



# Elementary Science Program

Summer Lease Catalog  
2021



### 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



### 2021 Summer Enrichment

This past year has been difficult for everybody – and the impact on education will be seen for many years to come. Our hope at ESP is to provide summer programs with high quality, engaging, hands-on materials to help students develop a love of science – and to help build skills necessary for September and beyond.

Our ESP Units of Instruction contain many activities that engage students in science – and can be done in the short time of a summer program. Our units integrate with mathematics and literacy – many units have leveled readers available online. Also, our units can be easily adapted up or down to meet the needs of students, so a unit suggested for use at 4th grade could be used with incoming 4th graders (from 3rd grade) or outgoing 4th graders (going to 5th grade).

Each kit includes a teacher’s guide and materials for 30 students.

If you have any questions about our offerings, please feel free to contact Steven Montemarano, Director, at [smontema@monroe2boces.org](mailto:smontema@monroe2boces.org) or Mary Thomas, Assistant Director, at [mthomas@monroe2boces.org](mailto:mthomas@monroe2boces.org).

# Summer 2021 - ESP Kit Lease Budget

BOCES \_\_\_\_\_

District \_\_\_\_\_

Suggested Grade Placement	Unit Title	Price	District Grade Placement	Total Uses	Total
K	Senses	\$305			\$
K	Waterplay	\$115			\$
1	Properties	\$360			\$
2	Measuring	\$230			\$
2	Interactions	\$260			\$
3	Buoyancy	\$360			\$
3	Structures	\$200			\$
3	Systems & Simple Machines	\$460			\$
4	Design Technology-Wheels	\$475			\$
4	Magnets	\$365			\$
5	Rocks and Minerals	\$380			\$
5-8	Ecosystems and Habitats	\$550			\$
5-8	Renewable Energy	\$710			\$

\*Note: Shipping and Return Shipping charges only apply for non-courier delivery (i.e. districts outside Monroe 2-Orleans BOCES)

\*Note: Administrative charges only apply for districts outside Monroe County

Total Cost - Kits	\$
Shipping (20%) *Includes return shipping	\$
Administrative Charge (5.2%)	\$
Total	\$

Please send in the completed form to:

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

Fax #: 585-352-1157  
 Email: [gvaccare@monroe2boces.org](mailto:gvaccare@monroe2boces.org)



## Kit Descriptions

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### Grade K

#### Senses

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

Suggested Grade Level: K

#### Waterplay

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

Suggested Grade Level: PK or K



### Grade 1

#### 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 Grade Level: 1



## Kit Descriptions

### Grade 2

#### 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 Grade Level: 2



#### 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 Grade Level: 2

### Grade 3

#### 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 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 Grade Level: 3

## Kit Descriptions

### 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 Grade Level: 3



## Grade 4

### Design Technology-Wheels

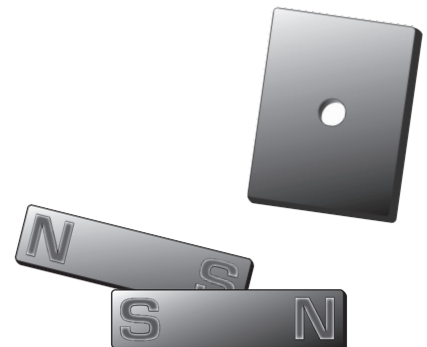
Students will research, plan, construct, test and evaluate models of their own design. Models will be built to scale from drawings made on centimeter grid sheets. Major focus on MST Standards 1 and 5, Technology and Engineering Design.

Suggested Grade Level: 4

### 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 Grade Level: 4



## Kit Descriptions

### Grade 5

#### 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 Grade Level:** 5



**STEM Focus**

#### 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.

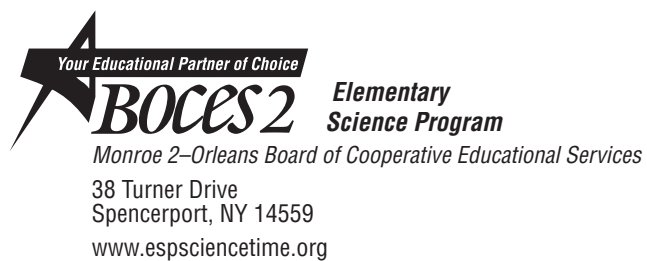
**Suggested Grade Levels:** Intermediate (5-8)

**STEM Focus**

#### 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 Grade Levels:** Intermediate (5-8)



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