

Elementary Science Program

Guide for Services
2017-2018



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Overview

What is ESP?

The Elementary Science Program (ESP) of the Monroe 2–Orleans BOCES provides a hands-on, interdisciplinary curriculum that engages students in “doing” science. It is a balanced content and process focused curriculum committed to providing students with concrete experiences that promote depth of understanding and science literacy.

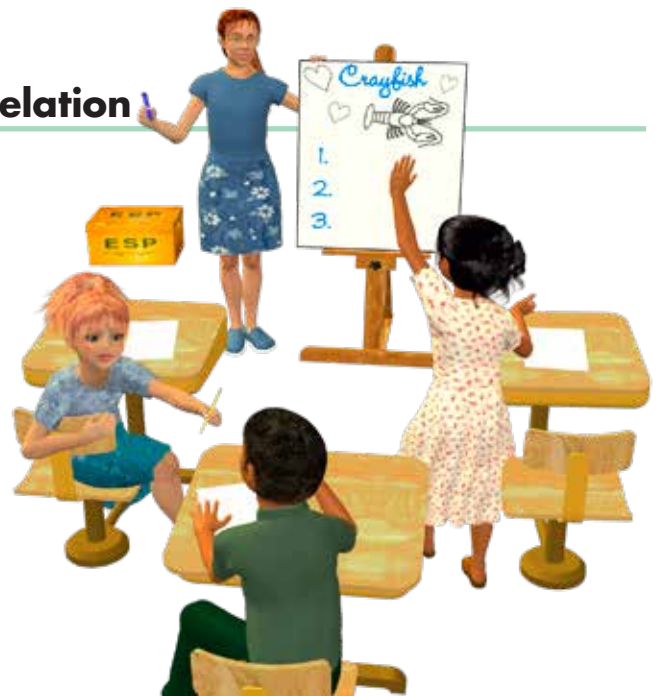
Using the Elementary Science Program units, students learn to think, talk, and act scientifically. The inquiry process and problem solving is emphasized throughout the curriculum. Students are consistently building on their current knowledge, asking questions, conducting investigations, and asking more questions – like true scientists! The meaningful, hands-on activities with student processing of ideas in the ESP science units allow all students to use their hard-wired and learned processes to build meaning.

The ESP curriculum emphasizes the following inquiry, process and STEM skills:

- Classifying
- Communicating
- Comparing and contrasting
- Creating models
- Gathering and organizing data
- Generalizing
- Identifying variables
- Inferring
- Interpreting data
- Making decisions
- Manipulating materials
- Measuring
- Observing
- Predicting

New York State Learning Standards Correlation

The goal of the ESP is to support teachers in meeting the educational goals established by the New York State Department of Education. The educators at the ESP are in the process of realigning curriculum to the New York State Science Learning Standards (NYSSLS). Additional emphasis on STEM activities is being added to existing resource units, and new units are being developed. School districts contracting with the ESP can rest assured that we will remain at the forefront of any changes that occur during this transition period. Correlations are also made, when appropriate, to the Common Core State Standards in English Language Arts and Literacy, and Mathematics.



Overview

Teacher Support

In addition to providing the resources for the classroom, the professional development and on-going support provided by the ESP is a vital part of the program. Support for teachers is also provided through our website (www.espsciencetime.org), online streaming videos, the ESP Facebook page, the ESP listserv, and over the phone. Our staff will also accommodate your school's professional development needs in the area of science instruction.

The Elementary Science Program is committed to help teachers and students engage in science instruction. The curriculum and materials provided through our program allow students to perform activities and pursue ideas and investigations on their own initiative while the teacher provides individual attention and direction.

Units of study are designed by administrators and teachers at the ESP who are certified and experienced in teaching science to students at a variety of grade levels. It is an integrated curriculum that incorporates New York State Science core content with English language arts, math, social studies, and fine arts core content.

Science kits are manufactured and refurbished at the ESP. Districts determine the units they want to use based on their curriculum design.

All units include the hands-on materials for an entire class of students.

- Regular kits are for **thirty (30)** students.
- Mini kits are for **fifteen (15)** students

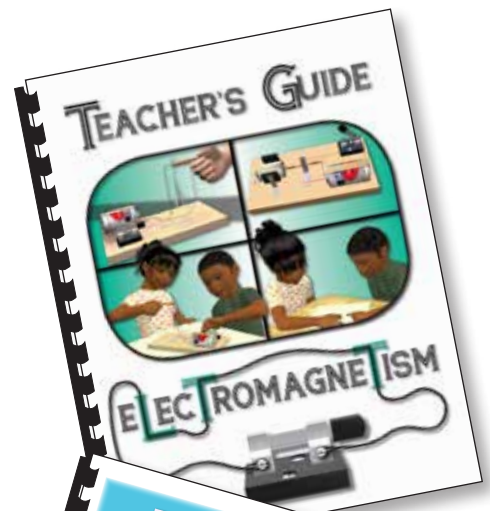
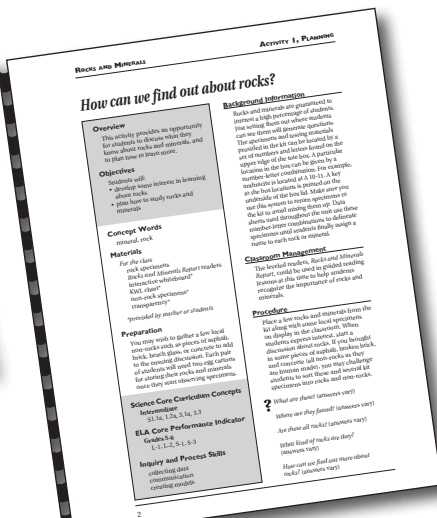
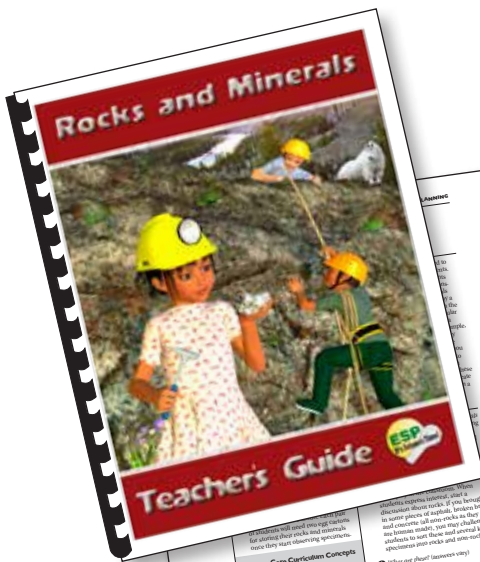


Overview

The teacher's guide in each unit provides a wealth of information and guidance for the teacher.

These guides include...

- background information for the teacher on the topic of study
- materials lists
- guidance for preparation of each lesson
- classroom management ideas
- detailed procedures for each lesson
- suggestions for assessment, including when to administer the assessments provided with the unit
- indicators of suggested times to use the leveled readers throughout the unit
- extension ideas for your classroom
- correlations to the Common Core State Standards and the New York State Science Learning Standards



In addition to the teacher's guides, many of the science units provide student activity books. The units that currently do not have student activity books encourage the use of science notebooks.

Overview

Literacy Support

Many ESP units include narrative and expository text, in the form of **leveled readers**, to support and add depth to instruction. These readers are designed for use in guided reading sessions apart from science time. Using the expertise of Monroe 2-Orleans BOCES reading specialists, each reader has been correlated to Fountas and Pinnell, Lexile and DRA reading levels. Each title is available at grade level and at one grade level above and one grade level below the grade for which the unit was designed. Readers having the same title provide exactly the same science content, despite requiring different levels of reading skill. A sample of the three readers for one of the titles is provided in the kit box. The entire set of readers for a unit can be printed from the password protected portion of the ESP website. Hard copies may also be ordered from the ESP.



Our units have a wealth of resources online at www.espsciencetime.org. These resources include assessments for the unit, leveled readers, interactive whiteboard activities, photos, journal pages, and a variety of other resources that may pertain to a particular unit of study. These resources seek to make teaching and learning science with the ESP units easier and more fun for you and your students.

Overview

Cast of Characters

The revised units have bold, new computer rendered graphics that feature a multicultural cast of six children who model curiosity and excitement about STEM. Students involved in the program will follow these characters through a variety of investigations.

Kindergarteners through third graders will become acquainted with Joe Jemison, Shawna Jackson, and Jake Golden. Fourth through sixth graders will get to know Sasha Brown, Darrell Sand and Maria Lopez. Students will also see the kids' dogs Sparky and Volt from time to time.

Grades 4-6



Grades K-3



Overview

How to Participate in ESP Services

The Monroe 2–Orleans BOCES Elementary Science Program has helped school districts share curricular resources, materials, costs, and services for elementary science since 1972. The ESP currently serves approximately 150 New York State districts, and has now expanded into New Jersey as well. The core of the ESP’s service is the recycling of science materials. Science units are developed and manufactured at the ESP. Kits are shipped to classrooms, used for instruction, returned to the ESP, cleaned, stored, and shipped out to other classrooms. This process keeps the costs down for all and decreases waste.

For districts outside of Monroe 2–Orleans BOCES, science units are leased through your BOCES by using the regular cross-contracting procedure. After a budget is established, science units are scheduled for specific dates of use. Teachers are encouraged to participate in in-service training or professional development prior to using these materials. For more information about the ESP’s professional development, see page 10.

Services secured by cross-contracts through the BOCES may be eligible for BOCES aid. To initiate a cross-contract for services, your BOCES District Superintendent should send a written request to:

District Superintendent
Monroe 2–Orleans BOCES
3599 Big Ridge Road
Spencerport, New York 14559

Private schools may contract directly with this BOCES for services. Private schools are not eligible for BOCES aid.

For further information about the ESP, please contact the ESP at 585-352-1140 or (800)-832-8011.



Overview

Services Available in Your Area

Professional Staff

A staff of four professional science educators spends 100% of its time working on activities, methods and materials to improve the instruction of elementary science.

Professional Development

Many opportunities for science professional development are available. For further information see page 10.

Curriculum and Alignment

The ESP staff will meet with teachers, administrators, boards of education or parents to provide information about the ESP and science education in New York State. The ESP educators can work with curriculum committees to review, evaluate, or develop your science program.

State Assessments

The ESP is a New York State Education Department approved supplier for Performance Test materials for the Elementary-Level Science Test (ELS – Grade 4) and the Intermediate-Level Science Test (ILS – Grade 8). Training to administer, rate, and analyze data from these tests is also available from the ESP.

Hotline

Many times we can answer your questions or solve problems for teachers and administrators over the telephone. Call (585) 352-1140 or (800) 832-8011.

Website

The ESP website contains helpful links for students and teachers. See page 11 for more information.

Listserv

Teachers may subscribe to the ESP listserv to receive up-to-date information from the ESP and interact with other teachers. A link to the subscription information can be found on the Teacher Resources portion of our website.

Classroom Lessons

Demonstration lessons on any ESP unit are available upon request. The ESP educators can bring the STARLAB portable planetarium, a rocket launcher, or a video microscope to classrooms in the Rochester area. Contact the ESP for more information.



Professional Development

Training is FREE to districts that lease ESP science units.

Teachers that have attended ESP workshops report that they are much better prepared to provide science content, scientific inquiry and hands on instruction in their classrooms. The ESP educators are available to help you train your teachers.

ESP Workshops

Sessions are held at the ESP center in Spencerport, New York OR at various locations on Long Island. Find more information about current ESP workshop offerings at www.espsciencetime.org or by calling the ESP.

Do-It-Yourself Science Professional Development

The ESP will loan science kits to districts for training of teachers. The science kits are available free of charge to districts that lease units from the ESP. Additional eligibility requirements apply. Please contact the ESP for more information.

Unit Video Support

Training on revised units is available online (videostreaming) at the ESP website. The ESP educators present workshops for teachers to watch and listen to from the comfort of their homes or classrooms. In addition, sample Guided Reading lessons by a BOCES 2 Reading Specialist provide teachers with a model for the use of the Leveled readers.

Distance Learning Technology

ESP educators will work with your district to use distance learning technology to provide a training session for teachers.

Conference Days or In-District Training

The ESP educators will travel to districts to provide professional development on the ESP units. Contact the ESP for additional information about this service.



www.espsciencetime.org

The ESP website is home to a wide variety of teacher, student and parent resources. There are unit specific resources including videos for teacher training, seasonal invitations to inquiry, annotated links, tips for ELA and science, measuring tasks, descriptions of the ESP units and more.

Site Map | Contact Us | Site Search GO

STUDENT RESOURCES | TEACHER RESOURCES | ABOUT ESP

ESP
It's Science Time!

ELEMENTARY SCIENCE PROGRAM
It's Science Time!

ESP, at Monroe 2-Orleans BOCES, provides a hands-on, interdisciplinary curriculum that converts the classroom into a science laboratory. We hope these website resources help students and teachers alike in their explorations and adventures in the world of science.

Quick Links

- Contact Us
- Unit Resources & Videos
- Files & Documents
- FAQ About ESP
- Overview of ESP Units
- Unit Feedback
- Common Core Learning Stds
- Next Gen Science Stds
- STEM Resources
- STEM Connection Kits
- Teacher Created Resources
- Student Resources
- Mary's Blog
- Staff Directory
- Monroe 2-Orleans BOCES

News

New Water Quality Testing Equipment Available
ESP has partnered with SUNY Brockport professor Mark Noll on a National Science Foundation (NSF) ...[read more](#)

Fall is the perfect time for leaf activities
Explore the outdoors and learn more about leaves, trees, and how they get ready for winter by ...[read more](#)

[VIEW ALL NEWS](#)

Upcoming Events

[VIEW ALL EVENTS](#)

Online Scheduling

Find us on Facebook

Pinterest

Elementary Science Program 38 Turner Drive Spencerport, NY 14559 Phone: (800) 832-8011 or (585) 352-1140 Fax: (585) 352-1157

Online scheduling is available. Please contact the ESP for further information.

Kits Available



By Grade Level

Kindergarten

Classroom Plants	15
Senses	21
Sunshine, Shadows and Silhouettes	22
Waterplay	23

Grade 1

Earthworms	16
From Seed to Plant	17
Properties	20

Grade 2

Eggs to Toads	16
Interactions	17
Measuring	18
Plant and Animal Life Cycles	19
Weather	23

Grade 3

Buoyancy	14
Butterflies	15
Pollination	20
Sky Calendar	22
Sound	22
Structures	22
Systems and Simple Machines	23

Grade 4

Birds and their Adaptations	14
Crayfish	15
Design Technology - Wheels	15
Electrical Circuits	16
Magnets	18
Mystery Matter	19

Grade 5

Electromagnetism	17
Meet the Creatures	19
Plant Responses	19
Rocks and Minerals	21

Grade 6

Forces in Space	17
Light	18
Looking at Liquids	18
Rocketry	21
Simple Machines	21

Intermediate (Grades 5 - 8)

Astronomy	14
Ecosystems and Habitats	16
Renewable Energy	20



Kits Available

By Alphabetical Order

Astronomy	14	Magnets	18
Birds and their Adaptations	14	Measuring	18
Buoyancy	14	Meet the Creatures	19
Butterflies	15	Mystery Matter	19
Classroom Plants	15	Plant and Animal Life Cycles	19
Crayfish	15	Plant Responses	19
Design Technology-Wheels	15	Pollination	20
Earthworms	16	Properties	20
Ecosystems and Habitats	16	Renewable Energy	20
Eggs to Toads	16	Rocketry	21
Electrical Circuits	16	Rocks and Minerals	21
Electromagnetism	17	Senses	21
Forces in Space	17	Simple Machines	21
From Seed to Plant	17	Sky Calendar	22
Interactions	17	Sound	22
Light	18	Structures	22
Looking at Liquids	18	Sunshine, Shadows, and Silhouettes	22
		Systems and Simple Machines	23
		Waterplay	23
		Weather	23



Kit Descriptions

Astronomy

Students observe the sky with telescopes and use models to understand basic astronomy concepts and to develop observation skills. Correlates with Key Idea 1 of the Physical Setting portion of the NYS Intermediate Science Core. **Leveled Readers included.**

Suggested Length: 6 weeks

Suggested Grade Level: Intermediate (5-8)



Birds and their Adaptations

Students observe birds in the wild to learn about their physical and behavioral adaptations. Students consider the different habitats in which birds are found, and how birds are adapted to these habitats. Students dissect owl pellets to learn about food chains, food webs and the interdependence of different organisms on each other within an ecosystem. This unit addresses the concepts of survival through animal structures, behavior and interdependence that are expressed in Key Ideas 3, 5 and 6 in the Living Environment portion of the NYS Elementary Science Core. **Leveled Readers included.**

Suggested Length: 10 weeks

Suggested Grade Level: 4

Buoyancy

Students investigate the concepts of volume and density, and explore other properties that affect whether a material will sink or float. Includes opportunity for inquiry as well as development of Physical Setting concepts. Strong correlation to Mathematics, English Language Arts and some Social Studies content. **Leveled Readers included.**

Suggested Length: 4 weeks

Suggested Grade Level: 3



Kit Descriptions

Butterflies

Students observe the biological process of metamorphosis and learn to care for and feed butterflies. Includes excellent opportunities for inquiry and engineering design as well as correlation with Mathematics and Language Arts. *Leveled Readers included.*

Suggested Length: 10 weeks

Suggested Grade Level: 3

Classroom Plants

Students plant, grow and care for common plants. Can be used as a year long basis for science, mathematics and language arts skill development. *Leveled Readers included.*

Suggested Length: 34 weeks

Suggested Grade Level: K

Crayfish

Students practice humane treatment of animals while they learn about the structure and behavior of crayfish by observing respiration, reaction to stimuli, feeding habits and territorial behavior. Includes exploration of acquired and inherited traits. Culminates in inquiry as students design experiments to answer their own questions. Strong language arts component. Available fall only. *Leveled Readers included.*

Suggested Length: 13 weeks

Suggested Grade Level: 4

Design Technology-Wheels

Students will research, plan, construct, test and evaluate models of their own design. Models will be built to scale from drawings made on centimeter grid sheets. Major focus on MST Standards 1 and 5, Technology and Engineering Design.

Suggested Length: 6 weeks

Suggested Grade Level: 4



Kit Descriptions

Earthworms

Students learn about the characteristics and needs of animals, especially the earthworm. Emphasis on structure, function, and role as a decomposer. Scientific inquiry is modeled and experienced. Correlates to NYS Elementary Science Core and Standard 1 and Standard 4, Living Environment. Not available December - February. **Leveled Readers included.**

Suggested Length: 12 weeks

Suggested Grade Level: 1



Ecosystems and Habitats

Students explore the biomes, ecosystems and habitats of their local areas in New York State. The concepts of community and populations are emphasized through exploration of energy flow, food chains/food webs, ecosystem cycles, (water, carbon-oxygen, nutrient), photosynthesis and decomposition. Students develop a sense of stewardship and an understanding of the human impact on the environment. Correlates to the NYS Intermediate Core Standard 4 - The Living Environment, Key Ideas 6 and 7.

Suggested Length: 5 weeks

Suggested Grade Levels: Intermediate (5-8)

Eggs to Toads

Students raise toads from eggs, provide care for tadpoles and observe and record their growth. Emphasis is placed on physical and behavioral adaptations which enable amphibians to change environments as they mature. **Available spring only.**

Suggested Length: 10 weeks

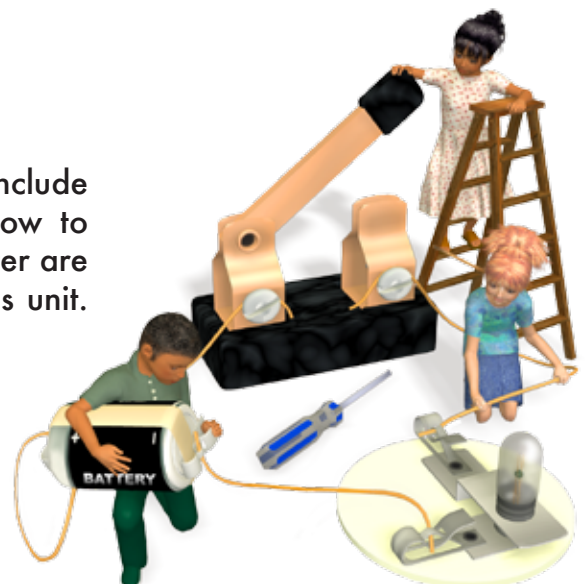
Suggested Grade Level: 2

Electrical Circuits

Students construct and test simple circuits. Investigations include series and parallel circuits, conductors, resistance and how to make a fuse. Energy transformations and properties of matter are the NYS Elementary Science Core Key Ideas central to this unit. **Leveled Readers included.**

Suggested Length: 9 weeks

Suggested Grade Level: 4



Kit Descriptions

Electromagnetism

Students will use magnets and electromagnets to investigate the relationship between electricity and magnetism. Students will construct various devices using electromagnets including a buzzer and a large motor. Mathematics, English language arts and social studies content and skills are integral to the unit. *Leveled Readers included.*

Suggested Length: 10 weeks

Suggested Grade Level: 5



Forces in Space

Students experiment with toys, learning about the forces responsible for their movement on earth and in space. Emphasis is placed on NYS Intermediate Science Core Physical Setting Key Idea 5, Interaction of Energy and Matter.

Suggested Length: 8 weeks

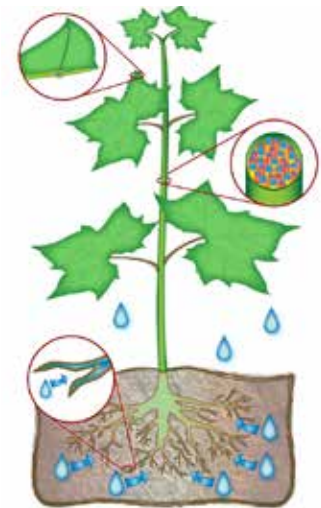
Suggested Grade Level: 6

From Seed to Plant

Students classify seeds by properties, plant seeds, and learn about plant needs and structure by caring for plants and recording their growth. Strong use of Mathematics and English Language Arts skills. *Leveled Readers included.*

Suggested Length: 15 weeks

Suggested Grade Level: 1



Interactions

Students observe the chemical and physical interaction of objects, providing concrete experiences with examples of NYS Elementary Science Core Physical Setting Key Ideas 4 and 5, Interaction of Energy and Matter.

Suggested Length: 6 weeks

Suggested Grade Level: 2

Kit Descriptions

Light

Students use a light source to perform experiments with white and colored light. Major concepts are reflection, refraction and dispersion. Most activities should be done in a darkened room on the floor. Strong correlation with Mathematics, Geometry Strand as students measure reflection angles.

Suggested Length: 5 weeks

Suggested Grade Level: 6

Looking at Liquids

Students investigate the properties of water, soapy water, cooking oil, corn syrup, and alcohol, and the interaction of these liquids with other materials. Mathematics play an important role in this unit.

Suggested Length: 9 weeks

Suggested Grade Level: 6

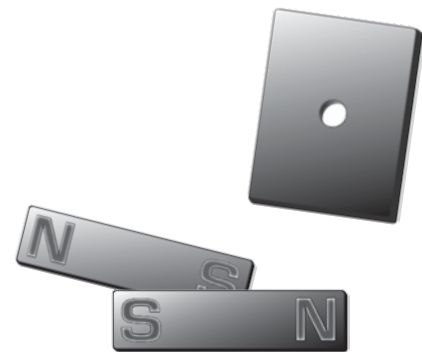
Magnets

Students explore the properties of magnets and magnetic materials. Inquiry is emphasized as students devise their own procedures for making magnets and testing the strength of magnets. Correlates to the NYS Elementary Science Core Physical Setting Key Idea 5.

Leveled Readers included.

Suggested Length: 4 weeks

Suggested Grade Level: 4



Measuring

Students use nonstandard and standard units of measurement to compare objects. The properties of length, temperature, volume and mass are investigated. Major emphasis on Mathematics skills and English Language Arts. **Leveled Readers included.**

Suggested Length: 10 weeks

Suggested Grade Level: 2

Kit Descriptions

Meet the Creatures

Students learn about the process of scientific inquiry as they investigate the sensory perception of mealworms. Correlated closely with NYS Elementary Science Core, Key Idea 5.2, Survival Behaviors. Super mealworms are supplied. ***Not available December through February.***

Suggested Length: 6 weeks

Suggested Grade Level: 5



Mystery Matter

Students explore matter and its properties. They also examine how energy affects the properties of matter. The properties of an unknown material are collected and used to help identify it. Process skills and scientific thinking are emphasized. Language arts skills are incorporated throughout. ***Leveled Readers included.***

Suggested Length: 8 weeks

Suggested Grade Level: 4



Plant and Animal Life Cycles

Students raise their own plants from seeds and raise milkweed bugs and mealworms. Students observe and record data on plant and animal life cycles, and stages of growth and development. Major emphasis on NYS Elementary Science Core, Living Environment Key Ideas 1 and 4, Characteristics of Living Things and Life Cycles. Students practice humane treatment of animals. ***Leveled Readers included.***

Suggested Length: 15 weeks

Suggested Grade Level: 2

Plant Responses

Students study responses of seeds and seedlings to varying environmental factors such as water, light, gravity and nutrients. Focuses on NYS Elementary Science Core, Living Environment Performance Indicator 5.2.

Suggested Length: 9 weeks

Suggested Grade Level: 5

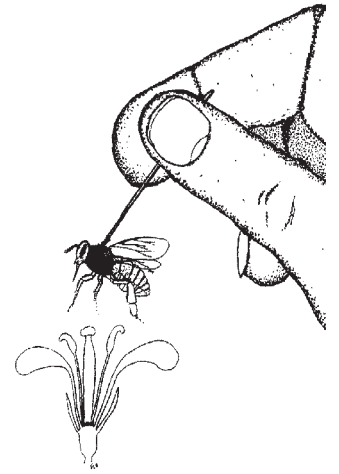
Kit Descriptions

Pollination

Students grow Wisconsin Fast Plants® which go through a complete life cycle in a little over forty days. Students use dried honey bees to pollinate flowers to produce fruit. An excellent exploration of the majority of the NYS Elementary Science Core, Living Environment content.

Suggested Length: 7 weeks

Suggested Grade Level: 3



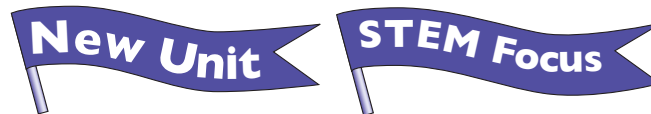
Properties

Students observe and describe objects by their color, shape, texture, size, weight, and whether they sink or float. Students observe that materials can exist in different forms and that solids, liquids and gases are objects. Develops fundamental science skills along with awareness that everything has properties that can be used for classification. Strong language arts skill development.

Leveled Readers included.

Suggested Length: 10 weeks

Suggested Grade Level: 1



Renewable Energy

Students study different forms of energy and experiment with transforming one type of energy into another. Special emphasis is placed on how electrical energy can be generated by renewable sources such as wind and sun. Correlates strongly with Key Idea 4 of the Physical Setting portion of the NYS Intermediate Level Science core. ***This unit is best taught in fall or spring.***

Suggested Length: 5 weeks

Suggested Grade Levels: Intermediate (5-8)

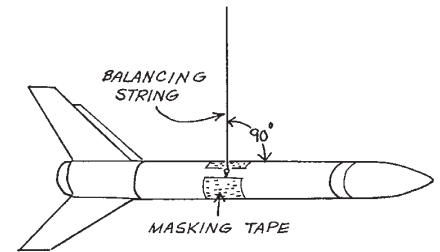
Kit Descriptions

Rocketry

Students construct and launch model rockets to explore concepts of motion and force. Measurement of altitude through use of a clinometer and tangent table correlates with Mathematics Geometry Strand. **Model rocket kits are included.**

Suggested Length: 8-10 weeks

Suggested Grade Level: 6



Rocks and Minerals

Through the use of the skills of observing, classifying and communicating, students will investigate the properties of rocks and minerals. Students will use such properties as color, luster, texture, cleavage, hardness and attraction to magnets to identify 21 different rocks and minerals. Written materials discuss fossils, plate tectonics, the structure of the Earth and the rock cycle. **Leveled Readers included.**

Suggested Length: 8 weeks

Suggested Grade Level: 5



Senses

Students investigate and learn about the five senses. Strong correlation to grade appropriate language arts development. **Leveled Readers included.**

Suggested Length: 14 weeks

Suggested Grade Level: K



Simple Machines

Students investigate the lever and fulcrum, and the inclined plane, and how they are modified to become such things as a pulley or a screw. Strong correlation to NYS Mathematics Core.

Suggested Length: 7 weeks

Suggested Grade Level: 6

Kit Descriptions

Sky Calendar

Students observe the sky and use models to better understand the astronomy behind the month, the year, and the seasons. Correlates with Key Idea 1 of the Physical Setting portion of the NYS Elementary Science Core. **Leveled Readers included.**

Suggested Length: 5 weeks

Suggested Grade Level: 3

Sound

Students learn about energy transformations that result in sound. After exploring variables which affect pitch, volume and timbre, students apply what they have learned by making instruments. Correlates to NYS Elementary Science, English Language Arts and Arts, Music Cores. **Leveled Readers included.**

Suggested Length: 6 weeks

Suggested Grade Level: 3

Structures

Students are challenged to design and construct structures which meet certain specifications, such as height, strength and limited use of material. Addresses content and skills from the Standards for Technology, Engineering Design and Mathematics, Measuring Strand.

Suggested Length: 6 weeks

Suggested Grade Level: 3

Sunshine, Shadows and Silhouettes

Students investigate objects as they interact with light. Many outside activities are included. **Teachers Guide only.**

Suggested Length: 35 weeks

Suggested Grade Level: K



Kit Descriptions

STEM Focus

Systems and Simple Machines

Students learn that a system is a group of objects that interact. Students create a spoolmobile as their first introduction to a system. Students investigate how simple and compound machines are examples of systems. Levers, pulleys, inclined planes, screws, wheels and axles, and wedges are introduced and explored. The relationship between simple machines, forces, and work is a focus. Correlates to NYS Elementary Science Core Standard 6 and Standard 4 Physical Setting Key Ideas 4 and 5. *Leveled Readers included.*

Suggested Length: 10 weeks

Suggested Grade Level: 3



Waterplay

Students experience free play, curiosity and discovery through the investigation of water and its properties and forms.

Suggested Length: 15 weeks

Suggested Grade Level: K



Weather

Students make daily weather observations to collect data which is recorded and shared with others. They investigate aspects of weather including wind, temperature, and water cycle. A culminating activity is to make recommendations about outdoor activities to other students in the school. Significant correlation to NYS Elementary Science Core Physical Setting, English Language Arts Core and Mathematics Core, Measuring Strand. *Leveled Readers included.*

Suggested Length: 12 weeks

Suggested Grade Level: 2

Kit Descriptions

Lease Cost

Kit Lease Pricing – 2017-2018 school year

Grade	Unit Title	Regular (30 Students)	Mini (15 Students)
5-8	Astronomy	\$272.00	\$216.00
4	Birds and their Adaptations	298.00	274.00
3	Buoyancy	246.00	201.00
3	Butterflies	185.00	185.00
K	Classroom Plants	173.00	173.00
4	Crayfish	114.00	106.00
4	Design Technology-Wheels	293.00	215.00
1	Earthworms	148.00	148.00
5-8	Ecosystems and Habitats	414.00	414.00
2	Eggs to Toads	92.00	92.00
4	Electrical Circuits	363.00	275.00
5	Electromagnetism.	399.00	302.00
6	Forces in Space	86.00	86.00
1	From Seed to Plant	119.00	103.00
2	Interactions	198.00	173.00
6	Light	193.00	163.00
6	Looking at Liquids	300.00	232.00
4	Magnets	272.00	272.00
2	Measuring	187.00	174.00
5	Meet the Creatures.	110.00	93.00
4	Mystery Matter	342.00	264.00
2	Plant and Animal Life Cycles	348.00	267.00
5	Plant Responses	171.00	153.00
3	Pollination	188.00	188.00
1	Properties	290.00	236.00
5-8	Renewable Energy	520.00	341.00
6	Rocketry	357.00	256.00
5	Rocks and Minerals	292.00	272.00
K	Senses	253.00	253.00
6	Simple Machines	213.00	176.00
3	Sky Calendar	225.00	178.00
3	Sound	300.00	265.00
3	Structures	136.00	136.00
K	Sunshine, Shadows and Silhouettes	(No charge when leasing other kits)	
3	Systems and Simple Machines	379.00	328.00
K	Kindergarten STEM Kit	450.00	450.00
1	Grade 1 STEM Kit	450.00	450.00
2	Grade 2 STEM Kit	525.00	525.00
3	Grade 3 STEM Kit	525.00	525.00
4	Grade 4 STEM Kit	525.00	525.00
5	Grade 5 STEM Kit	525.00	525.00
K	Waterplay	85.00	85.00
2	Weather	222.00	173.00

ATTENTION: The ESP is transitioning to a latex free kit. However, this will take several years to complete. Please advise us if you need a latex free kit this year.



Don't Leave the Science Behind!



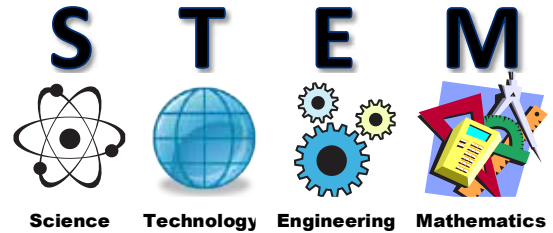
Is your district looking for ways to bring science into the Engage NY Modules?

- The ESP is developing year-long grade level [STEM Connection Kits](#) for grades K-5.
- These resources directly tie-in to the Domains and Modules presented on



What is STEM?

STEM is an interdisciplinary approach to teaching and learning that integrates the content and skills of science, technology, engineering, and mathematics. Students use these integrated skills to solve real-world problems which allows for deeper and more meaningful learning.



For Example:

STEM Connection Kit for Kindergarten

Domain 1: Nursery Rhymes and Fairy Tales: Rain, Rain Go Away

Activity 1 - Temperature

Activity 2 - Rain Gauge

Activity 3 - Weather Station

Domain 2: Senses (5 activities)

Domain 3: Stories, 3 Little Pigs (Engineering Design Activity)

Domain 4: Plants: Growing Plants and Inquiry (3 Activities)

Domain 11: Taking Care of the Earth: Earthworms (4 Activities)

Hands-on activities that support reading and enhance the retention of vocabulary.

FAQ:

What if my district already sent in our ESP budget?

Districts can modify their ESP budget at any time. Contact Gina Vaccarella at 585-352-1140 or gvaccare@monroe2boces.org to make any additions to your district's budget.

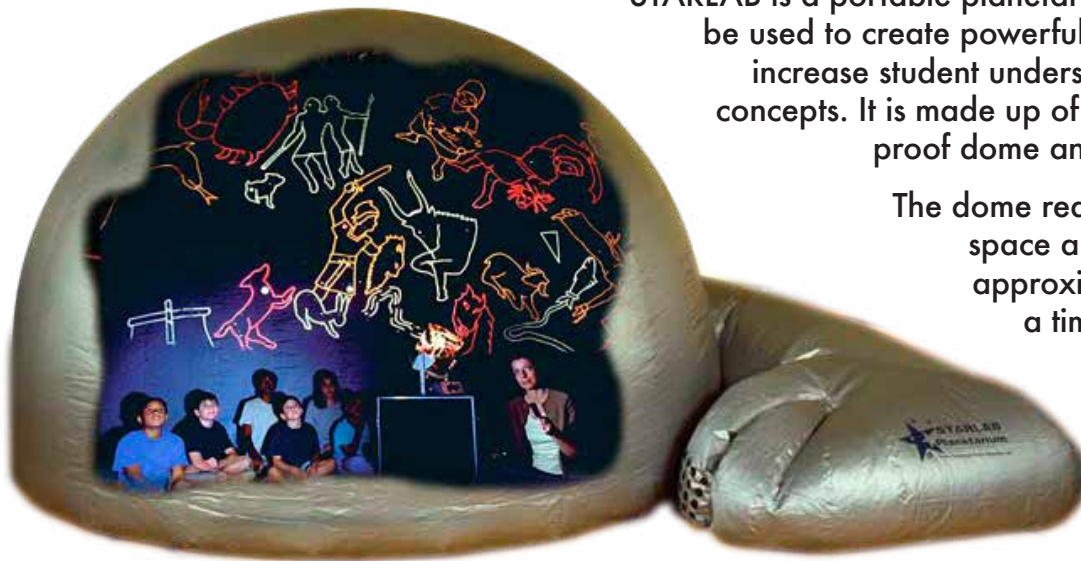
What if our district needs to create an ESP budget?

If your district currently does not have a budget with ESP, please contact Gina Vaccarella at 585-352-1140 or gvaccare@monroe2boces.org for specific information on how to create a budget with our program.

The sole use of the STEM Connection Kits will NOT meet all of the NYS Elementary and Intermediate Science Core Curriculum requirements. They are intended to supplement the ELA Modules found on Engage NY. The ESP has a full range of correlated Science units for K-5. For additional information about ESP's complete unit selection, please contact the ESP at 585-352-1140 or 1-800-832-8011 or visit our website at www.espsciencetime.org .

STARLAB Services

STARLAB is available only to districts in Monroe or Orleans* Counties



STARLAB is a portable planetarium system which can be used to create powerful, engaging models to increase student understanding of astronomy concepts. It is made up of a 10.5 foot tall, light-proof dome and a special projector.

The dome requires a 21 by 21 foot space and can accommodate approximately 30 students at a time. The projector uses specific cylinders that allow lessons to be designed for a broad variety of topics.

STARLAB Order Form

Description	Cost	Number of Days	Total
STARLAB with ESP instructor (up to 5 lessons per day)	\$260.00 per day		
Sunshine, Shadows and Silhouettes (up to 6 lessons per day)	\$60.00 per lesson		
STARLAB with District Supplied Instructor	\$135.00 per day		
TOTAL			

Your Name: _____ District _____

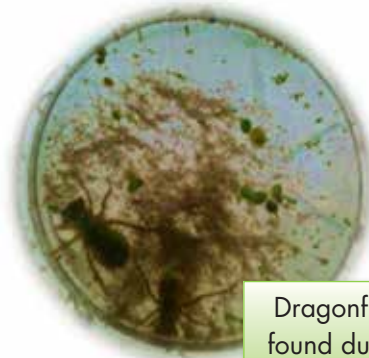
Phone Number: _____ Email _____

Call ESP at 585-352-1140 to schedule STARLAB uses.

** Delivery charges may apply*

POND STUDY Field Trip

Pond Lessons are available only to districts in Monroe or Orleans Counties



Dragonfly nymph found during local pond trip with students.

If you are teaching about the ecosystem of a pond in your science classroom, the teachers from the Elementary Science Program can help extend the learning outside the classroom with a Pond Study Field Trip.

ESP teachers will meet you and your students at a local pond, lead the lessons at the pond, and help students make various observations and discoveries at the pond. All tools and materials needed to collect data at the pond (air and water temperature, pH) are provided by ESP. The data is used to discuss how non-living factors have an impact on the pond. Tools are also provided for students to find macro-organisms and plant life living in the pond and observe their behaviors. The organisms found at the pond allow the ESP teachers to discuss a variety of topics that include but are not limited to: food chains/webs, structures or organisms, and life cycles.

Pond Study Field Trip Order Form

Description	Cost	Number of Days	Total
Pond lessons with ESP teacher at a local pond (up to 5 lessons per day)	\$150.00 per day		
TOTAL			

Your Name: _____ District _____

Phone Number: _____ Email _____

Call ESP at 585-352-1140 to schedule a Pond Study Field Trip.

STEM Resources

littleBits Kits

- littleBits are electronic components that snap together with magnets to help create complex circuits and various inventions. littleBits are for students from age 8 to 18 and beyond.
- littleBits can also turn any device into an internet-connected device. For example, build a remote controlled pet feeder or a doorbell that lets you know someone is at your door through a smartphone text.
- When receiving the littleBits Kits in your classroom, ESP provides teachers with the booklets, directions, and materials needed to create the projects in the Project Book. Plus, you will receive a Workshop Kit for initial whole class instruction with students.
- Teachers must be trained before using littleBits. Training provided by ESP in fall and spring.



fischertechnik Education Kits

ESP has two fischertechnik Education Kits available for teachers to use in their classroom:

- 1. Construction Systems:** Students in grades 2-4 work together to build models using instruction sheets to show how simple machines actually work. Students answer questions about their model.
- 2. Introduction to Coding:** A more in-depth introduction to technology and robotics. Students in grades 3-5 construct 12 easy-to-understand models. The provided ROBO Pro software allows students to write a control program that the LT Controller understands. The controller communicates with the computer and controls the models built.



The curriculum provided in both kits is designed to meet requirements in the **Next Generation Science Standards (NGSS)** and **Common Core Learning Standards**.

- Teachers must be trained before using fischertechnik Kits. Training provided by ESP in fall and spring.

littleBits & fischertechnik Order Form

Description	Cost per Order	Number of Orders	Total
littleBits Kit Module with Space and SMART Home Kits <i>(Various littleBits modules with additional focus on space science and inventions that can be programmed and internet connected. Arduino included.)</i>	\$350.00 per 2 weeks		
littleBits Kit Module with Synthesizer <i>(Various littleBits modules with additional focus on exploring the synthesizer instrument.)</i>	\$350.00 per 2 weeks		
fischertechnik Education Kit - <i>Construction System</i>	\$350.00 per 2 weeks		
fischertechnik Education Kit - <i>Introduction to Coding</i>	\$350.00 per 2 weeks		
Cubelets	\$350.00 per 2 weeks		
TOTAL			

Your Name: _____ District _____
 Phone Number: _____ Email _____

Call ESP at 585-352-1140 to schedule littleBits or fischertechnik lessons.

STEM Resources

The Elementary Science Program has the resources and technology you need to make STEM a focus in your classroom!

ESP STEM Units

Structures - Students are challenged to design and construct structures which meet certain specifications.

Design Technology - Students research, plan, construct, test and evaluate car chassis models of their own design.

Engineering Design Activities embedded into many of our units:

- Systems and Simple Machines (Gr. 3)
- Electrical Circuits (Gr. 4)
- Magnets (Gr. 4)
- Birds and their Adaptations (Gr. 4)

Design Challenge Activities—one activity purchased for the class to create a final project based on specific criteria:

- #1 - On Top of Spaghetti
- #2 - Boats and Floats
- #3 - Oil Spill
- #4 - Straw Rockets
- #5 - Solar Cooker...and more to come!

Enviroscapes Order Form

Description	Cost	Number of Days	Total
Enviroscape Lesson with ESP Instructor (up to 5 lessons per day)	\$150.00 per day		
TOTAL			

Technology on Loan to teachers for FREE with training:

- GPS units (Garmin e-trex 10)
- Bird Cams (orientation only needed)
- Digital Microscopes (150x)
- Vernier Probeware
- Enviroscapes (ESP teacher can teach the lessons for \$150.00.)

All STEM Resources are available to districts in Monroe or Orleans Counties. The Design Challenge Activities are available for purchase throughout the U.S.



Your Name: _____ District _____

Phone Number: _____ Email _____

Call ESP at 585-352-1140 to schedule Enviroscape lessons.

Shipping Information*

Understanding the Shipping Fees

*** Shipping charges only apply for non-courier delivery.**

KITS

Budget for Kits (lease or purchase)	Zip Code beginning with 130XX - 149XX	Zip Code beginning with 100XX - 129XX and 150XX - 157XX
\$ 0 - 15,000	12%	13%
\$15,001 - 25,000	11%	12%
\$25,001 - 200,000	10%	11%

Examples: (1) If your budget is \$16,000, and your zip code is 13309, multiply \$16,000 by 11%.
The shipping charges are \$1,760.00.

(2) If your budget is \$8,000 and your zip code is 11901, multiply \$8,000 by 13%.
The shipping charges are \$1,040.00.

If you would like the ESP to pay the cost of **returning leased kits**, you must fill in the blanks on the lease order forms with the same dollar amount as you put on shipping blank.

For additional forms, go to
www.espsciencetime.org.

Photocopy the completed form
 and please mail or fax to:

Monroe 2–Orleans BOCES
 Elementary Science Program
 38 Turner Drive
 Spencerport, NY 14559

Fax #: 585-352-1157

Return Policy

Due to the cost of shipping and restocking of items returned, all sales of kits, kit parts and publications are final. If you are uncertain about a particular item, please call the ESP at 1-800-832-8011 for additional information. We will be happy to advise you.

Pricing

Due to the volatility of the wholesale prices on certain items, our prices are subject to change without notice. When placing an order for large quantities of materials, please call for current pricing.

Live Materials Policy

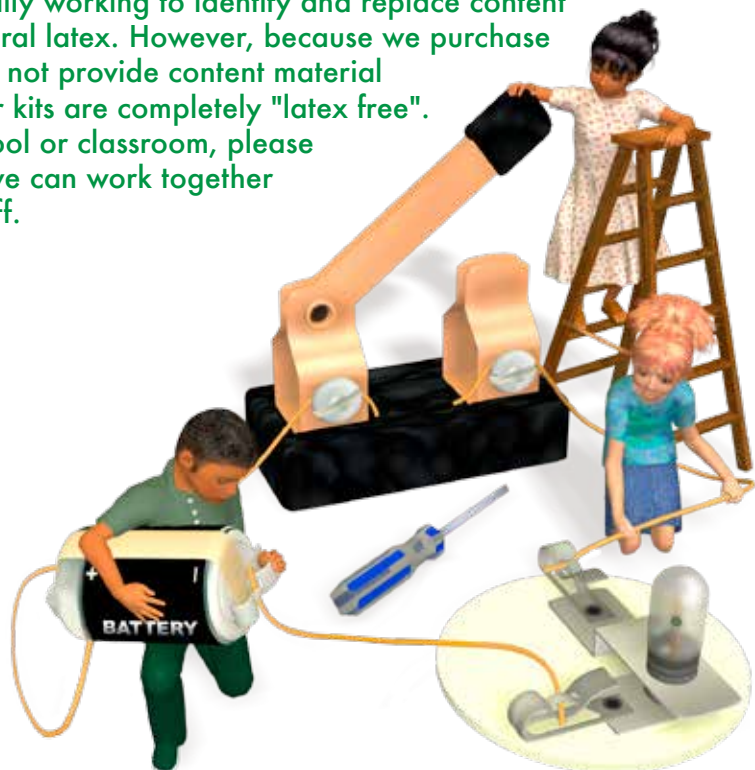
The ESP makes all attempts to package and ship live materials so that they arrive healthy. Because factors such as weather, shipping delays or improper handling are not within our control, we do not make refunds for live materials. Upon request, and when sufficient quantities allow, we will replace and reship live materials at no additional cost.

Inventory Policy

Please inventory your materials upon arrival! Any missing/damaged parts must be reported to the ESP within 2 weeks of UPS delivery date.

Latex Policy

The Elementary Science Program is continually working to identify and replace content items in our kits that potentially contain natural latex. However, because we purchase materials from many vendors, some who do not provide content material information, we are unable to claim that our kits are completely "latex free". If a latex allergy is of concern to your school or classroom, please contact us directly before ordering so that we can work together to insure the safety of your students and staff.





Your Educational Partner of Choice

BOCES 2 *Elementary
Science Program*

Monroe 2–Orleans Board of Cooperative Educational Services
38 Turner Drive
Spencerport, NY 14559
www.espsciencetime.org

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