

BOCES   
**Science**

ELS/ILS Investigation Kit Catalog  
Fall 2023

Beginning in Spring 2024 the new Elementary- and Intermediate-level Science Tests will be administered to students in Grades 5 and 8, respectively. These tests are designed to measure students' understanding of science skills and concepts contained in the New York State Science Learning Standards (NYSSLS).

Prior to the written test, students will be expected to participate in a series of *Investigation* tasks. *Investigation* tasks are designed to be embedded into instruction and can be offered at any time in the school year.

The four required *Investigation* tasks for the Elementary-level Science are:

- What's in the Bag?: Structure and Properties of Matter (PE: 5-PS1-4)
- Cloud in a Bottle: Weather and Climate (PE: 3-ESS2-3)
- Light It Up: Energy (PE: 4-PS3-4)
- Circle of Life: Life Cycles and Traits (PE: 3-LS1-1)

The four required *Investigation* tasks for the Intermediate-level Science are:

- All Mixed Up: Structures and Properties of Matter (PE: MS-PS1-8)
- Cool It!: Energy (PE: MS-PS3-4)
- It's Alive?: Structure, Function, and Information Processing (MS-LS1-1)
- How's the Weather Up There?: Weather and Climate (MS-ESS2-5)

BOCES 4 Science is providing Investigation Kits for both the Elementary- and Intermediate-level Science *Investigation* tasks.

Each kit contains NYSED-specified materials, or approved substitutes, for the corresponding Investigation.

Note: How's the Weather Up There? does not have an associated kit of materials



# Elementary & Intermediate Level Science Investigations



## ELEMENTARY

### 1 ENERGY: *Light It Up*

Students design, test and refine electric circuits that convert one form of energy to another. Students will connect these concepts to electric devices in their lives.

### 2 INHERITANCE & VARIATION OF TRAITS - LIFE CYCLES AND TRAITS: *Circle of Life*

Students will create life cycle models of three unique and diverse organisms. They will identify differences while showing all have birth, growth, reproduction and death in common.

### 3 STRUCTURE & PROPERTIES OF MATTER: *What's in the Bag?*

Students mix two substances in a closed system and will determine through evidence if a new substance has been formed. They will also investigate how physical properties can impact rates of reactions.

### 4 WEATHER & CLIMATE: *Cloud in a Bottle*

Students work collaboratively to investigate weather variables that affect cloud formation. They will explore processes of the water cycle and their relationships with weather/climate.

## INTERMEDIATE

### 1 ENERGY: *Cool It!*

Students analyze data to determine the relationship between the mass of a metal and the amount of heat energy the metal is able to transfer to water. They will plan, conduct and assess their own experiments.

### 2 STRUCTURE, FUNCTION & INFORMATION PROCESSING: *It's Alive?*

Using a microscope, students will make observations to provide evidence that living things are made up of cells. They will also determine that cells have individual parts that help the cell's overall function.

### 3 STRUCTURE & PROPERTIES OF MATTER: *All Mixed Up*

Students will design and conduct an experiment to separate a mixture into its individual components and to identify those components.

### 4 WEATHER & CLIMATE: *How's the Weather Up There?*

Students will collect and analyze weather variable data from weather maps of five consecutive days to determine how the motion and interactions of air masses cause changes in weather.



BOCES 4 Science Unit Alignment with Elementary-level *Investigation* tasks

# BOCES <sup>4</sup> Science



## Circle of Life

- Grade 3: Generations of Butterflies (after unit)
- Grade 5: Deer, Deer Everywhere! (after lesson 10)



## Cloud in a Bottle

- Grade 3: Investigating Weather and Climate (after lesson 7)
- Grade 5: Got Water (lesson 6)



## Light It Up

- Grade 4: Powering Thru the Fair (unit introduction)



## What's in the Bag?

- Grade 5: Toys Matter (after lesson 8)

# ***Investigation Kits Information***

**Updated for Fall 2023**

The information and prices contained in this *Investigation Kit Catalog* are valid through December 31, 2023. Orders and/or financial commitments received after December 31, 2023 will be subject to the Winter/Spring 2024 catalog, with an anticipated release in January 2024.

Please review the following information, as there have been changes to the catalog since the 2022-2023 school year.

This includes:

- Availability of Full Kits – these kits provide hands-on materials for 1 teacher with 30 students.
- Kits will be based on a purchase-only model.
- Additional materials may be purchased as needed; please contact BOCES 4 Science for an official quote.
- Teacher and student directions and answer packets will not be provided with kits. These should be downloaded via the NYSED assessment portal.

Quantities of materials are limited. Fulfillment of Investigation Kits will be prioritized based on submission of a valid financial commitment (i.e., Purchase Order or Contract).

Please note, supply chain issues continue to impact the availability of materials. We will ship kits out as soon as reasonably possible – we cannot guarantee delivery by a specific date. Thank you for your understanding.

Additionally, materials will be prioritized for fulfillment of complete kits.

Please complete and submit pages 6 and 7 for your order.

Please call or email Steven Montemarano, Director of BOCES 4 Science, with any questions.

Contact Information:

Steven Montemarano

585-617-2360

[smontema@boces4science.org](mailto:smontema@boces4science.org)

# BOCES 4 Science Budget Worksheet

## Fall 2023

District:	
BOCES:	
Contact Name:	
Title:	
Address	
Telephone:	
Fax:	
Email:	
<p>Please send all appropriate order forms with your request to</p> <p>Monroe 2-Orleans BOCES</p> <p>Gina Vaccarella 771 Elmgrove Road Rochester Tech Park, Building 2 Rochester, NY 14624 Fax #: 585-352-1157 Phone #: 585-617-2363 <a href="mailto:gvaccare@boces4science.org">gvaccare@boces4science.org</a></p>	

# Purchase Order Form: Full Kits

(Materials for 1 teacher and 30 students)

Prices Valid from August - December 2023

Kits and materials subject to material availability

Please refer to page 5 for further information regarding kits

## Elementary-level *Investigation* kits

<i>Investigation</i> Kit Title	Cost	Quantity	Sub-Total
Circle of Life*	\$105		
Cloud in a Bottle	\$290		
Light it Up	\$635		
What's in the Bag?	\$230		
<b>Sub-Total</b>			<b>(1)</b>

\*Circle of Life Kit comes with all materials pre-cut and placed in labeled envelopes

## Intermediate-level *Investigation* kits

<i>Investigation</i> Kit Title	Cost	Quantity	Sub-Total
It's Alive?	\$510		
Cool It!	\$240		
All Mixed Up	\$260		
<b>Sub-Total</b>			<b>(2)</b>

## Total Purchase Cost

Elementary-level <i>Investigation</i> kit subtotal – line (1)	
Intermediate-level <i>Investigation</i> kit subtotal – line (2)	
Administrative Charge – 5.2% *Note: No Administrative charges for Monroe 1, Monroe 2-Orleans, Wayne Finger-Lakes, or Genesee Valley BOCES	
Shipping Charge – 13% *Note: No Shipping charges for Monroe 1, Monroe 2-Orleans, Wayne Finger-Lakes, or Genesee Valley BOCES	
<b>Total</b>	

### **Inventory Policy:**

Please inventory your materials upon arrival. Any missing/damaged parts must be reported to BOCES 4 Science within 2 weeks of the delivery date.



# Investigation Kit Supplies

## ELS Investigation Kits

<b>WHAT'S IN THE BAG?</b>	<b>CIRCLE OF LIFE</b>
<p><b>General Supplies</b></p> <ul style="list-style-type: none"><li>15 Bags</li><li>24 Alka Seltzer Tablet</li><li>15 Small Plastic Petri Dish (tops and/or bottoms)</li><li>15 100ml Graduated Cylinder &amp; Base</li><li>15 Plastic Cups</li><li>15 Stop Watch</li><li>1 Box of Matches</li><li>1 Pad of Post It Notes</li><li>1 Roll of Blue Tape</li><li>2 2 Liter or ½ Gallon Bottles</li><li>1 Package of Paper Towel</li><li>1 SDS Information Packet</li><li>30 Safety Goggles</li><li>1 Sign of each: “WHOLE TABLET” “FOUR PIECES”            “MANY SMALL PIECES”</li></ul> <p><b>Teacher to Supply</b></p> <ul style="list-style-type: none"><li>30 Student Directions</li><li>30 Student Answer Packet 1</li><li>30 Student Answer Packet 2</li><li>1 Blank Copy of Data Table 2</li></ul>	<p><b>General Supplies</b></p> <ul style="list-style-type: none"><li>30 Envelopes labeled “BULLFROG”</li><li>30 Envelopes labeled “BEAN PLANT”</li><li>30 Envelopes labeled “EASTERN BLUEBIRD”</li><li>1 SDS Information Packet</li></ul> <p><b>Teacher to Supply</b></p> <ul style="list-style-type: none"><li>30 Student Directions</li><li>30 Student Answer Packet</li></ul>

## CLOUD IN A BOTTLE

### General Supplies

- 15 1 Liter Bottle Temperature Strip Assembly
- 15 Insulated Cup w/line
- 10 Insulated Cup w/line & labeled "H"
- 10 Insulated Cup w/line & labeled "C"
- 15 50ml Graduated Cylinder & Base
- 2 Thermos Containers
- 2 Box of Matches
- 1 Blue Sharpie Marker
- 1 Red Sharpie Marker
- 1 SDS Information Packet
- 30 Safety Goggles

### Teacher to Supply

- 30 Student Directions
- 30 Student Answer Packet 1
- 30 Student Answer Packet 2
- 2 Data Table 2

## LIGHT IT UP

### General Supplies

- 15 Bags each includes the following:
    - 2 "D" Cell Batteries
    - 2 Plastic Battery Holders
  - 10 Connectors w/Alligator Clips at both ends
  - 3 #48 bulbs
  - 3 Mini light bulb Holders
  - 1 Electrical Switch
- 10 Extra #48 Bulbs

### Teacher to Supply

- 30 Student Directions
- 30 Student Answer Packet 1
- 30 Student Answer Packet 2

## ILS Investigation Kits

<b>ALL MIXED UP</b>	<b>IT'S ALIVE</b>
<p><b>General Supplies</b></p> <ul style="list-style-type: none"><li>1 16 oz. Clear Container w/lid &amp; labeled Mixture 1</li><li>1 16 oz. Clear Container w/lid &amp; labeled Mixture 2</li><li>1 16 oz. Clear Container w/lid &amp; labeled Mixture 3</li><li>1 16 oz. Clear Container w/lid &amp; labeled Mixture 4</li><li>4 4 oz. Clear Container w/lid &amp; labeled Mixture 1</li><li>4 4 oz. Clear Container w/lid &amp; labeled Mixture 2</li><li>4 4 oz. Clear Container w/lid &amp; labeled Mixture 3</li><li>3 4 oz. Clear Container w/lid &amp; labeled Mixture 4</li><li>6 50 ml Graduated Cylinder w/base</li><li>1 150ml Bottle of Mineral Oil</li><li>3 25ml Bottles of Mineral Oil</li><li>45 Large Plastic Petri Dish Pieces (Tops and/or Bottoms)</li><li>1 Package of Paper Towel</li><li>1 Roll of Blue Tape</li><li>1 SDS Information Packet</li><li>30 Safety Goggles</li><li>10 Plastic Tweezers</li><li>10 Pipettes</li><li>10 Magnet</li><li>15 Plastic Funnel</li><li>15 Filter Paper</li><li>10 2" Sieve</li><li>10 9 oz. Plastic Cup</li><li>10 12" Metric Ruler</li><li>10 Hand Lenses</li></ul> <p><b>Teacher to Supply</b></p> <ul style="list-style-type: none"><li>30 Student Directions</li><li>30 Student Answer Packet 1</li><li>30 Student Answer Packet 2</li><li>15 Substance Identification</li></ul>	<p><b>General Supplies</b></p> <ul style="list-style-type: none"><li>5 Microscope Slide – Human Hair</li><li>5 Microscope Slide – Thread</li><li>5 Microscope Slide – Sand</li><li>5 Microscope Slide – Paramecium</li><li>5 Microscope Slide – Euglena</li><li>5 Microscope Slide – Elodea</li><li>5 Microscope Slide – Yeast</li><li>5 Microscope Slide – Human Cheek Cell (squamous epithelial)</li><li>5 Microscope Slide – Human Nerve Cell (multipolar neuron)</li><li>5 Microscope Slide – Onion Bulb Epidermis (allium cepa)</li><li>5 Microscope Slide – Onion Root Tip (allium)</li><li>1 Set Microscope Placements</li></ul> <p><b>Teacher to Supply</b></p> <ul style="list-style-type: none"><li>30 Student Directions</li><li>30 Student Answer Packet 1</li><li>30 Student Answer Packet 2</li><li>Microscopes</li></ul>

## COOL IT!

### General Supplies

- 15 Insulated Cup w/lid
- 15 100ml Graduated Cylinder & Base
- 1 Bag of Metal Washers (approximately 150 washer)
- 15 2-Liter Plastic Bottle

### Shared by Class

- 4 Tongs
- 1 Package of Paper Towels

### Teacher to Supply

- 30 Student Directions
- 30 Student Answer Packet 1
- 30 Student Answer Packet 2

