



Name: \_\_\_\_\_ Date: \_\_\_\_\_ Group: \_\_\_\_\_

# CONCEPT BUILDER

## Photographing Photosynthesis & Respiration

**Mission:** Create a display that compares the reactants and products of photosynthesis and respiration using pictures taken from a digital camera.

**Materials (per group):**

- Digital camera (1)
- Color printer (1)
- Poster board (1)
- Markers (1 pack)
- Glue (1)

To complete your mission, include the following:

1. Pictures of the reactants and products involved in both photosynthesis and respiration
2. A display (poster board) showing your photos
3. An oral presentation about your product

1. Review the processes of photosynthesis and respiration with a partner. Go over the reactions for each. Make sure you understand the correct use/ application of each of the vocabulary terms outlined to the right.
2. Using a digital camera, go outside and take pictures of examples of the reactants and products of photosynthesis and cellular respiration.
3. Once back inside, decide what photos you will use for your display. Print your pictures.
4. Organize your pictures on your display (poster board). You may use markers, glue, etc., to create your product.
5. Be prepared to orally present your product to the class.
6. Make sure the vocabulary words are used on your display and in your oral presentation.
7. Use the rubric on the next page to help you create your product.

**Vocabulary Words:**

Aerobic, anaerobic, fermentation, Krebs Cycle, lactic acid, light dependent reaction, Calvin Cycle, electron transport chain, energy, glucose, glycolysis, photosynthesis, respiration, carbon dioxide, glucose, oxygen, chlorophyll, product, reactant, energy, ATP, chloroplast, mitochondria

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## Mission Assessment Questions

1. In your Concept Builder, explain what the pictures represent. How do they compare to your previous ideas about photosynthesis and respiration?
2. How would you explain to another student the similarities and differences between photosynthesis and cellular respiration?

## Rubric and Grade Sheet

| Category                            | Exceeds Expectations<br>3 points   | Meets Expectations<br>2 points  | Below Expectations<br>1 point   | SCORE | Teacher Comments |
|-------------------------------------|--|---|---|-------|------------------|
| <b>Content Mastery</b>              | Included details on all components and Key Concepts  | Included some details on most components and Key Concepts   | Included few to no detail on components and Key Concepts  |       |                  |
| <b>Vocabulary</b>                   | Student correctly used all vocabulary and supported all content .                                      | Student correctly used most vocabulary and supported most content .                                       | Student correctly used little to no vocabulary and did not support content .                            |       |                  |
| <b>Product</b>                      | Final product is attractive and all components are easily identified                                   | Final product is somewhat attractive and most components are easily identifiable.                         | Final product is not presented well, and components are difficult to identify.                          |       |                  |
| <b>Oral Presentation (optional)</b> | The student can clearly dialogue about the project and is able to convey ideas in an organized manner. | The student can somewhat dialogue about the project and can somewhat convey ideas in an organized manner. | The student cannot clearly dialogue about the project and does not convey ideas in an organized manner. |       |                  |