

Bioenergetics (pages 68-90)

1. Why do cells need energy? \_\_\_\_\_

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2. A. Define the term *metabolism*. \_\_\_\_\_

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B. From your study of cell organelles, list three metabolic processes that occur in cells.

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3. Compare the processes of aerobic respiration and photosynthesis by completing the chart below.

	Raw materials	Products	Where it Occurs	Other Materials/Energy Needed
Aerobic Cellular Respiration				
Photosynthesis				

4. Explain the difference between autotrophs and heterotrophs in terms of whether their cells perform photosynthesis and / or cellular respiration \_\_\_\_\_

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5. List three factors that you think might affect the rate of photosynthesis in a given plant.

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6. What is the role of chlorophyll in photosynthesis? \_\_\_\_\_

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7. A. How are photosynthesis and respiration related to levels of CO<sub>2</sub> in the atmosphere?

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B. What other processes are involved? \_\_\_\_\_

\_\_\_\_\_

8. Explain how photosynthesis is important in each of the following resource industries in Canada.

Agriculture	
Forestry	
Fisheries	
Oil Industry	