

## A Correlation of Science and Technology for Children® to the Omaha Public Schools Science Standards and Knowledge & Skills

This document gives a quick visual guide to the alignment of Science and Technology for Children® (STC®) units with the Omaha Public Schools Science Standards and Knowledge & Skills. Although each STC unit was developed for use at a specific grade level, there is some flexibility in grade placement—any unit may be used a grade above or below the one for which it was developed. Because of this flexibility, many curriculum planners prefer to think of each unit as covering a three-level band of grades (as indicated in the chart below).

All fourth-grade through sixth-grade STC unit kits include a Discovery Deck, a set of extensions for the unit. When a Discovery Deck meets or helps to meet a learning standard, the abbreviation “DD” will follow the unit abbreviation.

### STC® Recommended Grade Levels and Unit Abbreviations

The National Science Resources Center, developer of the STC program, recommends the units be used within the following grade ranges.

	Grades	Life and Earth Science		Physical Science and Technology	
STC	K–2	<i>Organisms</i> (O)	<i>Weather</i> (W)	<i>Solids and Liquids</i> (SL)	<i>Comparing and Measuring</i> (CM)
	1–3	<i>The Life Cycle of Butterflies</i> (LCB)	<i>Soils</i> (S)	<i>Changes</i> (C)	<i>Balancing and Weighing</i> (BW)
	2–4	<i>Plant Growth and Development</i> (PGD)	<i>Rocks and Minerals</i> (RM)	<i>Chemical Tests</i> (CT)	<i>Sound</i> (So)
	3–5	<i>Animal Studies*</i> (AS)	<i>Land and Water*</i> (LW)	<i>Electric Circuits*</i> (EC)	<i>Motion and Design*</i> (MD)
	4–6	<i>Microworlds*</i> (Mw)	<i>Ecosystems*</i> (E)	<i>Food Chemistry*</i> (FC)	<i>Floating and Sinking*</i> (FS)
	5–7	<i>Experiments with Plants*</i> (EP)	<i>Measuring Time*</i> (MT)	<i>Magnets and Motors*</i> (MM)	<i>The Technology of Paper*</i> (TP)

\*Unit kit includes a Discovery Deck (DD).

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<b>Kindergarten</b>	
<b>Standards</b>	<b>STC Unit(s)</b>
<b>Standard K-01: Examine problems using scientific inquiry.</b>	
Collect information by observing sorted sets of materials.	W, SL, CM
Collect information by observing living things as they grow.	O
Collect information by observing a weather graph.	W
<b>Standard K-02: Integrate unifying concepts and processes in science experiences.</b>	
Use one or more of the 5 senses to sort common materials.	W, SL, CM (STC units never use the sense of taste)
Describe and record how illustrations can represent and	O, W, SL, CM
Describe and record how a model can represent the weather.	W
<b>Standard K-03: Observe, describe and sort common materials.</b>	
Objects can be sorted by various attributes.	W, SL, CM
Household tools can be sorted by design and use.	
Many things in our world can be recycled.	
<b>Standard K-04: Investigate and describe how living things change as they grow.</b>	
Living things change as they grow.	O
Living and non-living things are different.	O
Living creatures must satisfy basic needs in order to grow and be healthy.	O
<b>Standard K-05: Observe and describe daily and seasonal weather changes.</b>	
Each season has different weather characteristics.	
Winter	
Spring	
Summer	
Fall	
Day and night have unique characteristics.	
Stars	
Moon	
Sun	W
The sun gives us heat and light.	W
<b>Grade 1</b>	
<b>Standard 1-01: Examine problems using scientific inquiry.</b>	
Plan and conduct a simple investigation.	All STC units
<b>Standard 1-02: Integrate unifying concepts and processes in science experiences.</b>	
Use observations to sort objects by the characteristics.	W, SL, CM, S, C, BW
Explain how living things interact with their environment because of specific characteristics.	O, LCB, S
Recognize that things change in some ways and stay the same in others.	O, W, SL, LCB, S
<b>Standard 1-03: Observe and describe physical properties of materials.</b>	

Solids, liquids, and gas have unique characteristics that define their shape.	W, SL, C
Properties of matter can change.	W, SL, C
<b>Standard 1-04: Investigate and describe characteristics of living things.</b>	
Living things have specific characteristics.	
Movement	O, LCB, S
Habitat	O, LCB, S
Grow / change	O, LCB, S
Living things have basic needs.	
Food	O, LCB, S
Water	O, LCB, S
Air	O, LCB, S
Shelter	O, LCB, S
<b>Standard 1-05: Recognize and classify earth materials.</b>	
The earth's surface is affected by a variety of elements.	
Wind	W
Rain	W
Temperature	W
The earth's surface is made up of a variety of materials.	
Water	O, W, LCB, S, C
Rocks Mineral	SL, S, C
Soil	O, S, C
<b>Grade 2</b>	
<b>Standard 2-01: Examine problems using scientific inquiry.</b>	
Use data to support explanations.	All STC units
<b>Standard 2-02: Integrate unifying concepts and processes in science experiences.</b>	
Use a variety of ways, such as sketches, charts, and graphs, to explain procedures or ideas.	All STC units
<b>Standard 2-03: Investigate and describe physical changes of objects and materials.</b>	
There are three states of matter: solid, liquid, and gas.	W, SL, CT
Physical properties of matter can be measured.	
Mass	
Weight	
Volume	
Changing the temperature of matter can cause a change in its physical state.	RM, CT
<b>Standard 2-04: Investigate and compare plants and animals based on their characteristics.</b>	
Animals and plants are alike in some ways and different in other ways.	
Animals to animals	O, LCB
Plants to plants	O, PGD
Animals to plant	O, LCB, S
Plants and animals change as they grow.	O, LCB, S, PGD
Each living species has special characteristics that help it survive and reproduce.	O, LCB, S, PGD
<b>Standard 2-05: Observe and measure changes in weather.</b>	
Weather affects our daily lives.	
Normal weather variations	W
Severe weather conditions	

Weather conditions can be measured.	
Tools	W
Data collection	W
<b>Grade 3</b>	
<b>Standard 3-01: Examine problems using scientific inquiry.</b>	
Employ simple equipment and tools to gather data and extend the senses.	All STC units and Discovery Decks
Use data to support explanations.	All STC units
<b>Standard 3-02: Integrate unifying concepts and processes in science experiences.</b>	
Use evidence gathered from an investigation to develop a scientific exploration.	All STC units and Discovery Decks
Describe observable changes such as speed, pattern, shape, position, and size.	LCB, S, C, PGD, CT, So, AS, AS DD, LW, MD
<b>Standard 3-03: Observe and describe changes in sound and light.</b>	
Light and sound can bounce off a surface.	
Refraction and reflection change light in different ways. Bending of light.	
Vibration produces sound of different pitches.	So
<b>Standard 3-04: Investigate and describe life cycles of organisms.</b>	
Organisms go through stages of growth.	
Life cycle of plants	PGD
Life cycle of animals	LCB, AS
<b>Standard 3-05: Investigate and describe processes that affect the earth's surfaces.</b>	
Some humans or animal activities affect natural processes which can change the earth's surface.	
Pollution / conservation	S, RM, AS DD, LW DD
Some changes in the earth's surface happen quickly; others happen over a long period of time.	
Natural disasters	S, RM, LW, LW DD
Erosion	RM, LW
<b>Grade 4</b>	
<b>Standard 4-01: Examine problems using scientific inquiry.</b>	
Plan and conduct a simple investigation.	All STC units
<b>Standard 4-02: Integrate unifying concepts and processes in science experiences.</b>	
Describe the parts that make up a system.	LW, E, FC
Explain and answer questions about models.	PGD, So, AS, LW, LW DD, EC, MD, MD DD, E, FS, FS DD
<b>Standard 4-03: Observe and investigate properties of electricity.</b>	
A closed circuit is necessary for the transfer of energy from electricity.	EC
Some materials transfer electricity better than others.	
Conductors / insulators	EC
Magnetic forces and electrically charged objects attract and / or repel other objects.	RM, EC (magnets attract and / or repel only)
<b>Standard 4-04: Investigate and describe the relationship between living things and the environment.</b>	
Food chains are systems that are affected by and have an effect on the environment.	
Producer / consumer	E
Decomposer	E
Herbivore / omnivore / carnivore	E

Fossil evidence can provide clues to what ancient environments may have been like.	RM, Mw DD
<b>Standard 4-05: Observe and identify characteristics of earth materials.</b>	
Properties of soil, rocks, and water help us to understand how we use our earth's resources.	PGD, RM, LW, LW DD, E
Being environmentally responsible and aware of good conservation techniques will help protect resource supplies for our future.	EC DD, E
<b>Grade 5</b>	
<b>Standard 5-01: Examine problems using scientific inquiry.</b>	
Describe how the study of light and sound are reciprocal to technology.	
Communicate scientific procedures and explanations.	All STC units
Use appropriate tools and techniques to gather, analyze, and interpret data relating to weather patterns.	
<b>Standard 5-02: Integrate unifying concepts and processes in science experiences.</b>	
Demonstrate how properties of light and sound can be applied to the design of certain objects to enable objects to perform specialized tasks.	Mw, Mw DD
Interpret cause and effect relationships within and between systems.	MD, E
Select and use appropriate measurement units.	All STC units and Discovery Decks
<b>Standard 5-03: Investigate and describe properties of light and sound.</b>	
Light and sound travel in similar motions so they have similar properties.	
Waves	
Energy	
Properties of light impact humans and other organisms.	
Transfer energy of light to heat	EC, MD
Wave lengths	
Direction	
Properties of sound impact humans and other organisms.	
Pitch	
Volume	
<b>Standard 5-04: Investigate relationships among populations, resources and hazards (both human and natural) within ecosystems.</b>	
Populations in ecosystems depend upon the flow of energy and matter.	
Energy source	E
Cycles	E
Functions of organisms	E
Ecosystems are changed by nature and human-made factors.	
Climate	
Predation	E
Pollution	E
<b>Standard 5-05: Explore the processes and effects of weather and the water cycle on the earth.</b>	
Energy from the sun is the driving force of all weather.	

Water cycle	LW, E DD
Storms	
Climate	
Water and weather are affected by human interaction.	LW, LW DD (weather not included)
Properties of weather affect humans.	
Wind movement	
Health	
Finances	
<b>Grade 6</b>	
<b>Standard 6-01: Examine problems using scientific inquiry.</b>	
Formulate and test a hypothesis about a classroom motor.	MM
Evaluate changes in an environment caused by habitat destruction and pollution.	Mw DD, E, E DD, FS DD
Analyze and interpret data to identify the different layers of soil.	
<b>Standard 6-02: Integrate unifying concepts and processes in science experiences.</b>	
Recognize and describe integral parts and functions of a system (motor).	MM, MM DD
Interpret cause and effect relationships within and between systems.	E
Classify the three types of rock composition.	
<b>Standard 6-03: Investigate and explore the principles of magnetism and motors.</b>	
Energy travels by using magnetic fields, circuits, and electromagnets.	
Characteristics of magnets	MM, MM DD
Magnetic fields	MM, MM DD
Circuits	MM, MM DD
<b>Standard 6-04: Investigate the diversity of organisms on Earth and the effects of technology on populations, resources and the environment.</b>	
Organisms are built differently because they live in different environments.	
Form and function	E, EP
Types of organisms	E, E DD, EP DD
Factors affecting adaptation	EP
Natural resources	E, E DD, EP DD
<b>Standard 6-05: Examine the relationship between rocks, soils, and erosion.</b>	
The surface of the Earth is covered by different types of materials.	
Composition of soils	E
Composition of rocks	MM DD
Weathering and erosion	
Depletion of resources	E