

A Correlation of
Science and Technology for Children®

to the



Prepared by

Carolina Biological Supply Company

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**A Correlation of
Science and Technology for Children®
to the North Carolina Science Standard Course of Study
and Grade Level Competencies**

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This document gives a quick visual guide to the alignment of Science and Technology for Children® (STC®) units with the North Carolina Science Standard Course of Study and Grade Level Competencies.

All grades 4–6 STC unit kits include a Discovery Deck, a set of extensions for the unit. When a Discovery Deck meets or helps to meet a competency goal or objective, the abbreviation “DD” will follow the unit abbreviation.

NOTE: In addition to the 16 STC titles included in this correlation, Carolina Biological publishes 8 additional units in the series. Although the 8 units meet some North Carolina science competency goals and objectives, Carolina Biological chose to submit for adoption the 16 units below that most fully address North Carolina’s K–5 science standards. If your school or district wishes to purchase one of the non-submitted units, funding may be available from non-state sources. To learn more about the other STC titles, visit www.carolina.com/stc.

STC® Recommended Grade Levels and Unit Abbreviations

	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>Sound</i> (So)
	3–5	<i>Animal Studies*</i> (AS)		<i>Electric Circuits*</i> (EC)	<i>Motion and Design*</i> (MD)
	4–6		<i>Ecosystems*</i> (E)	<i>Food Chemistry*</i> (FC)	

*Unit kit includes a Discovery Deck (DD).

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SCIENCE - KINDERGARTEN

Strands: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives

COMPETENCY GOAL 2: The learner will make observations and build an understanding of weather concepts.	W
Objectives	STC Unit
2.01 Observe and report daily weather changes throughout the year.	W (year not included)
2.02 Identify different weather features including:	
Precipitation.	W
Wind.	W
Temperature.	W
Cloud cover.	W
2.03 Identify types of precipitation, changes in wind, force, direction and sky conditions.	W
2.04 Observe and determine the effects of weather on human activities.	W
2.05 Use common tools to measure weather.	W
COMPETENCY GOAL 3: The learner will make observations and build an understanding of the properties of common objects.	SL
Objectives	STC Unit
3.01 Observe and describe the properties of different kinds of objects (clay, wood, cloth, paper, other) and how they are used.	SL
3.02 Develop and use a vocabulary associated with the properties of materials:	
Color.	SL
Size.	SL
Shape.	SL
Texture.	SL
3.03 Describe how objects look, feel, smell, taste, and sound using their own senses.	SL
3.04 Observe that objects can be described and sorted by their properties.	SL
3.05 Identify some common objects and organisms that are considered to be natural resources in our world.	Compatible with SL
COMPETENCY GOAL 4: The learner will use appropriate tools and measurements to increase their ability to describe their world.	CM
Objectives	STC Unit
4.01 Describe how tools can be used to make comparisons.	CM
4.02 Observe and describe how various tools and units of measure are useful:	

Scissors.	CM
Pencils.	CM
Crayons.	CM
Paper clips.	
Hammers.	
4.03 Use nonstandard units of measure to describe and compare objects.	CM
4.04 Demonstrate the use of standard units of measure and compare with nonstandard units of measure. (Teacher demonstration)	CM
4.05 Demonstrate that standard units of measure produce more consistent results than nonstandard units, allowing information to be shared. (Teacher demonstration)	CM
SCIENCE - GRADE 1	
Strands: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives	
COMPETENCY GOAL 1: The learner will conduct investigations and make observations to build an understanding of the needs of living organisms.	O
Objectives	STC Unit
1.01 Investigate the needs of a variety of different plants:	
Air.	O
Water.	O
Light.	O
Space.	O
1.02 Investigate the needs of a variety of different animals:	
Air.	O
Water.	O
Food.	O
Shelter.	O
Space.	O
1.03 Observe the ways in which humans are similar to other organisms.	O
1.04 Identify local environments that support the needs of common North Carolina plants and animals.	
1.05 Discuss the wide variety of living things on Earth.	O
COMPETENCY GOAL 3: The learner will make observations and conduct investigations to build an understanding of the properties and relationship of objects.	SL
Objectives	STC Unit
3.01 Describe the differences in the properties of solids and liquids.	SL

3.02 Investigate several ways in which objects can be described, sorted or classified.	SL
3.03 Classify solids according to their properties:	
Color.	SL
Texture.	Compatible with SL
Shape (ability to roll or stack).	SL
Ability to float or sink in water.	SL
3.04 Determine the properties of liquids:	
Color.	SL
Ability to float or sink in water.	SL
Tendency to flow.	SL
3.05 Observe mixtures including:	
Solids with solids.	
Liquids with liquids.	SL
Solids with liquids.	SL
COMPETENCY GOAL 4: The learner will make observations and conduct investigations to build an understanding of balance, motion and weighing of objects.	BW
Objectives	STC Unit
4.01 Describe different ways in which objects can be moved.	BW
4.02 Observe that movement of an object can be affected by pushing or pulling.	
4.03 Investigate and observe that objects can move steadily or change direction.	BW
4.04 Observe and describe balance as a function of position and weight.	BW
4.05 Describe and observe systems that are unstable and modify them to reach equilibrium.	BW
SCIENCE - GRADE 2	
Strands: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives	
COMPETENCY GOAL 1: The learner will conduct investigations and build an understanding of animal life cycles.	LCB
Objectives	STC Unit
1.01 Describe the life cycle of animals including:	
Birth.	LCB
Developing into an adult.	LCB
Reproducing.	LCB
Aging and death.	LCB
1.02 Observe that insects need food, air and space to grow.	LCB
1.03 Observe the different stages of an insect life cycle.	LCB

1.04 Compare and contrast life cycles of other animals such as mealworms, ladybugs, crickets, guppies or frogs.	LCB
COMPETENCY GOAL 3: The learner will observe and conduct investigations to build an understanding of changes in properties.	C
Objectives	STC Unit
3.01 Identify three states of matter:	
Solid.	C
Liquid.	C
Gas.	C
3.02 Observe changes in state due to heating and cooling of common materials.	C
3.03 Explain how heat is produced and can move from one material or object to another.	C (heat is produced only)
3.04 Show that solids, liquids and gases can be characterized by their properties.	C
3.05 Investigate and observe how mixtures can be made by combining solids, liquids or gases and how they can be separated again.	C
3.06 Observe that a new material is made by combining two or more materials with properties different from the original material.	C
COMPETENCY GOAL 4: The learner will conduct investigations and use appropriate technology to build an understanding of the concepts of sound.	So
Objectives	STC Unit
4.01 Demonstrate how sound is produced by vibrating objects and vibrating columns of air.	So
4.02 Show how the frequency can be changed by altering the rate of the vibration.	So
4.03 Show how the frequency can be changed by altering the size and shape of a variety of instruments.	So
4.04 Show how the human ear detects sound by having a membrane that vibrates when sound reaches it.	So
4.05 Observe and describe how sounds are made by using a variety of instruments and other "sound makers" including the human vocal cords.	So
SCIENCE - GRADE 3	
Strands: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives	
COMPETENCY GOAL 1: The learner will conduct investigations and build an understanding of plant growth and adaptations.	PGD

Objectives	STC Unit
1.01 Observe and measure how the quantities and qualities of nutrients, light, and water in the environment affect plant growth.	PGD
1.02 Observe and describe how environmental conditions determine how well plants survive and grow in a particular environment.	PGD
1.03 Investigate and describe how plants pass through distinct stages in their life cycle including:	
Growth.	PGD
Survival.	PGD
Reproduction.	PGD
1.04 Explain why the number of seeds a plant produces depends on variables such as light, water, nutrients, and pollination.	PGD
1.05 Observe and discuss how bees pollinate flowers.	PGD
1.06 Observe, describe and record properties of germinating seeds.	PGD
COMPETENCY GOAL 2: The learner will conduct investigations to build understanding of soil properties.	S
Objectives	STC Unit
2.01 Observe and describe the properties of soil:	
Color.	S
Texture.	S
Capacity to hold water.	S
2.02 Investigate and observe that different soils absorb water at different rates.	S
2.03 Determine the ability of soil to support the growth of many plants, including those important to our food supply.	S
2.04 Identify the basic components of soil:	
Sand.	S
Clay.	S
Humus.	S
2.05 Determine how composting can be used to recycle discarded plant and animal material.	S
2.06 Determine the relationship between heat and decaying plant matter in a compost pile.	S
SCIENCE - GRADE 4	
Strands: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives	
COMPETENCY GOAL 1: The learner will make observations and conduct investigations to build an understanding of animal behavior and adaptation.	AS

Objectives	STC Unit
1.01 Observe and describe how all living and nonliving things affect the life of a particular animal including:	
Other animals.	AS, AS DD
Plants.	AS, AS DD
Weather.	
Climate.	AS
1.02 Observe and record how animals of the same kind differ in some of their characteristics and discuss possible advantages and disadvantages of this variation.	AS
1.03 Observe and discuss how behaviors and body structures help animals survive in a particular habitat.	AS, AS DD
1.04 Explain and discuss how humans and other animals can adapt their behavior to live in changing habitats.	AS
1.05 Recognize that humans can understand themselves better by learning about other animals.	AS DD
COMPETENCY GOAL 2: The learner will conduct investigations and use appropriate technology to build an understanding of the composition and uses of rocks and minerals.	RM
Objectives	STC Unit
2.01 Describe and evaluate the properties of several minerals.	RM
2.02 Recognize that minerals have a definite chemical composition and structure, resulting in specific physical properties including:	
Hardness.	RM
Streak color.	RM
Luster.	RM
Magnetism.	RM
2.03 Explain how rocks are composed of minerals.	RM
2.04 Show that different rocks have different properties.	RM
2.05 Discuss and communicate the uses of rocks and minerals.	RM
2.06 Classify rocks and rock-forming minerals using student-made rules.	RM
2.07 Identify and discuss different rocks and minerals in North Carolina including their role in geologic formations and distinguishing geologic regions.	
COMPETENCY GOAL 3: The learner will make observations and conduct investigations to build an understanding of magnetism and electricity.	EC

Objectives	STC Unit
3.01 Observe and investigate the pull of magnets on all materials made of iron and the pushes or pulls on other magnets.	
3.02 Describe and demonstrate how magnetism can be used to generate electricity.	
3.03 Design and test an electric circuit as a closed pathway including an energy source, energy conductor, and an energy receiver.	EC
3.04 Explain how magnetism is related to electricity.	EC
3.05 Describe and explain the parts of a light bulb.	EC
3.06 Describe and identify materials that are conductors and nonconductors of electricity.	EC
3.07 Observe and investigate that parallel and series circuits have different characteristics.	EC
3.08 Observe and investigate the ability of electric circuits to produce light, heat, sound, and magnetic effects.	EC
3.09 Recognize lightning as an electrical discharge and show proper safety behavior when lightning occurs.	EC DD
COMPETENCY GOAL 4: The learner will conduct investigations and use appropriate technology to build an understanding of how food provides energy and materials for growth and repair of the body.	FC
Objectives	STC Unit
4.01 Explain why organisms require energy to live and grow.	FC, FC DD
4.02 Show how calories can be used to compare the chemical energy of different foods.	FC
4.03 Discuss how foods provide both energy and nutrients for living organisms.	FC
4.04 Identify starches and sugars as carbohydrates.	FC
4.05 Determine that foods are made up of a variety of components.	FC
SCIENCE - GRADE 5	
Strands: Nature of Science, Science as Inquiry, Science and Technology, Science in Personal and Social Perspectives.	
COMPETENCY GOAL 1: The learner will conduct investigations to build an understanding of the interdependence of plants and animals.	E

Objectives	STC Unit
1.01 Describe and compare several common ecosystems (communities of organisms and their interaction with the environment).	E
1.02 Identify and analyze the functions of organisms within the population of the ecosystem:	
Producers.	E
Consumers.	E
Decomposers.	E
1.03 Explain why an ecosystem can support a variety of organisms.	E
1.04 Discuss and determine the role of light, temperature, and soil composition in an ecosystem's capacity to support life.	E
1.05 Determine the interaction of organisms within an ecosystem.	E
1.05 Explain and evaluate some ways that humans affect ecosystems.	
Habitat reduction due to development.	E
Pollutants.	E, E DD
Increased nutrients.	E
1.06 Determine how materials are recycled in nature.	
COMPETENCY GOAL 4: The learner will conduct investigations and use appropriate technologies to build an understanding of forces and motion in technological designs.	MD
Objectives	STC Unit
4.01 Determine the motion of an object by following and measuring its position over time.	MD
4.02 Evaluate how pushing or pulling forces can change the position and motion of an object.	MD
4.03 Explain how energy is needed to make machines move.	
Moving air.	MD
Gravity.	MD
4.04 Determine that an unbalanced force is needed to move an object or change its direction.	MD
4.05 Determine factors that affect motion including:	
Force.	MD
Friction.	MD
Inertia.	MD
Momentum.	MD
4.06 Build and use a model to solve a mechanical design problem.	
Devise a test for the model.	MD
Evaluate the results of test.	MD
4.07 Determine how people use simple machines to solve problems.	MD, MD DD