



**Science TEKS Transition
Analysis Resources**

November 2009

The State Board of Education (SBOE) adopted new K-12 science Texas Essential Knowledge and Skills (TEKS) in March 2009. The implementation date for these new science TEKS is the 2010-11 school year. These new curriculum standards are rigorous and include more specificity than previous standards. The new curriculum standards in grades 6-12 are also closely aligned with the College and Career Readiness Standards (CCRS).

As with all revised curriculum standards, teachers and other educators need time to prepare and to understand the changes in the standards. This document was prepared to show a number of important aspects to the new K-12 science TEKS, including the following:

1. New or expanded content in the 2010 science TEKS for a specific grade level or course
2. The outgoing movement of a science content from one grade level to another
3. The incoming movement of a science content from one grade level to another
4. Science content from the 1998 TEKS that are not included in the 2010 TEKS for a specific grade level or course

The Texas Education Agency (TEA) will provide professional development opportunities on the new science TEKS in spring/summer 2010.

We hope that these TEKS transition analysis resources will help educators prepare for the implementation of the new science TEKS in 2010-2011.

Elementary School TEKS Transition Analysis – Grades K-5
Middle School TEKS Transition Analysis – Grades 6-8
High School TEKS Transition Analysis – Biology, Chemistry, Physics, IPC

Science TEKS – Elementary School TEKS Transition Analysis

Grade K

Please note that the Knowledge and Skills (KS) statements have been omitted from this list. It will be important for teacher to understand each Student Expectation in context of the KS statement.

New or Expanded Content for Kindergarten Found in New 2010 Science TEKS

- K.1A** identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;
- K.3B** make predictions based on observable patterns in nature such as the shapes of leaves; and
- K.4A** collect information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, and notebooks; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as terrariums and aquariums; and
- K.5B** observe, record, and discuss how materials can be changed by heating or cooling.
- K.6A** use the five senses to explore different forms of energy such as light, heat, and sound;
- K.6B** explore interactions between magnets and various materials;
- K.6C** observe and describe the location of an object in relation to another such as above, below, behind, in front of, and beside;
- K.6D** observe and describe the ways that objects can move such as in a straight line, zigzag, up and down, back and forth, round and round, and fast and slow.
- K.8C** observe, describe, and illustrate objects in the sky such as the clouds, Moon, and stars, including the Sun.
- K.10C** identify ways that young plants resemble the parent plant; and

1998 Science Grade K Content REVISED AND MOVED to a Different Grade Level in 2010 TEKS

1998 TEKS	Content Being Moved to 2010 TEKS
K.6D identify parts that, when separated from the whole, may result in the part or the whole not working, such as cars without wheels and plants without roots; and	2.5D combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties.
K.9A identify basic needs of living organisms;	2.9A identify the basic needs of plants and animals;
K.10A observe and describe properties of rocks, soil, and water; and	2.7A observe and describe rocks by size, texture, and color;

1998 Content Moved from Other Grade Levels INTO 2010 TEKS – Grade K

1998 TEKS	Content Being Moved to 2010 TEKS
None	None

1998 Science TEKS Content NOT INCLUDED in the 2010 TEKS – Grade K

- K.2D** construct reasonable explanations using information; and
 - K.6D** identify parts that, when separated from the whole, may result in the part or the whole not working, such as cars without wheels and plants without roots; and
 - K.6E** manipulate parts of objects such as toys, vehicles, or construction sets that, when put together, can do things they cannot do by themselves.
 - K.7B** identify that heat causes change, such as ice melting or the Sun warming the air and compare objects according to temperature;
 - K.9C** identify ways that the Earth can provide resources for life.
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Science TEKS – Elementary School TEKS Transition Analysis

Grade 1

Please note that the Knowledge and Skills (KS) statements have been omitted from this list. It will be important for teacher to understand each Student Expectation in context of the KS statement.

New or Expanded Content for Grade 1 Found in New 2010 Science TEKS

- 1.1A** recognize and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately
- 1.2C** collect data and make observations using simple equipment such as hand lenses, primary balances, and non-standard measurement tools;
- 1.3B** make predictions based on observable patterns; and
- 1.3C** describe what scientists do.
- 1.4A** collect, record, and compare information using tools, including computers, hand lenses, primary balances, cups, bowls, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and timers; non-standard measuring items such as paper clips and clothespins; weather instruments such as classroom demonstration thermometers and wind socks; and materials to support observations of habitats of organisms such as aquariums and terrariums; and
- 1.5B** predict and identify changes in materials caused by heating and cooling such as ice melting, water freezing, and water evaporating.
- 1.6A** identify and discuss how different forms of energy such as light, heat, and sound are important to everyday life;
- 1.6B** predict and describe how a magnet can be used to push or pull an object;
- 1.6C** describe the change in the location of an object such as closer to, nearer to, and farther from; and
- 1.6D** demonstrate and record the ways that objects can move such as in a straight line, zig zag, up and down, back and forth, round and round, and fast and slow.
- 1.8A** record weather information, including relative temperature, such as hot or cold, clear or cloudy, calm or windy, and rainy or icy;
- 1.8B** observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;
- 1.8D** demonstrate that air is all around us and observe that wind is moving air.
- 1.9C** gather evidence of interdependence among living organisms such as energy transfer through food chains and animals using plants for shelter.
- 1.10A** investigate how the external characteristics of an animal are related to where it lives, how it moves, and what it eats;
- 1.10C** compare ways that young animals resemble their parents; and

1998 Science Grade 1 Content REVISED AND MOVED to a Different Grade Level

1998 TEKS	Content Being Moved to 2010 TEKS
1.6C manipulate objects such as toys, vehicles, or construction sets so that the parts are separated from the whole which may result in the part or the whole not working; and	2.5D combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties.

1998 Content Moved from Other Grade Levels INTO 2010 TEKS – Grade 1

1998 TEKS	Content Being Moved to 2010 TEKS
2.7D observe, measure, and record changes in weather, the night sky, and seasons.	1.8B observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;
2.8A identify characteristics of living organisms; and	1.9A sort and classify living and nonliving things based upon whether or not they have basic needs and produce offspring;

1998 Science TEKS Content NOT INCLUDED in the 2010 Science TEKS – Grade 1

- 1.3A** make decisions using information;
 - 1.3B** discuss and justify the merits of decisions; and
 - 1.6C** manipulate objects such as toys, vehicles, or construction sets so that the parts are separated from the whole which may result in the part or the whole not working; and
 - 1.6D** identify parts that, when put together, can do things they cannot do by themselves, such as a working camera with film, a car moving with a motor, and an airplane flying with fuel.
 - 1.9A** identify characteristics of living organisms that allow their basic needs to be met; and
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Science TEKS – Elementary School TEKS Transition Analysis

Grade 2

Please note that the Knowledge and Skills (KS) statements have been omitted from this list. It will be important for teacher to understand each Student Expectation in context of the KS statement.

New or Expanded Content for Grade 2 Found in New 2010 Science TEKS

- 2.1A identify and demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including wearing safety goggles, washing hands, and using materials appropriately;
- 2.2D record and organize data using pictures, numbers, and words;
- 2.3B make predictions based on observable patterns; and
- 2.3C identify what a scientist is and explore what different scientists do.
- 2.4A collect, record, and compare information using tools, including computers, hand lenses, rulers, primary balances, plastic beakers, magnets, collecting nets, notebooks, and safety goggles; timing devices, including clocks and stopwatches; weather instruments such as thermometers, wind vanes, and rain gauges; and materials to support observations of habitats of organisms such as terrariums and aquariums; and
- 2.5D combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties.
- 2.6B observe and identify how magnets are used in everyday life;
- 2.7A observe and describe rocks by size, texture, and color;
- 2.7C distinguish between natural and manmade resources.
- 2.8A measure, record, and graph weather information, including temperature, wind conditions, precipitation, and cloud coverage, in order to identify patterns in the data;
- 2.8B identify the importance of weather and seasonal information to make choices in clothing, activities, and transportation;
- 2.9B identify factors in the environment, including temperature and precipitation, that affect growth and behavior such as migration, hibernation, and dormancy of living things; and

1998 Science Grade 2 Content **REVISED AND MOVED** to a Different Grade Level in 2010 TEKS

1998 TEKS	Content Being Moved to 2010 TEKS
2.7D observe, measure, and record changes in weather, the night sky, and seasons.	1.8B observe and record changes in the appearance of objects in the sky such as clouds, the Moon, and stars, including the Sun;

1998 Content Moved from Other Grade Levels INTO 2010 TEKS – Grade 2

1998 TEKS	Content Being Moved to 2010 TEKS
K.6D identify parts that, when separated from the whole, may result in the part or the whole not working, such as cars without wheels and plants without roots; and 1.6C manipulate objects such as toys, vehicles, or construction sets so that the parts are separated from the whole which may result in the part or the whole not working; and	2.5D combine materials that when put together can do things that they cannot do by themselves such as building a tower or a bridge and justify the selection of those materials based on their physical properties.
K.10A observe and describe properties of rocks, soil, and water; and	2.7A observe and describe rocks by size, texture, and color;

1998 Science TEKS Content NOT INCLUDED in the 2010 Science TEKS – Grade 2

- 2.3A** make decisions using information;
 - 2.6C** observe and record the functions of plant parts; and
 - 2.6D** observe and record the functions of animal parts.
 - 2.8B** identify characteristics of nonliving objects.
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Science TEKS – Elementary School TEKS Transition Analysis

Grade 3

Please note that the Knowledge and Skills (KS) statements have been omitted from this list. It will be important for teacher to understand each Student Expectation in context of the KS statement.

New or Expanded Content for Grade 3 Found in New 2010 Science TEKS

- 3.1A** demonstrate safe practices as described in the Texas Safety Standards during classroom and outdoor investigations, including observing a schoolyard habitat; and
- 3.3A** in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;
- 3.4A** collect, record, and analyze information using tools, including microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, wind vanes, rain gauges, pan balances, graduated cylinders, beakers, spring scales, hot plates, meter sticks, compasses, magnets, collecting nets, notebooks, sound recorders, and Sun, Earth, and Moon system models; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and
- 3.5C** predict, observe, and record changes in the state of matter caused by heating or cooling; and
- 3.5D** explore and recognize that a mixture is created when two materials are combined such as gravel and sand and metal and plastic paper clips.
- 3.6A** explore different forms of energy, including mechanical, light, sound, and heat/thermal in everyday life;
- 3.6B** demonstrate and observe how position and motion can be changed by pushing and pulling objects to show work being done such as swings, balls, pulleys, and wagons; and.
- 3.6C** observe forces such as magnetism and gravity acting on objects.
- 3.7C** identify and compare different landforms, including mountains, hills, valleys, and plains; and
- 3.7D** explore the characteristics of natural resources that make them useful in products and materials such as clothing and furniture and how resources may be conserved.
- 3.8A** observe, measure, record, and compare day-to-day weather changes in different locations at the same time that include air temperature, wind direction, and precipitation;
- 3.8B** describe and illustrate the Sun as a star composed of gases that provides light and heat energy for the water cycle;
- 3.8C** construct models that demonstrate the relationship of the Sun, Earth, and Moon, including orbits and positions; and

1998 Science Grade 3 Content REVISED AND MOVED to a Different Grade Level

1998 TEKS	Content Being Moved to 2010 TEKS
3.6B identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.	4.7B observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice; and
3.8B observe and identify organisms with similar needs that compete with one another for resources such as oxygen, water, food, or space;	5.9A observe the way organisms live and survive in their ecosystem by interacting with the living and non-living elements;
3.9B analyze how adaptive characteristics help individuals within a species to survive and reproduce.	4.10A explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants;
3.11A identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources;	4.7C identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.

1998 Content Moved from Other Grade Levels INTO 2010 TEKS – Grade 3

1998 TEKS	Content Being Moved to 2010 TEKS
5.12D identify gravity as the force that keeps planets in orbit around the Sun and the moon in orbit around the Earth.	3.6C observe forces such as magnetism and gravity acting on objects.

1998 Science TEKS Content NOT INCLUDED in the 2010 Science TEKS – Grade 3

- 3.3D** evaluate the impact of research on scientific thought, society, and the environment; and
- 3.5A** observe and identify simple systems such as a sprouted seed and a wooden toy car; and
- 3.5B** observe a simple system and describe the role of various parts such as a yo-yo and string.
- 3.8D** describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home.
- 3.11B** identify and record properties of soils such as color and texture, capacity to retain water, and ability to support the growth of plants;

Science TEKS – Elementary School TEKS Transition Analysis

Grade 4

Please note that the Knowledge and Skills (KS) statements have been omitted from this list. It will be important for teacher to understand each Student Expectation in context of the KS statement.

New or Expanded Content for Grade 4 Found in New 2010 Science TEKS

- 4.1A** demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and
- 4.3A** in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;
- 4.4A** collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, mirrors, spring scales, pan balances, triple beam balances, graduated cylinders, beakers, hot plates, meter sticks, compasses, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observation of habitats of organisms such as terrariums and aquariums; and
- 4.5C** compare and contrast a variety of mixtures and solutions such as rocks in sand, sand in water, or sugar in water.
- 4.6A** differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal;
- 4.6B** differentiate between conductors and insulators;
- 4.6C** demonstrate that electricity travels in a closed path, creating an electrical circuit, and explore an electromagnetic field; and
- 4.6D** design an experiment to test the effect of force on an object such as a push or a pull, gravity, friction, or magnetism.
- 4.7C** identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.
- 4.8A** measure and record changes in weather and make predictions using weather maps, weather symbols, and a map key;
- 4.8C** collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time.
- 4.9A** investigate that most producers need sunlight, water, and carbon dioxide to make their own food, while consumers are dependent on other organisms for food; and
- 4.9B** describe the flow of energy through food webs, beginning with the Sun, and predict how changes in the ecosystem affect the food web such as a fire in a forest.

1998 Science Grade 4 Content REVISED AND MOVED to a Different Grade Level

1998 TEKS	Content Being Moved to 2010 TEKS
4.8C identify the kinds of species that lived in the past and compare them to existing species.	5.7D identify fossils as evidence of past living organisms and the nature of the environments at the time using models.
4.11B summarize the effects of the oceans on land; and	5.8B explain how the Sun and the ocean interact in the water cycle;
4.11 C identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.	5.9B describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers;

1998 Content Moved from Other Grade Levels INTO 2010 TEKS – Grade 4

1998 TEKS	Content Being Moved to 2010 TEKS
5.8A differentiate among forms of energy including light, heat, electrical, and solar energy;	4.6A differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal;
3.11B identify and record properties of soils such as color and texture, capacity to retain water, and ability to support the growth of plants;	4.7A examine properties of soils, including color and texture, capacity to retain water, and ability to support the growth of plants;
3.6B identify that the surface of the Earth can be changed by forces such as earthquakes and glaciers.	4.7B observe and identify slow changes to Earth's surface caused by weathering, erosion, and deposition from water, wind, and ice; and
3.11A identify and describe the importance of earth materials including rocks, soil, water, and gases of the atmosphere in the local area and classify them as renewable, nonrenewable, or inexhaustible resources;	4.7C identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.
5.11C identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources.	
5.6A identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles;	4.8C collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time.
3.9B analyze how adaptive characteristics help individuals within a species to survive and reproduce.	4.10A explore how adaptations enable organisms to survive in their environment such as comparing birds' beaks and leaves on plants;
5.6C describe and compare life cycles of plants and animals.	4.10C explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans.

1998 Science TEKS Content NOT INCLUDED in the 2010 Science TEKS – Grade 4

- 4.3D** evaluate the impact of research on scientific thought, society, and the environment; and
- 4.5A** identify and describe the roles of some organisms in living systems such as plants in a schoolyard, and parts in nonliving systems such as a light bulb in a circuit; and
- 4.5B** predict and draw conclusions about what happens when part of a system is removed.
- 4.6B** illustrate that certain characteristics of an object can remain constant even when the object is rotated like a spinning top, translated like a skater moving in a straight line, or reflected on a smooth surface; and
- 4.6C** use reflections to verify that a natural object has symmetry.
- 4.11B** summarize the effects of the oceans on land; and

Science TEKS – Elementary School TEKS Transition Analysis

Grade 5

Please note that the Knowledge and Skills (KS) statements have been omitted from this list. It will be important for teacher to understand each Student Expectation in context of the KS statement.

New or Expanded Content for Grade 5 Found in New 2010 Science TEKS

- 5.1A** demonstrate safe practices and the use of safety equipment as described in the Texas Safety Standards during classroom and outdoor investigations; and
- 5.2C** collect information by detailed observations and accurate measuring;
- 5.3A** in all fields of science, analyze, evaluate, and critique scientific explanations by using empirical evidence, logical reasoning, and experimental and observational testing, including examining all sides of scientific evidence of those scientific explanations, so as to encourage critical thinking by the student;
- 5.4A** collect, record, and analyze information using tools, including calculators, microscopes, cameras, computers, hand lenses, metric rulers, Celsius thermometers, prisms, mirrors, pan balances, triple beam balances, spring scales, graduated cylinders, beakers, hot plates, meter sticks, magnets, collecting nets, and notebooks; timing devices, including clocks and stopwatches; and materials to support observations of habitats or organisms such as terrariums and aquariums; and
- 5.6A** explore the uses of energy, including mechanical, light, thermal, electrical, and sound energy;
- 5.7C** identify alternative energy resources such as wind, solar, hydroelectric, geothermal, and biofuels; and
- 5.7D** identify fossils as evidence of past living organisms and the nature of the environments at the time using models.
- 5.8A** differentiate between weather and climate;
- 5.8B** explain how the Sun and the ocean interact in the water cycle
- 5.8C** demonstrate that Earth rotates on its axis once approximately every 24 hours causing the day/night cycle and the apparent movement of the Sun across the sky; and
- 5.9B** describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers;
- 5.9C** predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways; and
- 5.10C** describe the differences between complete and incomplete metamorphosis of insects.

1998 Science Grade 5 Content REVISED AND MOVED to a Different Grade Level

1998 TEKS	Content Being Moved to 2010 TEKS
5.6A identify events and describe changes that occur on a regular basis such as in daily, weekly, lunar, and seasonal cycles;	4.8C collect and analyze data to identify sequences and predict patterns of change in shadows, tides, seasons, and the observable appearance of the Moon over time.
5.6C describe and compare life cycles of plants and animals.	4.10C explore, illustrate, and compare life cycles in living organisms such as butterflies, beetles, radishes, or lima beans.
5.8A differentiate among forms of energy including light, heat, electrical, and solar energy;	4.6A differentiate among forms of energy, including mechanical, sound, electrical, light, and heat/thermal;
5.11C identify past events that led to the formation of the Earth's renewable, non-renewable, and inexhaustible resources.	4.7C identify and classify Earth's renewable resources, including air, plants, water, and animals; and nonrenewable resources, including coal, oil, and natural gas; and the importance of conservation.
5.12C identify the physical characteristics of the Earth and compare them to the physical characteristics of the moon; and	3.7C identify and compare different landforms, including mountains, hills, valleys, and plains; and
5.12D identify gravity as the force that keeps planets in orbit around the Sun and the moon in orbit around the Earth.	3.6C observe forces such as magnetism and gravity acting on objects.

1998 Content Moved from Other Grade Levels INTO 2010 TEKS – Grade 5

1998 TEKS	Content Being Moved to 2010 TEKS
4.8C identify the kinds of species that lived in the past and compare them to existing species. 4.10B draw conclusions about "what happened before" using fossils or charts and tables.	5.7D identify fossils as evidence of past living organisms and the nature of the environments at the time using models.
4.11C identify the Sun as the major source of energy for the Earth and understand its role in the growth of plants, in the creation of winds, and in the water cycle.	5.9B describe how the flow of energy derived from the Sun, used by producers to create their own food, is transferred through a food chain and food web to consumers and decomposers;
3.8D describe how living organisms modify their physical environment to meet their needs such as beavers building a dam or humans building a home.	5.9C predict the effects of changes in ecosystems caused by living organisms, including humans, such as the overpopulation of grazers or the building of highways; and

1998 Science TEKS Content NOT INCLUDED in the 2010 Science TEKS – Grade 5

- 5.3D** evaluate the impact of research on scientific thought, society, and the environment; and
- 5.5A** describe some cycles, structures, and processes that are found in a simple system; and
- 5.5B** describe some interactions that occur in a simple system.