**Unit 6 Energy Production- cell respiration**

**Knowledge Audit**- follow How To Instructions on the main General Documents page

[www.mskibbio.weebly.com](http://www.mskibbio.weebly.com)

Topic 2.8 Cell Respiration

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| **Objectives:** Cell respiration is the controlled release of energy from organic compounds to produce ATPATP from cell respiration is immediately available as a source of energy in the cellAnaerobic cell respiration gives a small yield of ATP from glucoseAerobic cell respiration requires oxygen and gives a large yield of ATP from glucose**Applications**

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| Use of anaerobic cell respiration in yeasts to produce ethanol and carbon dioxide in baking |
| Lactate production in humans when anaerobic respiration is used to maximize the power of muscle contractions |

 **Skills**

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| Analysis of results from experiments involving measurement of respiration rates in germinating seeds or invertebrates using a respirometer |

 NOS

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| Assessing the ethics of scientific research- the use of invertebrates in respirometers experiments |

 | **Understandings:**Organic molecules available for cellular respirationThe steps for glycolysisThe role of ADP and ATP in glycolysis Identify the location of each step in respirationOutline the chemical reaction for prokaryotic respiration- anaerobicOutline the reaction for prokaryotic respiration- aerobic How ATP allows cellular functions to occur- be able to list themExplain why a continual source of ATP is requiredExplain how bioethanol is producedExplain the respiration process in bread makingIdentify the reactants in beer, wine, bread and biofuelsThe role enzymes play in regulating these reactionsExplain the ethics associated with testing respiration on animalsInterpret graphs on cellular respirationCreate graphs from data on cellular respirationIdentify the impact of temp; pH and substrate on respirationIdentify the products and byproducts of cellular respirationEthics associated with IBO animal experimentation policy |

**Concept Map:** this should include some topics from first semester and show interconnection of these topics. (enzymes/ biochemistry/ chemical reactions)

**Notecards**: there is a general IB Bio vocabulary list on the main General Documents that should be considered a baseline for vocabulary. It is very important that notecards are clear, have the ability to be read for a quick/flash review and most importantly are original. Diagrams of membrane structures and action potential graphing should be included