

Textbook Alignment to the Utah 6th Grade Science Core Curriculum Rubric

Title _____ ISBN# _____			
Publisher: _____			
Name of Person(s) conducting alignment and evaluation: _____			
Overall percentage of coverage of the Utah State Core Curriculum: _____%			
Standard I: Students will understand that the appearance of the moon changes in a predictable cycle as it orbits Earth and as Earth rotates on its axis.			
Percentage of coverage for Standard I: %			
Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 1.1: Explain patterns of changes in the appearance of the moon as it orbits Earth.	a. Describe changes in the appearance of the moon during a month.		
	b. Identify the pattern of change in the moon's appearance.		
	c. Use observable evidence to explain the movement of the moon around Earth in relationship to Earth turning on its axis and the position of the moon changing in the sky.		

	d. Design an investigation, construct a chart, and collect data depicting the phases of the moon.		
Objective 2.2: Demonstrate how the relative positions of Earth, the moon, and the sun create the appearance of the moon's phases.	a. Identify the difference between the motion of an object rotating on its axis and an object revolving in orbit.		
	b. Compare how objects in the sky (the moon, planets, stars) change in relative position over the course of the day or night.		
	c. Model the movement and relative positions of Earth, the moon, and the sun.		
Standard II: Students will understand how Earth's tilt on its axis changes the length of daylight and creates the seasons.			
Percentage of coverage for Standard II: %			
Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 2.1: Describe the relationship between the tilt of Earth's axis and its yearly orbit around the sun.	a. Describe the yearly revolution (orbit) of Earth around the sun.		
	b. Explain that Earth's axis is tilted relative to its yearly orbit around the sun.		
	c. Investigate the relationship between the amount of heat absorbed and the angle to the light source.		
Objective 2.2: Explain	a. Compare Earth's position		

how the relationship between the tilt of Earth's axis and its yearly orbit around the sun produces the seasons.	in relationship with the sun during each season.		
	b. Compare the hours of daylight and illustrate the angle that the sun's rays strikes the surface of Earth during summer, fall, winter, and spring in the Northern Hemisphere.		
	c. Use collected data to compare patterns relating to seasonal daylight changes.		
	d. Use a drawing and/or model to explain that changes in the angle at which light from the sun strikes Earth, and the length of daylight, determine seasonal differences in the amount of energy received.		
	e. Use a model to explain why the seasons are reversed in the Northern and Southern Hemispheres.		
Standard III: Students will understand the relationship and attributes of objects in the solar system.			
Percentage of coverage for Standard III: %			
Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 3.1: Describe and compare the components of the solar system.	a. Identify the planets in the solar system by name and relative location from the sun.		
	b. Using references,		

	compare the physical properties of the planets (e.g., size, solid or gaseous).		
	c. Use models and graphs that accurately depict scale to compare the size and distance between objects in the solar system.		
	d. Describe characteristics of comets, asteroids, and meteors.		
	e. Research and report on the use of manmade satellites orbiting Earth and various planets.		
Objective 3.2: Describe the use of technology to observe objects in the solar system and relate this to science's understanding of the solar system.	a. Describe the use of instruments to observe and explore the moon and planets.		
	b. Describe the role of computers in understanding the solar system (e.g., collecting and interpreting data from observations, predicting the motion of objects, operating space probes).		
	c. Relate science's understanding of the solar system to the technology used to investigate it.		
	d. Find and report on ways technology has been and is being used to investigate the solar system.		

Objective 3.3: Describe the forces that keep objects in orbit in the solar system.	a. Describe the forces holding Earth in orbit around the sun, and the moon in orbit around the Earth.		
	b. Relate a celestial object's mass to its gravitational force on other objects.		
	c. Identify the role gravity plays in the structure of the solar system.		
Standard IV: Students will understand the scale of size, distance between objects, movement, and apparent motion (due to Earth's rotation) of objects in the universe and how cultures have understood, related to and used these objects in the night sky.			
Percentage of coverage for Standard IV: %			
Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 4.1: Compare the size and distance of objects within systems in the universe.	a. Use the speed of light as a measuring standard to describe the relative distances to objects in the universe (e.g., 4.4 light years to Alpha Centauri; 0.00002 light years to the sun).		
	b. Compare the distances between objects in the solar system.		
	c. Compare the size of the Solar System to the size of the Milky Way galaxy.		
	d. Compare the size of the Milky Way galaxy to the		

	size of the known universe.		
Objective 4.2: Describe the appearance and apparent motion of groups of stars in the night sky relative to Earth and how various cultures have understood and used them.	a. Locate and identify stars that are grouped in patterns in the night sky.		
	b. Identify ways people have historically grouped stars in the night sky.		
	c. Recognize that stars in a constellation are not all the same distance from Earth.		
	d. Relate the seasonal change in the appearance of the night sky to Earth's position.		
	e. Describe ways that familiar groups of stars may be used for navigation and calendars.		
Standard V: Students will understand that microorganisms range from simple to complex, are found almost everywhere, and are both helpful and harmful.			
Percentage of coverage for Standard V: %			
Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 5.1: Observe and summarize information about microorganisms.	a. Examine and illustrate size, shape, and structure of organisms found in an environment such as pond water.		
	b. Compare characteristics common in observed organisms (e.g., color, movement, appendages, shape) and infer their		

	function (e.g., green color found in organisms that are producers, appendages help movement).		
	c. Research and report on a microorganism's requirements (i.e., food, water, air, waste disposal, temperature of environment, reproduction).		
Objective 5.2: Demonstrate the skills needed to plan and conduct an experiment to determine a microorganism's requirements in a specific environment.	a. Formulate a question about microorganisms that can be answered with a student experiment.		
	b. Develop a hypothesis for a question about microorganisms based on observations and prior knowledge.		
	c. Plan and carry out an investigation on microorganisms. {Note: Teacher must examine plans and procedures to assure the safety of students; for additional information, you may wish to read microbe safety information on Utah Science Home Page.}		
	d. Display results in appropriate format (e.g., graphs, tables, diagrams).		
	e. Prepare a written summary or conclusion to describe the results in terms		

	of the hypothesis for the investigation on microorganisms.		
Objective 5.3: Identify positive and negative effects of microorganisms and how science has developed positive uses for some microorganisms and overcome the negative effects of others.	a. Describe in writing how microorganisms serve as decomposers in the environment.		
	b. Identify how microorganisms are used as food or in the production of food (e.g., yeast helps bread rise, fungi flavor cheese, algae are used in ice cream, bacteria are used to make cheese and yogurt).		
	c. Identify helpful uses of microorganisms (e.g., clean up oil spills, purify water, digest food in digestive tract, antibiotics) and the role of science in the development of understanding that led to positive uses (i.e., Pasteur established the science, growth, and control of bacteria; Fleming isolated and developed penicillin).		
	d. Relate several diseases caused by microorganisms to the organism causing the disease (e.g., athlete's foot-fungi, streptococcus throat-bacteria, giardia-protozoa).		
	e. Observe and report on		

	microorganisms' harmful effects on food (e.g., causes fruits and vegetables to rot, destroys food bearing plants, makes milk sour).		
Standard VI: Students will understand properties and behavior of heat, light, and sound.			
Percentage of coverage for Standard VI: %			
Objectives	Indicators	If covered, appropriate page #'s	Comments on coverage
Objective 6.1: Investigate the movement of heat between objects by conduction, convection, and radiation.	a. Compare materials that conduct heat to materials that insulate the transfer of heat energy.		
	b. Describe the movement of heat from warmer objects to cooler objects by conduction and convection.		
	c. Describe the movement of heat across space from the sun to Earth by radiation.		
	d. Observe and describe, with the use of models, heat energy being transferred through a fluid medium (liquid and/or gas) by convection currents.		
	e. Design and conduct an investigation on the movement of heat energy.		
Objective 6.2: Describe how light can be produced, reflected,	a. Compare light from various sources (e.g., intensity, direction, color).		

refracted, and separated into visible light of various colors.	b. Compare the reflection of light from various surfaces (e.g., loss of light, angle of reflection, reflected color).		
	c. Investigate and describe refraction of light passing through various materials (e.g., prisms, water).		
	d. Predict and test the behavior of light interacting with various fluids (e.g., light transmission through fluids, refraction of light).		
	e. Predict and test the appearance of various materials when light of different colors is shone on the material.		
Objective 6.3: Describe the production of sound in terms of vibration of objects that create vibrations in other materials.	a. Describe how sound is made from vibration and moves in all directions from the source in waves.		
	b. Explain the relationship of the size and shape of a vibrating object to the pitch of the sound produced.		
	c. Relate the volume of a sound to the amount of energy used to create the vibration of the object producing the sound.		
	d. Make a musical instrument and report on how it produces sound.		

General Rubric

Review Category Curriculum Content Coverage	High Quality - 3	2	1	0	NA	Comments
Content matches the standards and objectives of the Utah Core Curriculum.	80% of the Utah Core and objectives are covered. Objectives are clearly stated with measurable outcomes.	70% of the Utah Core and objectives are covered. Objectives are clearly stated with measurable outcomes.	50% of the Utah Core and objectives are covered.	Less than 50% of the Utah Core and objectives are covered		
Content is delivered in an appropriate sequence.	80% of the program content is covered in an appropriate sequence matching the Utah Core.	70% of the program content is covered in an appropriate sequence matching the Utah Core.	50% of the program content is covered in an appropriate sequence matching the Utah Core.	Less than 50% of the program content is covered in an appropriate sequence matching the Utah Core.		
Content is covered with appropriate depth.	The program provides 80% or more of the necessary depth needed for appropriate instruction.	The program provides 70% or less of the necessary depth needed for appropriate instruction.	The program provides 50% or less of the necessary depth needed for appropriate instruction.	The program lacks the necessary depth needed for appropriate instruction.		
Content endorses sound research-based practices.	The program utilizes 80% or more of current research-based practices.	The program utilizes 70% or less of current research-based practices.	The program utilizes 50% or less of current research-based practices.	The program does not utilize current research-based practices.		
Content is presented accurately and in an age-appropriate manner.	Materials reflect current content knowledge without content bias. Materials utilize	Materials have some content inaccuracies, but do not show content bias.	Materials show many content inaccuracies and some content bias. Materials have very limited cross	Materials have major content inaccuracies. Materials have no cross curricular		

	cross-curricular references and experiences. Materials are age appropriate.	Materials utilize some cross-curricular references. Materials are 70% age appropriate	curricular references. Materials are approximately 50% age appropriate.	references. Materials are not age appropriate.		
Content is engaging to the student.	80% or more of the materials and activities are interesting and engaging to the student promoting purposeful learning.	Less than 80% of the materials and activities are interesting and engaging to the student promoting purposeful learning.	50% or less of the materials and activities are interesting and engaging to the student promoting purposeful learning.	Very little, if any, of the materials and activities are interesting and engaging to the student promoting purposeful learning.		
Content is differentiated to meet different abilities and needs.	There are appropriate accommodations for various developmental levels acknowledging prerequisite skills and knowledge.	70% of the program provides appropriate accommodations for various developmental levels acknowledging prerequisite skills and knowledge.	50% of the program provides appropriate accommodations for various developmental levels acknowledging prerequisite skills and knowledge.	There are few or no appropriate accommodations for various developmental levels with little acknowledgment of needed prerequisite skills and knowledge.		
Review Category Physical Qualities	High Quality - 3	2	1	0	NA	Comments
Student materials provide appropriate print, illustrations and text features.	Student materials provide appropriate use of font, illustrations and text features, (e.g., illustrations, graphs, tables).	70% of the student material provides appropriate use of font, illustrations and text features, (e.g., illustrations, graphs, tables).	50% of the student material provides appropriate use of font, illustrations and text features, (e.g., illustrations, graphs, tables).	The student materials lack appropriate use of font, illustrations, and text features, (e.g., illustrations, graphs, tables).		
Student materials provide table of contents, glossary, index, and etc.	Student materials provide necessary table of contents, indices, glossaries, and other references	Student materials provide some table of contents, indices, glossaries, and other references	Student materials provide a limited amount of table of contents, indices, glossaries, and other	Student materials provide very little, if any, table of contents, indices, glossaries, and other		

	to assist and guide students, parents, and teachers.	to assist and guide students, parents, and teachers.	references to assist and guide students, parents, and teachers.	references to assist and guide students, parents, and teachers.		
Student materials are durable.	Student materials are securely bound and reinforced.	Student materials are adequately hardbound.	Student materials have secure bindings.	Student materials have inferior bindings.		
Teacher materials are easy to use.	Teacher materials are well organized with easy to read font and good correlation with student materials.	Teacher materials are organized with easy to read font, and follow correlation with student materials.	Teacher materials are somewhat organized with hard to read font and layout. Materials provide difficult to follow correlation with student materials.	Materials are disorganized with hard to read font for teachers. Layout provides little or no correlation to student materials.		
Teacher material is durable.	Teacher materials are securely bound and reinforced while staying open and flat for teaching.	Teacher materials are adequately hardbound while staying open and flat for teaching	Teacher materials have secure bindings but do not open and lay flat to facilitate teaching.	Teacher materials have inferior bindings but do lay flat to facilitate teaching.		
Review Category Technology Qualities	High Quality - 3	2	1	0	NA	Comments
Technology provided is user friendly.	Program provides menus that are easy to read and follow. Program is user-friendly to install and requires a minimal level of computer expertise. Manuals and directions are understandable.	Program provides menus that are generally easy to read and follow. Installation requires little computer expertise. Manuals and directions are simple to understand.	Program menus are easy to read. Manuals might have to be read in detail to understand operation of technology, (e.g., laser remote, software). Installation might require some knowledge or expertise. Manuals are included.	Menus are not descriptive and hard to follow. Installation requires expertise. No manuals or written instructional materials are provided.		

Technology provided enhances the learning experience.	Technology provided is appropriate giving additional support for student learning.	Technology provided is appropriate giving some additional support for student learning.	Limited technology is provided giving little support for student learning.	No technology is provided.		
Technology has quality audio/visual attributes.	Program provides high quality audio and visual effects.	Program provides good audio and visual effects.	Program audio and visual effects are of poor quality.	No technology is available.		
Review Category Ancillary Materials	High Quality - 3	2	1	0	NA	Comments
Student ancillary materials provide appropriate supplemental instruction.	Program provides high quality student ancillary materials that enhance and supplement the delivery of instruction.	Program provides adequate student ancillary materials to enhance and supplement the delivery of instruction.	Program provides some student ancillary materials that are of limited value to supplement and enhance the delivery of instruction.	The program provides no student ancillary materials or student ancillary materials are of such poor quality and have little correlation to learning objectives that they are of no value.		
Student ancillary materials are easy to access and utilize.	Student ancillary materials are easy to access, are durable and easy to utilize.	Student ancillary materials are easy to access, are somewhat durable requiring some modification to utilize.	Student ancillary materials are difficult to access and require modification to utilize.	Student ancillary materials are of such poor quality or difficult to prepare or access that they are of little or no value.		
Parent ancillary materials are appropriate and support desired student learning	Parent ancillary materials are appropriate providing good support for desired student learning through home	Parent ancillary materials are appropriate providing adequate support for desired student learning through a variety of	Parent ancillary materials are not always appropriate nor do they provide adequate support through a variety of opportunities for	There are no parent ancillary materials available.		

	activities, homework, and practice opportunities.	opportunities and activities.	student learning.			
Review Category Assessment Materials	High Quality - 3	2	1	0	NA	Comments
A variety of assessment options are provided.	Program provides multiple assessment measures to monitor individual student progress at regular intervals.	Program provides some assessment measures to monitor individual student progress at regular intervals.	Program provides limited assessment measures to monitor individual student progress at regular intervals.	Program provides no assessment measures or measures are of such poor quality or correlation to student learning to be of any value.		
Assessment tools are appropriate to inform instruction and are aligned with the program, the Utah Core curriculum, and U-PASS.	Assessment tools are appropriate to inform the major areas of instruction and are aligned with the program and the Utah Core curriculum and U-PASS.	Assessment tools are appropriate to inform some areas of the instructional program and are adequately aligned with the program and the Utah Core curriculum and U-PASS.	Assessment tools are appropriate to inform limited areas of the instructional program and are poorly aligned with the program and the Utah Core curriculum and U-PASS.	Assessment tools are not appropriate to inform areas of the instructional program and are not aligned with the program and the Utah Core curriculum and U-PASS.		

Assessment tools are easily accessible and utilized.	Assessment tools are easily accessible with a limited amount of training or expertise.	Assessment tools are accessible with some amount of training or expertise needed.	Assessment tools are difficult to access and require extensive training.	Assessment tools are not accessible.		
Category Universal Access	High Quality - 3	2	1	0	NA	Comments
Program content accurately reflects diverse populations.	Program provides ways to adapt curriculum for all students, (e.g.,	Program provides some ways to adapt curriculum to meet special learning	Program provides limited strategies to assist special learning	Program provides no strategies to assist special learning needs of		

	special learning needs, learning disabilities, ELL, and advanced learners).	needs of students.	needs of students.	students.		
Program contents provides for the development of healthy attitudes and values.	Program accurately portrays and promotes understanding of cultural, racial, religious and diversity in society.	Program accurately portrays and promotes some understanding of cultural, racial, religious and diversity in society.	Program accurately portrays and promotes a limited understanding of cultural, racial, religious and diversity in society.	Program does not accurately portray or promote an understanding of cultural, racial, religious and diversity in society.		

I have reviewed the above program and recommend the following use: (Choose one category only.)

- (1) Instructional materials are in alignment with content philosophy and instructional strategies of the Utah Core. Materials provide comprehensive coverage of course content and support U-PASS. Materials may be used for **primary course instruction**.
- (2) Instructional materials provide limited alignment with the Utah Core or U-PASS or have a narrow or restricted scope and sequence. Use of these materials must be supplemented with necessary missing program elements for effective instruction. Materials may be used on a **limited basis with accompanying plan** for use with additional appropriate materials to assure coverage of core requirements.
 - Materials could be used to support primary course instruction - **Tier I** of the **Utah Model for Instruction and Intervention**.
 - Materials could be used to support intervention instruction - **Tier II** of the **Utah Model for Instruction and Intervention**.
 - Materials could be used to support intervention instruction - **Tier III** of the **Utah Model for instruction and Intervention**.
- (3) Materials are not for student instructional use, but may only be used only as **teacher resource material**.
- (4) Materials are aligned to the core, developmentally appropriate, may contain valuable content information, but are not intended to be used as the source for primary instruction, but **only as student resource material**.
 Materials have been reviewed, but **not adopted** because of lack of alignment, inaccurate content, misleading connotations, undesirable presentation, or are in conflict with existing law and rules, or otherwise unsuitable for use by students. **School districts are strongly cautioned against using these materials**.
 Materials were included in the publisher bid, but **not sampled** to the USOE or Textbook commission.
- Materials were not reviewed**, but may be purchased in accordance with the law and Rule **277-469-6**: Advanced placement materials, International materials, concurrent enrollment materials, library or trade books, reference materials, teacher professional materials which are not components of an integrated instructional program. Galley proofs or unfinished copies are not reviewed.

Evaluator Signature: _____

Date: _____