

CELL-IN-A-BOX RUBRIC

Assessment Categories	5 = Exceeding	4.3 = Advanced	3.8 = Meets	3.3 = Approaching	3.0 = Beginning
Unit 1: Chemistry of the Cell					
<i>EQ: What does a cell need to survive?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
<i>EQ: How do the types of foods we eat affect our body?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
Inorganic molecules, Water (S4 C5 PO 2 & S4 C1 PO 3)	Describes in detail the importance of water to living things, including: -high specific heat -universal solvent -cohesion -adhesion Also illustrates the shape of the molecule	Describes at least 3 reasons that water is important to living things, and also illustrates the shape of the molecule	Describes at least 2 reasons that water is important to living things, and also illustrates the shape of the molecule	Describes at least 1 reason that water is important to living things, and also illustrates the shape of the molecule	Describes at least 1 reason that water is important to living things
Organic Molecules (S4 C5 PO 2)	Identifies and describes in detail the correct function of all 4 organic molecules and makes the connection of each molecule to its importance in the cell.	Identifies the correct function of all 4 organic molecules and makes the connection of each molecule to its importance in the cell.	Identifies the correct function of all 4 organic molecules, but does not connect their functions to their role within the cell.	Identifies the correct function of 3/4 organic molecules, but does not connect their functions to their role within the cell.	Identifies the correct function of 2/4 organic molecules, but does not connect their functions to their role within the cell.
Content Presentation	Material is presented authentically; in such a way that a true understanding exists. It is evident that the creator went the extra mile to display the content.	Material is presented authentically; in such a way that a true understanding exists and that thought and originality were put into the expression of the content	A clear understanding of content is evident; however, the material is presented without originality or authenticity	Material is presented authentically and with originality; however, true understanding is not evident.	No originality has been used to present material and no true understanding of the content is evident

Unit 1 TOTAL: /25

Unit 2: Cell structures

<i>EQ: How do we know cells exist?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
<i>EQ: How do cellular organelles interact to maintain life?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
Cell Parts	Correctly identifies and describes in detail the function of all 13 cell parts in their own words to show a clear understanding of content.	Correctly identifies and describes the function of all 13 cell parts in their own words to show a clear understanding of content.	Correctly identifies and describes the function of all 13 cell parts.	Correctly identifies and describes the function of at least 10 cell parts.	Correctly identifies and describes the function of at least 8 cell parts.
Contrasting plant and animal cells (S4 C1 PO 2)	Contrasts, in detail, the unique differences of plant and animal cells including: shape; animal cells having centrioles and lysosomes; plants cells having a cell wall, chloroplast, large vacuoles.	Contrasts the unique differences of plant and animal cells including: shape; animal cells having centrioles and lysosomes; plants cells having a cell wall, chloroplast, large vacuoles.	Identifies only 5 of the differences between plant and animal cells	Identifies only 4 of the differences between plant and animal cells	Identifies only 3 of the differences between plant and animal cells
Contrasting Prokaryotic and Eukaryotic Cells (S4 C1 PO 2)	Contrasts, in detail, the differences between prokaryotic and eukaryotic cells including no nucleus and lack of organelles in prokaryotic cells and also includes examples of what type of organisms are made up of each cell	Contrasts the differences between prokaryotic and eukaryotic cells including no nucleus and lack of organelles in prokaryotic cells and also includes examples of what type of organisms are made up of each cell	Identifies only 3 of the differences between prokaryotic and eukaryotic cells	Identifies only 2 of the differences between prokaryotic and eukaryotic cells	Identifies only 1 of the differences between prokaryotic and eukaryotic cells
Content Presentation	Material is presented authentically; in such a way that a true understanding exists. It is evident that the creator went the extra mile to display the content.	Material is presented authentically; in such a way that a true understanding exists and that thought and originality were put into the expression of the content	A clear understanding of content is evident; however, the material is presented without originality or authenticity	Material is presented authentically and with originality; however, true understanding is not evident.	No originality has been used to present material and no true understanding of the content is evident

Unit 3: Cell transport

<i>EQ: Why do materials move in and out of the cell?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
<i>EQ: How does cell transport help maintain homeostasis?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
Cell membrane	Describes and illustrates in detail the "fluid mosaic" arrangement of the cell membrane- includes the structure and function of protein channels, carbohydrates, cholesterol, and lipids.	Describes and illustrates in the "fluid mosaic" arrangement of the cell membrane- includes the structure and function of protein channels, carbohydrates, cholesterol, and lipids.	Describes the "fluid mosaic" arrangement of the cell membrane- includes the structure and/or function of protein channels, carbohydrates, cholesterol, and lipids.	Describes the "fluid mosaic" arrangement of the cell membrane- includes the structure and/or function of 3 of the following: protein channels, carbohydrates, cholesterol, and lipids.	Describes the "fluid mosaic" arrangement of the cell membrane- includes the structure and/or function of 2 of the following: protein channels, carbohydrates, cholesterol, and lipids
Passive and Active transport (S4 C1 PO 4)	Describes in detail the differences between the 2 forms of transport, including: energy requirement, direction of movement and gradient and at least 3 examples of each.	Describes the differences between the 2 forms of transport, including: energy requirement, direction of movement and gradient and at least 3 examples of each.	Describes the differences between the 2 forms of transport, including: energy requirement, direction of movement and gradient and at least 2 examples of each.	Describes the differences between the 2 forms of transport, including: energy requirement, direction of movement and gradient and 1 example of each.	Describes the differences between the 2 forms of transport, including: energy requirement, direction of movement and gradient.
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Unit 3 TOTAL:

/25

Unit 4: Cell Energetics

<i>EQ: Why is the relationship between plants and animals essential to life?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
<i>EQ: How do cells acquire energy?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
ATP (S4 C1 PO 1)	Identifies the energy molecule, including all 3 components, and illustrates how it releases energy and (ATP to ADP) regains energy (ADP to ATP)	Identifies the energy molecule and illustrates how it releases energy and (ATP to ADP) regains energy (ADP to ATP)	Identifies the energy molecule and illustrates how it releases energy OR how it regains energy	Identifies the energy molecule and illustrates how it releases energy	Identifies the energy molecule BUT does not illustrate, only describes, how it releases energy
Aerobic and anaerobic respiration (S4 C5 PO 1)	Identifies, illustrates and describes in detail the pathways involved in respiration including glycolysis, fermentation, Krebs cycle, ETC (and carriers) and the total ATP production. Also, presents products & reactants for respiration.	Identifies, illustrates and describes the pathways involved in respiration including glycolysis, fermentation, Krebs cycle, ETC and the total ATP production. Also, presents products & reactants for respiration.	Identifies or illustrates and describes the pathways involved in respiration including glycolysis, fermentation, Krebs cycle, ETC and the total ATP production BUT does not present BOTH products & reactants for respiration.	Describes or illustrates the pathways involved in respiration but lacks 1 of the following: glycolysis, fermentation, Krebs cycle, ETC and the total ATP production.	Describes or illustrates the pathways involved in respiration but lacks 2 or more of the following: glycolysis, fermentation, Krebs cycle, ETC and the total ATP production.
Photosynthesis (S4 C5 PO 1)	Identifies, illustrates and describes in detail the pathways involved in photosynthesis including Light reactions, dark reactions, Calvin Cycle. Also, presents products & reactants for photosynthesis.	Identifies, illustrates and describes the pathways involved in photosynthesis including Light reactions, dark reactions, Calvin Cycle. Also, presents products & reactants for photosynthesis.	Identifies or illustrates and describes the pathways involved in photosynthesis including Light reactions, dark reactions, Calvin Cycle BUT does not present BOTH products & reactants for photosynthesis.	Describes the pathways involved in photosynthesis but lacks 1 of the following: Light reactions, dark reactions, Calvin Cycle. Presents either the products or the reactants for photosynthesis.	Describes the pathways involved in photosynthesis but lack 2 or more of the following: Light reactions and dark reactions but does not present either the products or the reactants for photosynthesis.
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Unit 5: Cell Cycle & Mitosis

<i>EQ: Why is it necessary that the cell cycle be regulated?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
<i>EQ: How are cell division and reproduction related?</i>	EQ is answered thoughtfully and in detail, with multiple responses	EQ is answered thoughtfully, with multiple responses	EQ is answered thoughtfully, with only one response	EQ is answered without true thought	EQ asked but not answered
Cell cycle (S4 C1 PO 5)	Describe and illustrate each phase of the Cell Cycle correctly.	Describe and illustrate 3 phases of the Cell Cycle correctly.	Describe and illustrate 2 phases of the Cell Cycle correctly.	Describe and illustrate 1 phase of the Cell Cycle correctly.	Only has phases of Cell Cycle illustrated, lack descriptions
	Describe and illustrate all 4 stages of mitosis	Describe and illustrate 3 stages of mitosis	Describe and illustrate 2 stages of mitosis	Describe and illustrate 1 stage of mitosis	Only has stages of mitosis illustrated, lack descriptions
Content Presentation	Material is presented authentically; in such a way that a true understanding exists. It is evident that the creator went the extra mile to display the content.	Material is presented authentically; in such a way that a true understanding exists and that thought and originality were put into the expression of the content	A clear understanding of content is evident; however, the material is presented without originality or authenticity	Material is presented authentically and with originality; however, true understanding is not evident.	No originality has been used to present material and no true understanding of the content is evident

Unit 5 TOTAL:

/25

OVERALL

<p>Overall EQ: How do processes that happen at a cellular level influence the structure, functions and behaviors at level of tissues, organs, organ systems or entire organisms?</p>	<p>EQ is answered thoughtfully and in detail, with multiple responses</p>	<p>EQ is answered thoughtfully, with multiple responses</p>	<p>EQ is answered thoughtfully, with only one response</p>	<p>EQ is answered without true thought</p>	<p>EQ asked but not answered</p>
<p>Overall EQ: Why is a cell necessary to all living things?</p>	<p>EQ is answered thoughtfully and in detail, with multiple responses</p>	<p>EQ is answered thoughtfully, with multiple responses</p>	<p>EQ is answered thoughtfully, with only one response</p>	<p>EQ is answered without true thought</p>	<p>EQ asked but not answered</p>
<p>OVERALL Content Presentation</p>	<p>Material is presented authentically; in such a way that a true understanding exists. It is evident that the creator went the extra mile to display the content.</p>	<p>Material is presented authentically; in such a way that a true understanding exists and that thought and originality were put into the expression of the content</p>	<p>A clear understanding of content is evident; however, the material is presented without originality or authenticity</p>	<p>Material is presented authentically and with originality; however, true understanding is not evident.</p>	<p>No originality has been used to present material and no true understanding of the content is evident</p>
<p>Required Elements</p>	<p>All sides of the box have been completed and contain all required elements along with additional information</p>	<p>All sides of the box have been completed and contain all required elements</p>	<p>All sides of the box have been completed and but is missing a few required elements</p>	<p>All but 1 side of the box have been completed.</p>	<p>Missing at least 2 completed sides of the box.</p>

Overall EQ + 5 Units TOTAL:

/155