirometers containing seeds with the readings taken from respirometers containing only glass beads?
4. Imagine that you are asked to measure the rate of respiration for a 25g reptile and a 25 g mammal at 10o C. Predict how the results would compare and justify your prediction. \*focus on the difference between reptiles and mammals at cold temperatures and less on the gas laws\*
5. Imagine that you are asked to repeat the reptile/mammal comparison of oxygen consumption, but at a temperature of 22o C. Predict how these results would differ from the measurements made at 10 o C and explain your prediction in terms of the metabolism of the animals.
6. Most of the groups will compare germinating and non-germinating seeds. What difficulties would there be if you used a larger living green plant in this investigation instead of germinating seeds?
7. What is the difference between using germinating seeds to measure respiration and non-germinating seeds that are dormant?