

WASHINGTON STATE LASER

Alignment of Washington 6-8
Science Standards by Lesson Number for

SEPUP

Cell Biology & Disease

November 1, 2010

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 30**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked. • Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis. • Work collaboratively with other students to carry out the investigations. 	SG pp C-4 -5; TG pp C-6-7	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-5-7; TG pp C-7-11; TR 30.1 and 30.3; Student Sheet 30.2	Aligned as designed	
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-5-7; TG pp C-7-12; TR 30.2	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 30**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> • Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation). • Describe the differences between an objective summary of the findings and an inference made from the findings. 	SG p C-7; TG pp C-11-12; Student Sheet 30.1	Aligned as designed	
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> • Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-5-7; TG pp C-7-11; TR 30.1 and 30.3; Student Sheet 30.2	Aligned as designed	This unit/lesson is a part of a conceptual sequence.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 31**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG p C-8-11; TG pp C-25, C-28-31; T-31.1; Student Sheet 31.1-31.3	Aligned as designed	This unit/lesson is a part of a conceptual sequence.
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG p C-8-11; TG pp C-25, C-28-31; TR 31.1; Student Sheet 31.1-31.3	Aligned as designed	This unit/lesson is a part of a conceptual sequence.
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> • Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG p C-8-11; TG pp C-25, C-28-31; TR 31.1; Student Sheet 31.1-31.3	Aligned as designed	This unit/lesson is a part of a conceptual sequence.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 32**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked. • Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis. • Work collaboratively with other students to carry out the investigations. 	SG pp C-13-15; TG pp C-46-49	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG p C-13-15; TG pp C-46-47; TR 32.1a, 32.1b and 32.2; Students Sheet 32.1	Aligned as designed	This unit/lesson is a part of a conceptual sequence.
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-13-15; TG pp C-46-49	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 32**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> • Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation). • Describe the differences between an objective summary of the findings and an inference made from the findings. 	SG pp C-15; TG pp C-48-49; TR 32.1a, 32.1b and 32	Aligned as designed	
INQH	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> • Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias. • Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence. • Engage in reflection and self-evaluation. 	SG p C-15 Analysis questions 5-7; TG pp C-48-49	Aligned with modifications (see comments)	The unit/lesson contains many opportunities to discuss the ethical issues associated with transmission of infection.
APPE	Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.	<ul style="list-style-type: none"> • Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution. 	SG pp C-12, C-15; Analysis Questions 1-4	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 33**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
SYSF	The natural and designed world is complex; it is too large and complicated to investigate and comprehend all at once. Scientists and students learn to define small portions for the convenience of investigation. The units of investigation can be referred to as “systems.”	<ul style="list-style-type: none"> Given a complex societal issue with strong science and technology components (e.g., overfishing, global warming), describe the issue from a systems point of view, highlighting how changes in one part of the system are likely to influence other parts of the system. 	SG p C-17; TG p C-63	Aligned as designed	
SYSF	The natural and designed world is complex; it is too large and complicated to investigate and comprehend all at once. Scientists and students learn to define small portions for the convenience of investigation. The units of investigation can be referred to as “systems.”	<ul style="list-style-type: none"> Given a complex societal issue with strong science and technology components (e.g., overfishing, global warming), describe the issue from a systems point of view, highlighting how changes in one part of the system are likely to influence other parts of the system. 	SG p C-17; TG p C-63; Video: Matters of Life and Death	Aligned as designed	
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-16-17; TG pp C-62-64; Video: Matters of Life and Death	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 34**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQI	Scientists and engineers have ethical codes governing animal experiments, research in natural ecosystems, and studies that involve human subjects.	<ul style="list-style-type: none"> • Demonstrate ethical concerns and precautions in response to scenarios of scientific investigations involving animal experiments, research in natural ecosystems, and studies that involve human subjects. 	SG pp C-19-20; TG pp C-68-70	Aligned as designed	
APPE	Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.	<ul style="list-style-type: none"> • Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution. 	SG pp C-19-20; TG pp C-67-70; Student Sheet 34.1	Aligned as designed	
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> • Describe scientific or technological contributions to society by people in various cultures. 	SG pp C-19-20; TG p C-68	Aligned with modifications (see comments)	Teachers need to emphasize to importance of contributions of scientist.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 35**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	SG pp C-21-26; TG pp C-75-78; Student Sheet 35.1, 35.2a 35.2b, 35.3	Aligned as designed	The unit/lesson is an integral part of a learning progression. Students learn to work with the microscope.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 36**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	SG pp C-27-29; TG pp C-95-96	Aligned with modifications (see comments)	The unit/lesson is an integral part of a learning progression. Students learn to work with the microscope.
LS1B	One-celled organisms must contain parts to carry out all life functions.	<ul style="list-style-type: none"> Draw and describe observations made with a microscope showing that a single-celled organism (e.g., paramecium) contains parts used for all life functions. 	SG pp C-27-29; TG pp C-94-96; TR 36.1	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 37**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPC	Science and technology are interdependent. Science drives technology by demanding better instruments and suggesting ideas for new designs. Technology drives science by providing instruments and research methods.	<ul style="list-style-type: none"> • Give examples to illustrate how scientists have helped solve technological problems (e.g., how the science of biology has helped sustain fisheries) and how engineers have aided science (e.g., designing telescopes to discover distant planets). 	SG pp C-31-39; TG pp C-101-105; TR 37.1; Student Sheet 37.2	Aligned as designed	
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> • Describe scientific or technological contributions to society by people in various cultures. 	SG pp C-31-39; TG pp C-101-105; TR 37.1; Student Sheet 37.2	Aligned as designed	
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> • Describe scientific or technological contributions to society by people in various cultures. 	SG pp C-31-39; TG pp C-101-105; TR 37.1; Student Sheet 37.2	Aligned as designed	Students are asked to use content in a Role Play, TG pp C-11-127.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 37**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1A	All organisms are composed of cells, which carry on the many functions needed to sustain life.	<ul style="list-style-type: none"> • Draw and describe observations made with a microscope showing that plants and animals are made of cells, and explain that cells are the fundamental unit of life. • Describe the functions performed by cells to sustain a living organism (e.g., division to produce more cells, taking in nutrients, releasing waste, using energy to do work, and producing materials the organism needs). 	SG pp C-31-34; TG p C-102; TR 37.1; Student Sheet 37.2	Aligned as designed	
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> • Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-34-39; TG pp C-101-105; TR 37.1; Student Sheet 37.2	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 38**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-41-43; TG pp C-132-134	Aligned as designed	
LS1B	One-celled organisms must contain parts to carry out all life functions.	<ul style="list-style-type: none"> • Draw and describe observations made with a microscope showing that a single-celled organism (e.g., paramecium) contains parts used for all life functions. 	SG pp C-41-43; TG pp C-132-124; TR 38.1	Aligned as designed	
LS1D	Both plant and animal cells must carry on life functions, so they have parts in common, such as nuclei, cytoplasm, cell membranes, and mitochondria. But plants have specialized cell parts, such as chloroplasts and cell walls, which provide plants their overall structure.	<ul style="list-style-type: none"> • Use labeled diagrams or models to illustrate similarities and differences between plant and animal cell structures and describe their functions (e.g., both have nuclei, cytoplasm, cell membranes, and mitochondria, while only plants have chloroplasts and cell walls). 	SG pp C-41-43; TG pp C-132-134; TR 38.1	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 39**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
SYSC	The output of one system can become the input of another system.	<ul style="list-style-type: none"> • Give an example of how output of matter or energy from a system can become input for another system 	SG pp C-44, C-47; TG pp C-144-145	Aligned with modifications (see comments)	The teacher needs to intentionally take advantage of multiple opportunities to discuss cellular respiration and photosynthesis as a system
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked. • Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis. • Work collaboratively with other students to carry out the investigations. 	SG pp C-44-47; TG pp C-140-145	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-44-47; TG pp C-140-145	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 39**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-45-47; TG pp C-141-144	Aligned as designed	
INQF	It is important to distinguish between the results of a particular investigation and general conclusions drawn from these results.	<ul style="list-style-type: none"> • Generate a scientific conclusion from an investigation using inferential logic, and clearly distinguish between results (e.g., evidence) and conclusions (e.g., explanation). • Describe the differences between an objective summary of the findings and an inference made from the findings. 	SG p C-47 Analysis Question 2d; TG pp C-144-145	Aligned as designed	
INQG	Scientific reports should enable another investigator to repeat the study to check the results.	<ul style="list-style-type: none"> • Prepare a written report of an investigation by clearly describing the question being investigated, what was done, and an objective summary of results. The report should provide evidence to accept or reject the hypothesis, explain the relationship between two or more variables, and identify limitations of the investigation. 	SG pp C-47; TG pp C-144-145	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 39**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1A	All organisms are composed of cells, which carry on the many functions needed to sustain life.	<ul style="list-style-type: none"> • Draw and describe observations made with a microscope showing that plants and animals are made of cells, and explain that cells are the fundamental unit of life. • Describe the functions performed by cells to sustain a living organism (e.g., division to produce more cells, taking in nutrients, releasing waste, using energy to do work, and producing materials the organism needs). 	SG pp C-44-47; TG pp C-140-145	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 40**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
SYSD	In an open system, matter flows into and out of the system. In a closed system, energy may flow into or out of the system, but matter stays within the system.	<ul style="list-style-type: none"> Given a description of a system, analyze and defend whether it is open or closed. 	SG pp C-49-51; TG pp C-151-153	Aligned with modifications (see comments)	The teacher needs to intentionally take advantage of multiple opportunities to discuss the cell as a closed system.
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked. Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis. Work collaboratively with other students to carry out the investigations. 	SG pp C-49-51; TG pp C-151-153	Aligned as designed	
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-40-51; TG pp C-151-153	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 40**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1A	All organisms are composed of cells, which carry on the many functions needed to sustain life.	<ul style="list-style-type: none"> • Draw and describe observations made with a microscope showing that plants and animals are made of cells, and explain that cells are the fundamental unit of life. • Describe the functions performed by cells to sustain a living organism (e.g., division to produce more cells, taking in nutrients, releasing waste, using energy to do work, and producing materials the organism needs). 	SG pp C-48, C-51; TG pp C-152-154	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 41**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG p C-53-54; TG pp C-156-158; TR 41.1	Aligned as designed	
LS1A	All organisms are composed of cells, which carry on the many functions needed to sustain life.	<ul style="list-style-type: none"> • Draw and describe observations made with a microscope showing that plants and animals are made of cells, and explain that cells are the fundamental unit of life. • Describe the functions performed by cells to sustain a living organism (e.g., division to produce more cells, taking in nutrients, releasing waste, using energy to do work, and producing materials the organism needs). 	SG p C-54, Analysis Questions; TG pp C-156-158	Aligned as designed	This unit/lesson is a part of a conceptual sequence.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 42**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1D	Both plant and animal cells must carry on life functions, so they have parts in common, such as nuclei, cytoplasm, cell membranes, and mitochondria. But plants have specialized cell parts, such as chloroplasts and cell walls, which provide plants their overall structure.	<ul style="list-style-type: none"> • Use labeled diagrams or models to illustrate similarities and differences between plant and animal cell structures and describe their functions (e.g., both have nuclei, cytoplasm, cell membranes, and mitochondria, while only plants have chloroplasts and cell walls). 	SG pp C-56-61; TG pp C-163-167; Student Sheet 42.3	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 44**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-66-67; TG pp C-186-188; Student Sheet 44.1; TR 44.1	Aligned as designed	
LS1E	In classifying organisms, scientists consider both internal and external structures and behaviors.	<ul style="list-style-type: none"> • Use a classification key to identify organisms, noting use of both internal and external structures as well as behaviors. 	SG pp C-66-67; TG pp C-185-188; Student Sheet 44.1; TR 44.1	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 45**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
SYSA	Any system may be thought of as containing subsystems and as being a subsystem of a larger system.	<ul style="list-style-type: none"> Given a system, identify subsystems and a larger encompassing system 	SG pp C-68-75; TG pp C-194-201	Aligned with modifications (see comments)	Teacher must be intentional about use of the terms system and subsystem.
LS1E	In classifying organisms, scientists consider both internal and external structures and behaviors.	<ul style="list-style-type: none"> Use a classification key to identify organisms, noting use of both internal and external structures as well as behaviors. 	SG pp C-68-75; TG pp C-194-201	Aligned as designed	This unit/lesson is a part of a conceptual sequence.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 46**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-78-80; TG pp C-212-215	Aligned as designed	This unit/lesson is a part of a conceptual sequence.
LS1D	Both plant and animal cells must carry on life functions, so they have parts in common, such as nuclei, cytoplasm, cell membranes, and mitochondria. But plants have specialized cell parts, such as chloroplasts and cell walls, which provide plants their overall structure.	<ul style="list-style-type: none"> • Use labeled diagrams or models to illustrate similarities and differences between plant and animal cell structures and describe their functions (e.g., both have nuclei, cytoplasm, cell membranes, and mitochondria, while only plants have chloroplasts and cell walls). 	SG p C-80; TG p C-215	Aligned as designed	This unit/lesson is a part of a conceptual sequence.

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 47**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked. Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis. Work collaboratively with other students to carry out the investigations. 	SG pp C-82-83; TG pp C-224-228	Aligned with modifications (see comments)	The teacher needs to be intentional about facilitating a discussion that links student hypothesis to their reasoning for the hypothesis.
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-82-83; TG pp C-226-227	Aligned as designed	
INQD	For an experiment to be valid, all (controlled) variables must be kept the same whenever possible, except for the manipulated (independent) variable being tested and the responding (dependent) variable being measured and recorded. If a variable cannot be controlled, it must be reported and accounted for.	<ul style="list-style-type: none"> Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results. 	SG pp C-82-83; TG pp C-224-228	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 48**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQA	Scientific inquiry involves asking and answering questions and comparing the answer with what scientists already know about the world.	<ul style="list-style-type: none"> • Generate a question that can be answered through scientific investigation. This may involve refining or refocusing a broad and ill-defined question. 	SG pp C-84-88; TG pp C-233-238	Aligned as designed	
INQB	Different kinds of questions suggest different kinds of scientific investigations.	<ul style="list-style-type: none"> • Plan and conduct a scientific investigation (e.g., field study, systematic observation, controlled experiment, model, or simulation) that is appropriate for the question being asked. • Propose a hypothesis, give a reason for the hypothesis, and explain how the planned investigation will test the hypothesis. • Work collaboratively with other students to carry out the investigations. 	SG pp C-84-88; TG pp C-233-238	Aligned as designed	
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-84-88; TG pp C-233-238	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 48**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQD	For an experiment to be valid, all (controlled) variables must be kept the same whenever possible, except for the manipulated (independent) variable being tested and the responding (dependent) variable being measured and recorded. If a variable cannot be controlled, it must be reported and accounted for.	<ul style="list-style-type: none"> Plan and conduct a controlled experiment to test a hypothesis about a relationship between two variables. Determine which variables should be kept the same (controlled), which (independent) variable should be systematically manipulated, and which responding (dependent) variable is to be measured and recorded. Report any variables not controlled and explain how they might affect results. 	SG pp C-84-88; TG pp C-233-238	Aligned with modifications (see comments)	Teacher must be intentional about use of the terms manipulated and responding variables.
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-84-88; TG pp C-233-238	Aligned as designed	
APPF	Solutions must be tested to determine whether or not they will solve the problem. Results are used to modify the design, and the best solution must be communicated persuasively.	<ul style="list-style-type: none"> Test the best solution by building a model or other representation and using it with the intended audience. Redesign as necessary. Present the recommended design using models or drawings and an engaging presentation. 	SG pp C-84-88; TG pp C-233-238	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 48**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-84-88; TG pp C-233-238	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 49**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> Describe how a technology has changed over time in response to societal challenges. 	SG pp C-89-94; TG pp C-243-246	Aligned as designed	
APPE	Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.	<ul style="list-style-type: none"> Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution. 	SG pp C-89-94; TG pp C-243-246; Student Sheet 49.2	Aligned as designed	
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-89-94; TG pp C-243-246	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 50**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQH	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> • Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias. • Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence. • Engage in reflection and self-evaluation. 	SG pp C-95-96; TG pp C-254-257; Student Sheet 50.1	Aligned as designed	
INQI	Scientists and engineers have ethical codes governing animal experiments, research in natural ecosystems, and studies that involve human subjects.	<ul style="list-style-type: none"> • Demonstrate ethical concerns and precautions in response to scenarios of scientific investigations involving animal experiments, research in natural ecosystems, and studies that involve human subjects. 	SG pp C-95-96; TG pp C-254-257; Student Sheet 50.1	Aligned with modifications (see comments)	Teacher must be intentional about sharing ethical concerns when experimenting with animal subjects.
APPA	People have always used technology to solve problems. Advances in human civilization are linked to advances in technology.	<ul style="list-style-type: none"> • Describe how a technology has changed over time in response to societal challenges. 	SG pp C-95-96; TG pp C-254-257	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 50**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPH	People in all cultures have made and continue to make contributions to society through science and technology.	<ul style="list-style-type: none"> Describe scientific or technological contributions to society by people in various cultures. 	SG pp C-95-96; TG pp C-254-257	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 51**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-97-99; TG pp C-261-267; Student Sheet 51.2 and 51.3	Aligned as designed	
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-97-99; TG pp C-261-267	Aligned as designed	
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> • Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-97-99; TG pp C-261-267; Student Sheet 51.1	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 52**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-100-103; TG pp C-281-283; Student Sheet 51.1	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 53**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
INQC	Collecting, analyzing, and displaying data are essential aspects of all investigations.	<ul style="list-style-type: none"> • Communicate results using pictures, tables, charts, diagrams, graphic displays, and text that are clear, accurate, and informative. • Recognize and interpret patterns – as well as variations from previously learned or observed patterns – in data, diagrams, symbols, and words. • Use statistical procedures (e.g., median, mean, or mode) to analyze data and make inferences about relationships. 	SG pp C-104-108; TG pp C-288-293; Student Sheet 53.1, 53.2, 53.3, 53.4	Aligned as designed	
INQE	Models are used to represent objects, events, systems, and processes. Models can be used to test hypotheses and better understand phenomena, but they have limitations.	<ul style="list-style-type: none"> • Create a model or simulation to represent the behavior of objects, events, systems, or processes. Use the model to explore the relationship between two variables and point out how the model or simulation is similar to or different from the actual phenomenon. 	SG pp C-104 and C-108; TG pp C-288-293	Aligned as designed	Students are asked to demonstrate their understanding of unit concepts.
INQH	Science advances through openness to new ideas, honesty, and legitimate skepticism. Asking thoughtful questions, querying other scientists' explanations, and evaluating one's own thinking in response to the ideas of others are abilities of scientific inquiry.	<ul style="list-style-type: none"> • Recognize flaws in scientific claims, such as uncontrolled variables, over generalizations from limited data, and experimenter bias. • Listen actively and respectfully to research reports by other students. Critique their presentations respectfully, using logical argument and evidence. • Engage in reflection and self-evaluation. 	SG pp C-104-108; TG pp C-288-293	Aligned as designed	

**Alignment of Washington 6-8 Science Standards with
SEPUP Cell Biology & Disease ~ Activity 53**

Standard	Content Standard	Performance Expectation	Evidence of Alignment	Alignment	Alignment Comments
APPE	Scientists and engineers often work together to generate creative solutions to problems and decide which ones are most promising.	<ul style="list-style-type: none"> Collaborate with other students to generate creative solutions to a problem, and apply methods for making tradeoffs to choose the best solution. 	SG pp C-104-108; TG pp C-288-293; Student Sheet 53.5	Aligned as designed	
APPG	The benefits of science and technology are not available to all the people in the world.	<ul style="list-style-type: none"> Contrast the benefits of science and technology enjoyed by people in industrialized and developing nations. 	SG pp C-104-108; TG pp C-288-293	Aligned with modifications (see comments)	The unit contains many opportunities to address the standards but the teacher must be intentional in presenting the differences in developed, developing and under developed nations.
LS1F	Lifestyle choices and living environments can damage structures at any level of organization of the human body and can significantly harm the whole organism.	<ul style="list-style-type: none"> Evaluate how lifestyle choices and environments (e.g., tobacco, drug, and alcohol use, amount of exercise, quality of air, and kinds of food) affect parts of the human body and the organism as a whole. 	SG pp C-104, C-108; TG pp C-288-293	Aligned as designed	Students are asked to demonstrate their understanding of unit concepts.