Physics

Energy and Change

Year 9

July 2013

We have been studying the human body and plant systems and realise that life is not possible without energy. Energy from the sun is converted into chemical energy by organisms such as g\_\_\_\_\_\_\_\_\_\_\_\_\_ p\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ during the process of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ .

The general word equation for the photosynthesis reaction is;

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Show photosynthesis as a chemical equation. This way you can see the elements involved and how they are turned from reactants into products without being destroyed.

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If you bubble carbon dioxide into water is does not form glucose. It is the interaction between \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ energy, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules and the green \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ molecules inside chloroplasts that help glucose and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to form.

Draw this concept in a diagram or flow chart below

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Cellular Respiration

The energy bonding together the carbon, hydrogen and oxygen atoms in the glucose molecules can be released by all organisms in the m\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ of their cells.

The general word equation for the Cellular Respiration reaction is;

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Show Cellular Respiration as a chemical equation. This way you can see the elements involved and how they are turned from reactants into products without being destroyed.

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List at least three cellular processes that require the energy released from the glucose molecules.

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2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Draw the concept of Cellar Respiration in a diagram or flow chart below;

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You know that energy may be classified as either kinetic or potential. Define these two types of energy.

Kinetic energy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Potential energy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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Explain how photosynthesis and respiration are related to kinetic and potential energy.

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