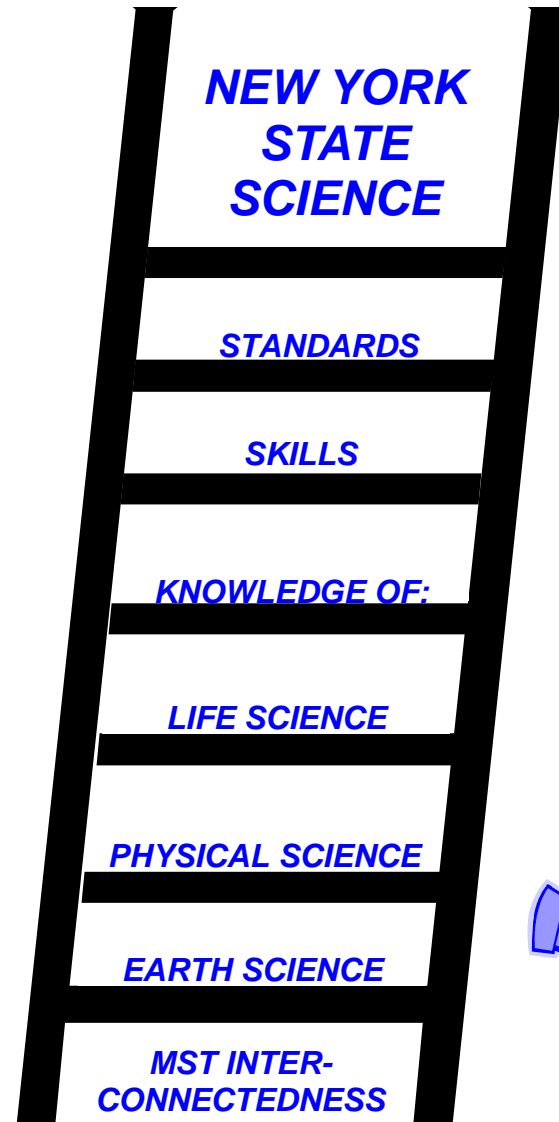
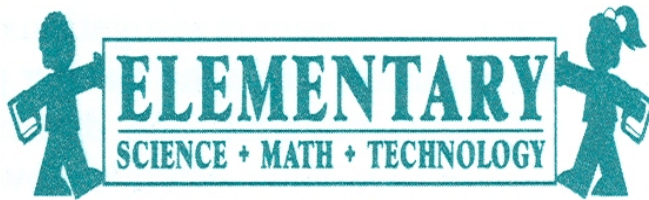


ONEIDA-HERKIMER- MADISON BOCES

SCIENCE SCOPE & SEQUENCE

READINESS-
GRADE SIX



(Math, Science & Technology)



ONEIDA-HERKIMER-MADISON BOCES.

SCIENCE KIT PROGRAM SCOPE AND SEQUENCE CHARTS

The information in this “Scope and Sequence” booklet should be helpful to teachers as they continue in their efforts to plan their school year and to help improve the teaching and learning process for their students. The kit manuals were developed by teachers to serve the diverse needs of all students. The following page of this “Science Scope and Sequence” document lists the BOCES Science kits and the amount of time a teacher should need to teach both the science content and skills during a school year based on the *New York Math, Science and Technology Standards*.

With teaching time being so precious, many of the lessons in the kits are integrated with the other curriculum areas, since all students learn best through a multiple intelligence approach. Using science content is helpful and meaningful to students learning to read non-fiction text for meeting the *English Language Arts (ELA) Standards*. Also, the science process aids students in retaining math skill information through the application of knowledge. These charts do not list the *ELA* and *Math Standards* but the individual lessons in the manuals do list this integration.

Also, these charts do not indicate the positive attitudes we hope all children will gain from practicing a “hands-on” inquiry based science program. It is through having these positive experiences with science that students will desire to continue to take science courses at both the high school and college level. Studies have shown that individuals who eventually pursue science as a career point to very early positive experiences at an age of 7 or younger.¹

Note that under the “skills” column, safety issues have been stressed and every effort has been made to ensure that the materials provided in the kits are safe for young children with additional safety information listed as a pdf file under the Oneida BOCES website. The Science Center web address is:

www.ohmboces.org/ppd_elem_science_program.htm.

The “*skills*” column heading in **Elementary Science Core Curriculum Guide** is written in Roman numerals; while at the **New York State Science Intermediate Level** they are divided into different categories and written as *General Skills (GS)* *Living Environment Skills (LE)* and *Physical Setting Skills (PS)*. If a kit can be used by both the elementary or middle school level it will contain skill listings from both the **Elementary and Intermediate Science Core Curriculum Guides**. Also, on the following charts for the intermediate level districts may chose their kits depending on their own individual curriculum sequence based on the appropriate **New York State Science Core Curriculum Documents**.

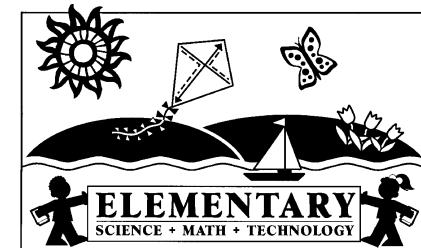
The charts are listed by specific kits and grade levels tied to the following areas of the **New York State Core Curriculum Documents** and are color coded: *General skills/ Process skills (red)*; *Standard 4- Living Environment (green)*; *Standard 4- Physical Setting* is further divided into two color coded areas as *Earth science (blue)* and *physics/chemistry (brown)*.

With the integrated nature of the **Math, Science and Technology Standards**, *Standard 6 – Interconnectedness* and *Standard 7 – Interdisciplinary* were included on the chart, along with *Standard 1- Scientific Inquiry*, *Mathematical Analysis*, and *Engineering Design*, which is only listed for the sixth grade kits. These standards are listed under the gray heading and are written in dark gray in the last column on the chart. To keep the document easy and manageable for the individual teacher *Standard 1* which deals with the *Scientific Method of Inquiry* has not been included on the charts at the pre-K – Grade five levels, but is listed in specific lessons in each manual if appropriate.

This document continues to be a work in progress and if you have any suggestions and comments feel free to forward them to me pzuck@oneida-boces.org

¹ Shannan McNair, Ed., *Start Young! Early Childhood Science Activities* (NSTA Press, Arlington, VA, 2006)

“*Achieving Excellence In Our Schools*”



**SCOPE AND SEQUENCE CHART:
GRADE / SCIENCE KIT**

GRADE	SKILLS 4-6 wks.*	LIFE	EARTH	MST	PHYSICAL
Readiness	Health & Safety* (2 areas; one kit)	Changes in Frogs (4 wks.) Changes In Plants (4 wks.) Nutrition-(4 wks.) Health & Safety-(6 wks.)			
Kindergarten	Senses*	Hermit Crabs Plus Plants (12 wks.)			Seeing is Believing (12 wks.)
One	Matching*	Goldfish(5 wks.) OR Animal Characteristics (5 wks.) Plant Characteristics (5 wks.)			Common Objects (10 wks.)
Two	Sorting*	Life Stages (12 wks)			Physical Interactions (10 wks)
Three	Gather, Graph* and the Weather (2 areas; one kit)	Life Cycles In Nature (12 wks.)	Gather, Graph and the Weather (6 wks.)		Exploring Changes in our World (10 wks) OR Sound (6 wks.)
Four	Data Data* Plus Astronomy (2 areas, one kit)	Plants, Prey and Predators (6 wks.)	Landforms & Boulders (10 wks.) Data Data Plus Astronomy (5 wks)		Buoyancy (5 wks) OR Chemical Relationships Gr. 4/5 (10 wks.) OR Energy In Our World (10 wks.)
Five	Introduction to Controlled Studies*	Classifying Plants and Animals (10 wks.)	Weather Gr. 5/6 (5 wks.) Outer Space (6 wks.) Grade 5/6	MST Links Gr. 5/6 (5 wks.)	Simple Machines (6 wk.) Grade 5/6
Six	Experimenting*	Brine Shrimp (6 wk.) and/or Environmental Factors (7 wks.)	Rocks & Minerals (8 wks.) Grade 5/6		Looking At Liquids (9 wks.) OR Energy (12 wks.)

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting	Standard 6 Interconnectedness Standard 7 Interdisciplinary
			Earth	
Changes in Frogs	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom & field</u> ii. <u>Using simple science tools safely & accurately</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 	<ul style="list-style-type: none"> 2. <u>Earth's interactions with components</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-4. <u>Equilibrium and Stability</u> 7-1. <u>Connections</u>
Changes In Plants	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom & field</u> ii. <u>Using simple science tools safely & accurately</u> iii. <u>Develop appreciation & respect for learning</u> ix. <u>Order and sequence objects and/or events</u> xiv. <u>Observe, identify and communicate patterns</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 6. <u>Plants and animals depend on each other</u> 	<ul style="list-style-type: none"> 2. <u>Earth's interactions with components</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-5. <u>Patterns of Change</u>
Nutrition	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom & field</u> ii. <u>Using science tools safely and accurately</u> iv. <u>Manipulate materials through direction</u> x. <u>Classify objects according to an established scheme</u> xiv. <u>Observe, identify and communicate patterns</u> xix. <u>Make predictions based on prior knowledge and/or experience</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 		<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-5. <u>Patterns of Change</u> 7-1. <u>Connections</u>
Health & Safety	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom & field</u> ix. <u>Order and sequence objects and/or events</u> x. <u>Classify objects according to an established scheme</u> xii. <u>Utilize senses optimally to make observations</u> 	<ul style="list-style-type: none"> 3. <u>Organisms change over time</u> 5. <u>Dynamic equilibrium that sustains life</u> 		<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 7-1. <u>Connections</u>

**SCOPE AND SEQUENCE CHART
KINDERGARTEN**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
Senses	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom & field</u> ii. <u>Using science tools safely and accurately</u> ix. <u>Order and sequence objects and/or events</u> xiv. <u>Observe, identify and communicate patterns</u> xii. <u>Utilize senses optimally for observations</u> xviii. <u>Collect and organize data choosing appropriate representation</u> 	<ul style="list-style-type: none"> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 		<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 7-1. <u>Connections</u>
Hermit Crabs Plus Plants	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> xiv. <u>Observe, identify & communicate patterns</u> xx. <u>Compare and contrast organisms/objects/events</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u> 		<ul style="list-style-type: none"> 6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u>
Seeing Is Believing	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iv. <u>Manipulate materials through direction</u> ix. <u>Order and sequence objects and/or events</u> xiv. <u>Observe, identify & communicate patterns</u> xviii. <u>Collect and organize data choosing the appropriate representation</u> xix. <u>Make predictions based on prior knowledge and/or experience</u> 		<ul style="list-style-type: none"> 1. <u>Relative motion of earth and celestial phenomena</u> 2. <u>Earth's interactions with components</u> 3. <u>Properties of matter</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-5. <u>Patterns of Change</u>

**SCOPE AND SEQUENCE CHART
GRADE ONE**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
Matching	<ul style="list-style-type: none"> ii. <u>Using science tools safely and accurately</u> x. <u>Classify objects according to an established scheme</u> xiii. <u>Observe, analyze, report observations</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 3. <u>Organisms change over time</u> 	<ul style="list-style-type: none"> 3. <u>Properties of matter</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-4. <u>Equilibrium and Stability</u> 6-5. <u>Patterns of Change</u>
Goldfish OR Animal Characteristics	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> <ul style="list-style-type: none"> x. <u>Classify objects according to an established scheme</u> xv. <u>Observe, identify and communicate cause and effect relationships</u> xviii. <u>Collect and organize data choosing the appropriate representation</u> xix. <u>Make predictions based on prior knowledge and/or experience</u> xx. <u>Compare and contrast organisms/ objects/events</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 2. <u>Genetic information and inherited traits</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 6. <u>Plants and animals depend on each other</u> 		<ul style="list-style-type: none"> 6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u>

**SCOPE AND SEQUENCE CHART
GRADE ONE (continued)**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
Plant Characteristics	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> ix. <u>Order and sequence objects/events</u> xiv. <u>Observe, identify & communicate patterns</u> xvii. <u>Collect and organize data choosing appropriate representation</u> xx. <u>Compare and contrast organisms/objects/events</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u> 	<ul style="list-style-type: none"> 2. <u>Earth's interactions with components</u> 	<ul style="list-style-type: none"> 6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 7-1. <u>Connections</u>
Common Objects	<ul style="list-style-type: none"> ii. <u>Using science tools safely and accurately</u> x. <u>Classify objects according to an established scheme</u> xi. <u>Generate a scheme for classification</u> xiv. <u>Observe, identify and communicate patterns</u> xix. <u>Make predictions based on prior knowledge and/or experience</u> xx. <u>Compare and contrast organisms/objects/events</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 7. <u>Human activities impact on environment</u> 	<ul style="list-style-type: none"> 1. <u>Relative motion of earth and celestial phenomena</u> 2. <u>Earth's interactions with components</u> 3. <u>Properties of matter</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 7-1. <u>Connections</u>

**SCOPE AND SEQUENCE CHART
GRADE TWO**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
Sorting	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> vi. <u>Select appropriate standard and nonstandard measurement tools</u> vii. <u>Estimate, find & communicate measurements</u> xiii. <u>Observe, analyze & report observations</u> ix. <u>Order and sequence objects and/or events</u> xv. <u>Observe, analyze, communicate cause and effect relationships</u> xx. <u>Compare and contrast organisms/ objects/events</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 7. <u>Human activities impact on environment</u> 	<ul style="list-style-type: none"> 3. <u>Properties of matter</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 7-1. <u>Connections</u>
Life Stages	<ul style="list-style-type: none"> i. <u>Safety procedure in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> ix. <u>Order and sequence objects and/or events</u> x. <u>Classify objects according to an established scheme</u> xvii. <u>Collect and organize data and interpret results</u> xviii. <u>Collect and organize data choosing the appropriate representation</u> xix. <u>Make predictions based on prior knowledge and experience</u> xx. <u>Compare and contrast organisms/ objects/events</u> xxii. <u>Plan, design and implement investigation</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 2. <u>Genetic information and inherited traits</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u> 		<ul style="list-style-type: none"> 6-2. <u>Constructing Models:</u> 6-4. <u>Equilibrium and Stability</u> 7-1. <u>Connections</u>

**SCOPE AND SEQUENCE CHART
GRADE TWO (continued)**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
<p>Physical Interactions</p>	<ul style="list-style-type: none"> i. <u>Safety procedures in classroom and field</u> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> ix. <u>Order and sequence of events</u> x. <u>Classify objects according to an established scheme</u> xiii. <u>Observe, analyze and report observations</u> xiv. <u>Observe, identify & communicate patterns</u> xvii. <u>Collect, observe, organize data and interpret results</u> xix. <u>Make predictions based on prior knowledge and experience</u> xxi. <u>Identify and control variables/factors</u> xxii. <u>Plan, design and implement investigation</u> 	<ul style="list-style-type: none"> 5. <u>Dynamic equilibrium that sustains life</u> 	<ul style="list-style-type: none"> 1. <u>Relative motion earth & celestial phenomena</u> 2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 7-1. <u>Connections</u>

**SCOPE AND SEQUENCE CHART:
GRADE THREE**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
<p><i>Gather, Graph and the Weather</i></p>	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> v. <u>Use information systems appropriately</u> x. <u>Classify objects according to an established scheme</u> xiii. <u>Observe, analyze and report observations</u> xvii. <u>Observe, collect, organize data and interpret results</u> xix. <u>Make predictions based on prior knowledge and experience</u> 	<ul style="list-style-type: none"> 3. <u>Organisms change over time</u> 	<ul style="list-style-type: none"> 1. <u>Relative motion of earth and celestial phenomena</u> 2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing models</u> 6-3. <u>Magnitude and scale</u> 6-5. <u>Patterns of change</u>
<p><i>Life Cycles In Nature</i></p>	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> ix. <u>Order and sequence objects and/or events</u> xvii. <u>Observe, collect, organize data and interpret results</u> xviii. <u>Collect and organize data choosing the appropriate representation</u> xix. <u>Make predictions based on prior knowledge and experience</u> xx. <u>Compare and contrast organisms/objects/ events</u> xxii. <u>Plan, design & implement investigation</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 2. <u>Genetic information and inherited traits</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u> 		<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 7-1. <u>Connections</u>

**SCOPE AND SEQUENCE CHART:
GRADE THREE (continued)**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting	Standard 6 Interconnectedness Standard 7 Interdisciplinary
			Earth	
Exploring Changes In Our World	<ul style="list-style-type: none"> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> iv. <u>Manipulate materials through direction</u> <ul style="list-style-type: none"> x. <u>Classify objects according to an established scheme</u> xiii. <u>Observe, analyze & report observations</u> xv. <u>Observe, identify and communicate cause and effect relationships</u> xvii. <u>Observe, collect, organize data and interpret results</u> xviii. <u>Collect and organize data using appropriate representation</u> xix. <u>Make predictions based on prior knowledge and experience</u> 	<ul style="list-style-type: none"> 3. <u>Organisms change over time</u> 5. <u>Dynamic equilibrium that sustains life</u> 7. <u>Human activities impact on environment</u> 	<ul style="list-style-type: none"> 1. <u>Relative motion of earth and celestial phenomena</u> 2. <u>Earth's interactions with components</u> <ul style="list-style-type: none"> 3. <u>Properties of matter</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 	<ul style="list-style-type: none"> 6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 6-5. <u>Patterns of Change</u>

**SCOPE AND SEQUENCE CHART:
GRADE THREE/FOUR**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting	Standard 6 Interconnectedness Standard 7 Interdisciplinary
			Earth	
Sound	<ul style="list-style-type: none"> i. <u>Safety procedures in classroom and field</u> iv. <u>Manipulate materials through teacher direction</u> <ul style="list-style-type: none"> xi. <u>Generate a scheme for classification</u> xii. <u>Utilize senses optimally for observations</u> xvii. <u>Observe, collect, organize data and interpret results</u> xix. <u>Make predictions based on prior knowledge and experience</u> xx. <u>Compare and contrast organisms/ objects/events</u> 	<ul style="list-style-type: none"> 3. <u>Organisms change over time</u> 	<ul style="list-style-type: none"> 3. <u>Properties of matter</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 	<ul style="list-style-type: none"> 6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u>

**SCOPE AND SEQUENCE CHART:
GRADE FOUR (continued)**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
<p><i>Plants, Prey and Predators</i></p>	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom & field</u> iii. <u>Develop appreciation & respect for learning</u> iv. <u>Manipulate materials through direction</u> v. <u>Use information systems appropriately</u> <ul style="list-style-type: none"> x. <u>Classify objects according to an established scheme</u> xii. <u>Utilize senses optimally for observations</u> xiii. <u>Observe, analyze and report observations</u> xiv. <u>Observe, identify and communicate patterns</u> <ul style="list-style-type: none"> xvi. <u>Generate appropriate questions in response to observations and experience</u> xviii. <u>Collect and organize data choosing the appropriate representation</u> xix. <u>Make predictions based on prior information and experience</u> xx. <u>Compare and contrast organisms/objects/ events</u> xxiii. <u>Communicate procedures & conclusions through oral and written presentations</u> 	<ul style="list-style-type: none"> 1. <u>Living things are both similar to and different from non-living things</u> 2. <u>Genetic information and inherited traits</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment extinction of species</u> 		<ul style="list-style-type: none"> 6-1. <u>Systems</u> 6-2. <u>Constructing Models</u> 7-1. <u>Connections</u>

**SCOPE AND SEQUENCE CHART:
GRADE FOUR (continued)**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
Data Data Plus Astronomy	<ul style="list-style-type: none"> i. <u>Safety procedures in classroom and field</u> ii. <u>Using science tools safely and accurately</u> v. <u>Use information systems appropriately</u> vi. <u>Select appropriate standard and non-standard measurement tools</u> vii. <u>Estimate, find & communicate measurement</u> viii. <u>Use and report appropriate units for measured or calculated value</u> xi. <u>Generate a scheme for classification</u> xiii. <u>Observe, analyze and report observations</u> xvii. <u>Observe, collect, organize data and interpret results</u> 	<ul style="list-style-type: none"> 3. <u>Organisms change over time</u> 7. <u>Human activities impact on environment</u> 	<ul style="list-style-type: none"> 1. <u>Relative motion of earth and celestial phenomena</u> 3. <u>Properties of matter</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 7-1. <u>Connections</u>
Landforms and Boulders	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iii. <u>Develop appreciation & respect for learning</u> iv. <u>Manipulate materials through direction</u> vi. <u>Select appropriate standard and nonstandard measurement tools</u> xii. <u>Utilize senses optimally for observations</u> xiii. <u>Observe, analyze and report observations</u> xv. <u>Observe, identify and communicate cause and effect relationships</u> xix. <u>Make predictions based on prior knowledge and experience</u> 	<ul style="list-style-type: none"> 3. <u>Organisms Change Over Time</u> 	<ul style="list-style-type: none"> 2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u>

**SCOPE AND SEQUENCE CHART:
GRADE FOUR**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
<p><i>Buoyancy (Gr. 3/4)</i></p>	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately</u> iv. <u>Manipulate materials through direction</u> vii. <u>Estimate, find & communicate measurements</u> viii. <u>Use and report appropriate units for measured or calculated value</u> ix. <u>Order and sequence objects and/or events</u> xiii. <u>Observe, analyze, report observations</u> xvii. <u>Observe, collect, organize data and interpret results</u> xviii. <u>Collect and organize data choosing the appropriate representation</u> xix. <u>Make predictions based on prior knowledge and experience</u> xx. <u>Compare and contrast organisms/ objects/events</u> 		<ul style="list-style-type: none"> 2. <u>Earth's interactions with components</u> 3. <u>Properties of matter</u> 	<p>6-2. <u>Constructing Models</u></p>
<p><i>Energy in our World</i></p>	<ul style="list-style-type: none"> i. <u>Safety procedures in the classroom and field</u> ii. <u>Using science tools safely and accurately.</u> iv. <u>Manipulate materials through direction</u> xiii. <u>Observe, analyze and report observations</u> xvii. <u>Observe, collect, organize data and interpret results</u> xv. <u>Observe, identify, and communicate</u> xix. <u>Make predictions based on prior knowledge and experience</u> xx. <u>Compare and contrast organisms/ objects/events</u> xxii. <u>Plan, design & implement investigation</u> 	<ul style="list-style-type: none"> 5. <u>Dynamic equilibrium that sustains life</u> 7. <u>Human activities impact on environment</u> 	<ul style="list-style-type: none"> 1. <u>Relative motion of Earth and celestial phenomena</u> 2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u> 	<ul style="list-style-type: none"> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 6-5. <u>Patterns of Change</u>

**SCOPE AND SEQUENCE CHART: overlapping of skills K-4, 5-8
GRADE FOUR/FIVE**

KIT/MANUAL	General Skills/ Process Skills	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
<p>Chemical Relationships (Gr. 4/5)</p>	<p>iv. <u>Manipulate materials through direction and free play</u> v. <u>Using information systems appropriately</u> xvii. <u>Collect and organize data and interpret results</u> xx. <u>Compare and contrast organisms/ objects/events</u> GS 1. <u>Safety procedures in classroom and field</u> GS 2. <u>Use science tools safely and accurately</u> GS 5. <u>Classify objects according to an established scheme</u> GS 8. <u>Identify cause and effect of relationships</u> GS 9. <u>Use indicators to interpret results</u> PS 10. <u>Density of liquids</u> PS 12. <u>Using the periodic table</u> PS. 13. <u>Determine the identity of an element using physical and chemical change</u></p>	<p>5. <u>Dynamic equilibrium that sustains life</u> 7. <u>Human activities impact on environment</u></p>	<p>2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 7-1. <u>Connections</u> 7-5. <u>Patterns of Change</u></p>

**SCOPE AND SEQUENCE CHART
GRADE FIVE**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary
<p><i>Introduction to Controlled Studies</i></p>	<p>GS 1. <u>Safety procedures in classroom & field</u> GS 2. <u>Use science tools safely and accurately</u> GS 3. <u>Use appropriate units for measured or calculated values</u> GS 4. <u>Recognize & analyze patterns</u> GS 7. <u>Sequence of events</u> GS 8. <u>Identify cause & effect relationships</u> LE 1. <u>Manipulate a compound microscope to view objects</u> LE 2. <u>Determine size of microscopic object</u> LE 3. <u>Prepare a wet mount slide</u></p>		<p>2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 6-5. <u>Patterns of Change</u> 7-2. <u>Strategies</u></p>
<p><i>Classifying Plants and Animals</i></p>	<p>GS 1. <u>Safety procedures in classroom & field</u> GS 2. <u>Use science tools safely and accurately</u> GS 4. <u>Recognize patterns and trends</u> GS 5. <u>Classify objects according to an established scheme</u> GS 7. <u>Sequence of events</u> GS 8. <u>Identify cause and effect relationships</u> LE 2. <u>Determine the size of a microscopic object</u> LE 3. <u>Prepare and wet mount slide</u> LE 7. <u>Interpret energy flow in a food chain</u> LE 9. <u>Identify structure and function relationships in organisms</u></p>	<p>1. <u>Living things are both similar to and different from non-living things</u> 2. <u>Genetic information and inherited traits</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u></p>	<p>2. <u>Earth's interaction with components</u></p>	<p>6-2. <u>Constructing Models</u> 6-4. <u>Equilibrium and Stability</u> 6-5. <u>Patterns of Change</u> 7-1. <u>Connections</u> 7-2. <u>Strategies</u></p>

**SCOPE AND SEQUENCE CHART:
GRADE FIVE/SIX**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary Standard 1 Scientific Inquiry
Weather	<p>GS 2. <u>Use science tools safely and accurately</u> GS. 3. <u>Use appropriate units for measured or calculated values</u> GS 4. <u>Recognize and analyze patterns</u> GS 5. <u>Classify objects according to an established scheme</u> GS 8. <u>Identify cause and effect relationships</u> PS 5. <u>Use a magnetic compass to find directions</u> PS 7. <u>Generate & interpret field maps</u> PS 9. <u>Measure Weather Variables</u></p>	<p>5. <u>Dynamic equilibrium that sustains life</u> 7. <u>Human activities impact on environment</u></p>	<p>2. <u>Earth's interaction with components</u> 3. <u>Properties of matter</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6.2 <u>Constructing Models</u> 6-5. <u>Patterns of Change</u> 7-2. <u>Strategies</u> 1. <u>Scientific Inquiry, Mathematical Analysis</u></p>
Outer Space	<p>GS 1. <u>Safety procedures in classroom & field</u> GS 2. <u>Use science tools safely and accurately</u> GS 4. <u>Recognize and analyze patterns and trends</u> GS 8. <u>Identify cause and effect relationships</u> PS 1. <u>Longitude and latitude indicate position on a map</u> PS 6. <u>Measure the angular elevation of an object</u></p>		<p>1. <u>Relative motion of earth and celestial phenomena</u> 4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 6-5. <u>Patterns of change</u> 1. <u>Scientific Inquiry, Mathematical Analysis</u></p>

**SCOPE AND SEQUENCE CHART:
GRADE FIVE/SIX (continued)**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary Standard 1 Scientific Inquiry
MST Links	<p>GS 1. <u>Safety procedures in classroom & field</u> GS 2. <u>Use science, math and hand tools safely and accurately</u> GS 3. <u>Use appropriate tools for measured and/or calculated values</u> GS 4. <u>Recognize and analyze patterns</u> GS 7. <u>Sequence of events</u> GS 8. <u>Identify cause and effect relationships</u> PS 16. <u>Determine the speed of a moving object</u></p>	<p>7. <u>Human activities impact on environment</u></p>	<p>4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6-2. <u>Constructing Models</u> 6-5. <u>Patterns of Change</u> 7-1. <u>Connections</u> 1. <u>Scientific Inquiry, Mathematical Analysis, and Engineering Design</u></p>
Simple Machines (use with MST unit)	<p>GS 1. <u>Safety procedures in classroom & field</u> GS 2. <u>Use science, math and hand tools safely and accurately;</u> GS 3. <u>Using appropriate units for measuring and calculated values</u> GS 4. <u>Recognize and analyze patterns</u> GS 7. <u>Sequence of events</u> GS 8. <u>Identify cause and effect relationships</u></p>	<p>7. <u>Human activities impact on environment</u></p>	<p>4. <u>Energy exists in many forms and is interchanged and conserved</u> 5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6-2. <u>Constructing Models</u> 6-5. <u>Patterns of Change</u> 1. <u>Scientific Inquiry, Mathematical Analysis and Engineering Design</u></p>

**SCOPE AND SEQUENCE CHART:
GRADE FIVE/SIX (continued)**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary Standard 1 Scientific Inquiry
<p><i>Rocks and Minerals</i></p>	<p>GS 1. <u>Safety Procedure in classroom & field</u> GS 5. <u>Classify objects according to an established scheme</u> PS 1. <u>Longitude and latitude indicate position on a map</u> PS 2. <u>Using identification tests and flow charts to identify mineral samples</u> PS 3. <u>Use a diagram of the rock cycle to determine geological processes</u> PS 4. <u>Plotting location of volcanoes and earthquakes and identify patterns of distribution</u> PS 7. <u>Interpret field maps including topographical maps</u> PS 15. <u>Determine conductivity of a material using a simple circuit</u></p>	<p>3. <u>Organisms Change Over Time</u></p>	<p>2. <u>Earth's Interactions with components</u> 3. <u>Properties of matter</u></p>	<p>6-2. <u>Constructing Models</u> 7-1. <u>Interdisciplinary Problem Solving</u> 1, 1-3. <u>Scientific Inquiry</u></p>

**SCOPE AND SEQUENCE CHART
GRADE SIX**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary Standard 1 Scientific Inquiry
Experimenting	<p>GS 2. <u>Use science tools safely and accurately</u> GS 3. <u>Use appropriate units for measuring value</u> GS 4. <u>Recognize and analyze patterns</u> GS 7. <u>Sequence of events</u> GS 8. <u>Identify cause and effect relationships</u> LE 2. <u>Determine size of microscopic object</u> LE 3,4. <u>Preparing a wet mount slide using proper staining procedures</u> LE 8. <u>Identify pulse rate</u> LE 9. <u>Identify structure & function relationships</u></p>	<p>1. <u>Living things are both similar to and different from non-living things</u> 2. <u>Genetic information and inherited traits</u></p>	<p>3. <u>Properties of matter</u></p>	<p>6-2. <u>Constructing Models</u> 7-1. <u>Connections</u> 7-2. <u>Strategies</u> 1. <u>Scientific inquiry,</u> <u>Mathematical Analysis</u> <u>Engineering Design</u></p>
Brine Shrimp	<p>GS 2. <u>Use scientific tools safely and accurately</u> GS 4. <u>Use appropriate unit for measuring value</u> GS 7. <u>Sequence of events</u> GS 8. <u>Identify cause and effect relationships</u> LE 2. <u>Determine size of microscopic object</u> LE 3,4. <u>Preparing a wet mount slide using proper staining procedures</u> LE 7. <u>Interpret/illustrate energy flow in food chain</u> LE 9. <u>Identify structure and function relationships</u></p>	<p>4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u></p>	<p>2. <u>Earth's interactions with components</u> 3. <u>Properties of matter</u></p>	<p>6-2. <u>Constructing Models</u> 1. <u>Scientific Inquiry,</u> <u>Engineering Design</u></p>

**SCOPE AND SEQUENCE CHART
GRADE SIX (continued)**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary Standard 1 Scientific Inquiry
<i>Environmental Factors</i>	<p>GS. 1 <u>Safety procedures in classroom & field</u> GS 4. <u>Recognize and analyze patterns</u> GS 6. <u>Develop and use dichotomous keys</u> GS 8. <u>Identify structure and function</u> LE 6. <u>Classifying objects according to an established scheme</u> LE 7. <u>Interpret and/or illustrate food webs</u> LE 9. <u>Identify structure and function</u></p>	<p>1. <u>Living things are both similar to and different from non-living things</u> 3. <u>Organisms change over time</u> 4. <u>Continuity of life is sustained through reproduction and development</u> 5. <u>Dynamic equilibrium that sustains life</u> 6. <u>Plants and animals depend on each other</u> 7. <u>Human activities impact on environment</u></p>	<p>3. <u>Properties of Matter</u></p>	<p>6-2. <u>Constructing Models</u> 7-1. <u>Connections</u> 1.1. <u>Scientific Inquiry, Mathematical Analysis, Engineering Design</u></p>
<i>Looking At Liquids</i>	<p>GS 1. <u>Safety procedures in classroom & field</u> GS 2. <u>Use science tools safely and accurately</u> GS 3. <u>Use appropriate units of measure</u> GS 4. <u>Recognize and analyze patterns</u> GS 5. <u>Classify objects according to an established scheme</u> GS 8. <u>Identify cause and effect relationships</u> PS 10. <u>Determine density of liquid</u></p>	<p>7. <u>Human activities impact on environment</u></p>	<p>2. <u>Earth's interactions with components</u> 3. <u>Properties of matter</u></p>	<p>6-1. <u>Systems Thinking</u> 6-2. <u>Constructing Models</u> 6-3. <u>Magnitude and Scale</u> 6-5. <u>Patterns of Change</u> 7-1. <u>Connections</u> 1.3. <u>Scientific Inquiry & Design</u></p>

**SCOPE AND SEQUENCE CHART
GRADE SIX (continued)**

KIT/MANUAL	Content & Process Skills Physical and Living Environment General	Standard 4 Living Environment	Standard 4 Physical Setting Earth	Standard 6 Interconnectedness Standard 7 Interdisciplinary Standard 1 Scientific Inquiry
Energy	<p>GS 1. <u>Safety procedures in classroom & field</u></p> <p>GS 2. <u>Use science tools safely and accurately</u></p> <p>GS 3. <u>Use appropriate units for measured or calculated values</u></p> <p>GS 4. <u>Recognize and analyze patterns</u></p> <p>GS 7. <u>Sequence of events</u></p> <p>GS 8. <u>Identify cause and effect relationships</u></p> <p>LE 6. <u>Classify objects according to an established scheme</u></p> <p>PS 10. <u>Determine density of liquids</u></p> <p>PS 15. <u>Determine electrical conductivity of a material using a simple circuit</u></p>	<p>1. <u>Living things are both similar to and different from non-living things</u></p>	<p>4. <u>Energy exists in many forms and is interchanged and conserved</u></p> <p>5. <u>Energy and matter interact through forces that result in changes in motion</u></p>	<p>6-2. <u>Constructing Models</u></p> <p>6-5. <u>Patterns of change</u></p> <p>7-1. <u>Connections</u></p> <p>1. <u>Scientific Inquiry and Design</u></p>