Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_

AP Biology - Cellular Respiration Pre-Lab Mr. Collea

**1.** What organelle do you need to do aerobic cellular respiration? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.** What are the three steps of aerobic cellular respiration?

 **(a) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (b) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ (c) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**3.** What is this lab measuring exactly? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

How are you measure it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



**4.** What instrument do you use to measure it? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Label the diagram of a respirometer to the right.

**5.** What is the function of the KOH (*potassium hydroxide*) in this activity?

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**6.** What is the function of the nonabsorbent cotton in this activity?

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**7.** What are the three different vials used in this activity and what is the purpose of vial with glass beads?

 **(1)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **(2)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **(3)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**8.** Peas will start to consume \_\_\_\_\_\_\_ and produce \_\_\_\_\_\_\_. But the carbon dioxide will bind with the KOH and precipitate out as a solid. Therefore the volume of gas in the vial decreases as oxygen is consumed. As the volume drops, water moves where?

 **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**9.** Pressure and temperature fluctuations will have a huge influence on this because it effects gas volume, this is why you have the vial of

 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10.** State your hypotheses for this activity.

 **(1)** Which set up should have the fastest rate of respiration and WHY?

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 **(2)** Which set up should have the slowest rate of respiration and WHY?

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**11. Seed Germination Preview**

Label the diagram of a germinating pea (Pisum *sativum*) below

