

K-5 Curriculum Offerings, OHM BOCES Science Center

1. The following K-5 kits will be offered for the 2020-2021 school year. [Link to Science Kit alignments](#)

	Life Science	Physical Science	Earth and Space
K	<ul style="list-style-type: none"> Relationships in an Ecosystems (NYSSLS: K-LS1-1, K-ESS3-1, 4-PS3-3, K-ESS2-2, K-ESS3-3, K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3)(NYS:1.1a, 1.1b, 1.2a, 3.1c, 5.1b, 5.2e, 5.2f, 5.2g, 6.1a, 6.1b, 6.1c, 7.1a, 7.1b, 7.1c) (CC-Plants) (CC-Farms)(CC Taking Care of Earth)** The Five Senses (CC-5 Senses) 	<ul style="list-style-type: none"> Gravity and Motion (NYSSLS: K-PS2-1, K-PS2-2) (NYS:5.1a,5.1b, 5.1f) 	<ul style="list-style-type: none"> Weather and Climate (NYSSLS: K-PS3-1,K-PS3-2, K-ESS2-1, K-ESS3-1, K-PS1-1)(NYS:1.1a, 1.1c, 2.1a, 2.1b, 2.1e, 3.1g, 3.2b, 4.1b, 4.1c, 4.2a) (CC: Seasons & Weather)
1st	<ul style="list-style-type: none"> Animals and Survival (NYSSLS:1-LS1-1, 1-LS1-2, 1-LS3-1) (NYS:1.1a, 1.1b, 3.1a, 3.1c, 5.1b, 5.2c, 5.2d, 5.2e, 5.2f, 5.2g, 6.1e) (CC: Animals & Habitats) The Human Body (CC Human Body)**1st & 2nd grade Hybrid 	<ul style="list-style-type: none"> Light, Sound, and Communication (NYSSLS: 1-PS4-1, 1-PS4-2, 1-PS4-3, 1PS4-4, 4-PS4-1) (NYS:4.1a, 4.1b, 4.1d, 4.1g.) 	<ul style="list-style-type: none"> Our Sun & the Night Sky (NYSSLS: 1-ESS1-1, 1-ESS1-2) (NYS:1.1a, 1.1b, 1.1c, 5.1a, 5.1c, 5.1e) (CC: Astronomy)
2nd	<ul style="list-style-type: none"> Plants: Structure and Function (NYSSLS: 2-LS2-1, 2-LS2-2)(CC: Cycles in nature seasons and life) (NYS:3.1c, 5.2a, 5.2g, 6.1a, 6.1b, 6.1c, 6.1e, 6.2a, 6.2b) The Diversity of Life (NYSSLS: 2-LS4-1) (NYS: 2.1a, 2.1b, 2.1c, 2.1d, 3.1a, 3.1b, 3.1c, 3.2a, 3.2b, 5.2a, 5.2e)(CC: Insects) 	<ul style="list-style-type: none"> The Nature of Matter (NYSSLS: 2-PS1-1, 2-PS1-2, 2-PS1-4, K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3) (NSY:3.1a, 3.1b, 3.1c, 3.1e, 3.1f, 3.2c) 	<ul style="list-style-type: none"> The Dynamic Earth (NYSSLS: 2-ESS1-1, 2-ESS2-1, 2-ESS2-2, 2-ESS2-3, K-2-ETS1-1, K-2-ETS1-2, K-2-ETS1-3) (NYS:2.1d, 2.1e, 3.2a, 3.2b) (CC History of earth 1st grade**)
3rd	<ul style="list-style-type: none"> Adaptations and Survival (3-LS2-1, 3-LS4-1, 3-LS4-3, 3-LS4-4, 3-5-ETS1-2, 3-5-ETS1-2, 3-5-ETS1-3) (NYS: 3.1c, 5.2a, 5.2b, 5.2d, 5.2e, 5.2f, 5.2g, 6.1e, 6.1f, 7.1a, 7.1b, 7.1c) (CC: adaptations Frogs) Frog Life Cycles (NYSSLS: 3-LS1-1, 3-LS3-1, 3-LS3-2, 3-LS4-2) (CC: Animal characteristics) (NYS: 1.2a, 2.1a, 2.1b, 2.2a, 2.2b, 3.1c, 3.2a, 3.2b, 4.1a, 4.1b, 4.1c, 4.1d, 4.1e, 4.1f, 4.1g.) 	<ul style="list-style-type: none"> Forces in Physics (NYSSLS: 2-PS2-1, 2-PS2-2, 3-PS2-3, 3-PS2-4, 3-5-ETS1-2, 3-5-ETS1-2, 3-5-ETS1-3) (NYS: 5.1e, 5.2a, 5.2b, 4.1b, 5.1a, 5.1b) 	<ul style="list-style-type: none"> Global Climate (NYSSLS: 3-ESS2-1, 3-ESS2-2, 3-ESS3-1)(NYS: 1.1a, 2.1a, 2.1b, 2.1e.) (CC-Role of water)
4th	<ul style="list-style-type: none"> Structures and Functions of Life (NYSSLS: 4-LS1-1, 2-LS2-2, 4-LS1-2, 4-PS4-2, 3-5-ETS1-2, 3-5-ETS1-2, 3-5-ETS1-3,) (NYS: 3.1a, 3.1b) (CC: animal defense mechanisms) 	<ul style="list-style-type: none"> Understanding Energy (NYSSLS: 4-PS3-1, 4-PS3-2, 4-PS3-4, 4-ESS3-1, ,3-5-ETS1-2, 3-5-ETS1-2, 3-5-ETS1-3) (NYS: 4.1a, 4.1b, 4.1c, 4.1d, 4.1f, 4.1g, 4.2a, 4.2b) Simple Machines and Circuits (NYS: 4.1b, 4.1c, 4.1d, 4.1e, 5.1b, 5.1f)(CC Simple Machines) 	<ul style="list-style-type: none"> Shaping Our Earth (NYSSLS: 4-ESS1-1, 4-ESS2-1, 4-ESS2-2, 4-ESS3-2) (NYS: 2.1d, 2.1e)
5th	<ul style="list-style-type: none"> Energy of Life (NYSSLS: 5-PS3-1, 5-LS1-1, 5-LS2-1)) (NYS: 5.1c, 5.1d, 5.1e, 5.2a, 6.1a, 6.1b, 6.1c, 6.2a, 6.2b, 6.2c)(Biodiversity in the Rainforest 	<ul style="list-style-type: none"> Chemistry in Our World (NYSSLS: 5-PS1-1, 5-PS1-2, 5-PS1-3, 5-PS1-4) (NYS: 3.1a, 3.1b, 3.1g, 3.2a, 3.2c, 3.2e, 3.3a) 	<ul style="list-style-type: none"> Earth's Systems (NYSSLS: 5-ESS2-1, 5-ESS2-2, 5-ESS2-2, 5-ESS3-1) (NYS: 2.1a, 2.1b, 2.1c, 2.1d, 2.1e, 2.1g, 2.1h, 2.1i, 2.1j, 2.2i, 2.2j, 2.2k) (CC: Natural Resources)(CC: Natural Disasters).* Space Systems (NYSSLS: 5-PS2-1, 5-ESS1-1, 5-ESS1-2) (NYS: 1.1a, 1.1b, 1.1c,1.1d, 1.1e, 1.1f, 1.1g, 1.1h, 1.1i, 1.1j)

2. At this time, our program will eliminate previously offered PreK and 6th grade kit with the intent of collaboratively identifying topic and kit needs for those grade levels.

Ordering Procedures 2020-2021:

We are centralizing ordering this year in order to support the District's discussion for implementation of the new science kits. There are three options to consider:

Option 1: One District Submission for all orders

- A) Can be facilitated through the linked google sheet. Instructions are attached to the sheet. We will require the kits, timelines, teacher's names and grades, and buildings. This can be emailed to sciencecenter@oneida-boces.org
- B) Can be facilitated through hard copy, (attached in email) and submitted through email to sciencecenter@oneida-boces.org or faxed to the Information and Technology Department 315 793 8554.

Option 2: Submission by Building

- A) Can be facilitated through the linked google sheet. Instructions are attached to the sheet. We will require the kits, timelines, teachers' names and grades, and buildings. This can be emailed to sciencecenter@oneida-boces.org
- B) Can be facilitated through hard copy, (attached in email) and submitted through email to sciencecenter@oneida-boces.org or faxed to the Information and Technology Department 315 793 8554.

Option 3: Can be facilitated by individual teachers.

- A) The hard copy option will only be employed. This can be submitted by email to sciencecenter@oneida-boces.org or faxed to the Information and Technology Department 315 793 8554.

Please do not hesitate to be in touch with any questions.

Grade level descriptions: (Maximum four titles per teacher)

OHM BOCES SCIENCE KIT REGISTRATION Dates – 2020-2021 SCHOOL YEAR							
	GRADE LEVEL	Classification	KIT NAME	Dates			
Maximum 4 titles per teacher	Kindergarten	Earth and Space	Weather and Climate	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Kindergarten	Life Science	The Five Senses	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Kindergarten	Life Science	Relationships in an Ecosystem		11/17/20- 2/1/21		4/12/21- 6/21/21
	Kindergarten	Physical Science	Gravity and Motion		11/17/20- 2/1/21		4/12/21- 6/21/21

NYSSLS Aligned Kits*:

- **SKK.1 Gravity & Motion*:**
In Forces and Motion, students will explore concepts about resting, motion, and forces. Activities will allow students to see that height and angles influences speed and distance travelled. Students will be engaged through play with inclined planes. As a culminating project, students will be challenged to use an inclined plane to hit a target at a certain distance away. This will demonstrate to the teacher that there is understanding of position and mass in relationship to distance traveled.
- **SKK.2 Weather & Climate*;**
In this unit, the students will have an introduction to some weather basics. They will learn about simple weather condition measurements and simple weather instruments. They will also learn about seasonal variations in weather and some simple description of extreme weather.
- **SKK.3 Relationships in an Ecosystem*;**
Through direct observation of a mini ecosystem, students will investigate the basic needs of all living organism as well as how they meet those need by interacting with their environment. Students will be challenged to identify and communicate solutions to reduce human impact on the environment.
- **SKK.4 Five Senses:**
Students will gain an understanding of the five senses, their anatomical structures, and their functions. A series of hands on activities, having students use and isolate their own senses, will develop within each student a functional understanding of how their own senses operate. The loss of one or more of the senses in humans, as well as highly developed senses in the animal kingdom, will be examined to demonstrate the concept of heightened sensorial sensitivity. A culminating challenge will require students to probe and understand material objects using their five senses.

Grade level descriptions: (Maximum four titles per teacher)

OHM BOCES SCIENCE KIT REGISTRATION Dates – 2019-2020 SCHOOL YEAR							
GRADE LEVEL	Classification	KIT NAME	Dates				
Maximum 4 titles per teacher	Grade One	Earth Science	Our Sun and The Night Sky	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Grade One	Life Science	The Human Body	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Grade One	Life Science	Animals and Survival		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade One	Physical Science	Light Sound and Communication		11/17/20- 2/1/21		4/12/21- 6/21/21

NYSSLS Aligned Kits*:

- **SK1.1 Light, Sound and Communication*;**
Energy is important for our everyday lives. In this kit, students will learn about various types of energy, with an emphasis on light and sound, through demonstrations, presentations, reading, and free play. Students will come away with an understanding of energy and how it can be transmitted, as well as how it can be useful in communication
- **SK1.2 Our Sun & Night Sky*;**
In this kit, Students will learn about various aspects of space in relation to the Earth. Students will develop an understanding of the concept of the universe, the importance of describing direction and the role of the sun, day-to-day as well as seasonally. Students will also receive an introduction to stars and constellations and simple moon phases.
- **SK1.3 Animals and Survival*;**
Students will study the internal and external structures of the hermit crab and relate those structures to those of other organisms including humans. They will be challenged to use what they have learned about other animal adaptations to identify and solve a human problem.
- **SK1.4 The Human Body;**
In this CC ELA aligned unit, students will learn about basic human needs and how those needs are met through the function of the major human body systems. Students will conduct hands on activities to model the actions of the digestive system, skeletal system, muscular system, cardiovascular system, nervous system, respiratory system, and the immune system. Students will build a take home model of the human body and its systems.

Grade level descriptions: (Maximum four titles per teacher)

OHM BOCES SCIENCE KIT REGISTRATION Dates – 2019-2020 SCHOOL YEAR							
	GRADE LEVEL	Classification	KIT NAME	Dates			
Maximum 4 titles per teacher	Grade Two	Earth Science	The Dynamic Earth		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade Two	Life Science	The Diversity of Life	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Grade Two	Life Science	Plants: Structure and Function		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade Two	Physical Science	The Nature of Matter	9/8/20- 11/17/20		2/1/21- 4/12/21	

NYSSLS Aligned Kits*:

- **SK2.1 The Nature of Matter*;**
Students will explore the properties of matter in this kit. Lessons will incorporate many hands on activities and demonstrations. At the conclusion of the kit, students will be challenged to build a boat that is capable of transporting toy monkeys across a river.
- **SK2.2 The Dynamic Earth*;**
In this kit, students will study landforms and bodies of water. Then they will take a close look at various ways that erosion and deposition of weathered material can occur. Finally, they will study soil composition and formation and ways to prevent soil erosion.
- **SK2.3 Diversity of Life*;**
Students will study the diversity of life as it presents itself across a variety of habitats. First hand observation of several different organisms set up in their own classroom habitats will allow students to see how animals and plants have evolved differently according to their environmental conditions. Given a specific habitat, students will need to design and build their own model animal to survive in that habitat.
- **SK2.4 Plants*;**
Students will study plants as producers and the foundation for nearly all life on earth. A close examination of how plants grow and reproduce will culminate in a controlled study to determine what plants need to survive and thrive.

Grade level descriptions: (Maximum four titles per teacher)

OHM BOCES SCIENCE KIT REGISTRATION Dates – 2019-2020 SCHOOL YEAR							
GRADE LEVEL		Classification	KIT NAME	Dates			
Maximum 4 titles per teacher	Grade Three	Earth Science	Global Climate		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade Three	Life Science	Adaptations and Survival		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade Three	Life Science	Frog Life Cycles	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Grade Three	Physical Science	Forces in Physics	9/8/20- 11/17/20		2/1/21- 4/12/21	

NYSSLS Aligned Kits*:

○ **SK3.1 Forces in Physics*;**

In Forces and Motion, students will be learning about forces and how they affect objects. Students will be engaged with many hands-on activities to allow them to gain better understanding of forces. At the conclusion of the kit, students will be challenged to use their knowledge and understanding of forces to build a magnetic vehicle that can not only travel along a track, but to carry weight as well.

○ **SK3.1 Global Climate*;**

In this kit, students will delve more deeply into weather and climate. Students will learn more about weather variables, how these are measured, and what causes wind, how weather data is collected and recorded. Students will also learn about extreme weather, relating seasonal variability in various climate zones to the likelihood of experience particular types of extreme conditions.

○ **SK3.3 Life Cycles of a Frog*-**

In this ELA Module 2A Aligned kit, students will be able to explore life cycles in nature and how they are similar across many different organisms. The focus of the students’ observations will be on the “Xenopus laevis” or the African clawed frog. Students will be able to observe the stages of the frog’s life cycle simultaneously. The kit will culminate with the students performing a formal inquiry pertaining to the frogs and their behavior.

○ **SK3.4 Adaptation and Survival*;**

Students will gain an understanding of the processes that have, and continue to, shape organisms on this earth. An examination of the fossil record will open students to the concept that life changes over time to eventually become different organisms. Students will look at how environmental changes are currently affecting earth’s living organisms and design solutions to problems caused when the environment changes.

Grade level descriptions: (Maximum four titles per teacher)

OHM BOCES SCIENCE KIT REGISTRATION Dates – 2019-2020 SCHOOL YEAR							
	GRADE LEVEL	Classification	KIT NAME	Dates			
Maximum 4 titles per teacher	Grade Four	Earth Science	Shaping Our Earth	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Grade Four	Life Science	Structures and Functions of Life		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade Four	Physical Science	Understanding Energy	9/8/20- 11/17/20		2/1/21- 4/12/21	
	Grade Four	Physical Science	Simple Machines & Circuits		11/17/20- 2/1/21	2/1/21- 4/12/21	4/12/21- 6/21/21

NYSSLS Aligned Kits*:

- **SK4.1 Understanding Energy***
In the 4th grade Energy kit, students will learning about types of energy and the origin of all of the energy on Earth. Through a series of demonstrations and hands-on activities, supported by presentations, reading, and writing activities, students will understand that all energy originates from stars and is converted in many different ways into energy we can use to power our homes and vehicles. Students will learn about energy efficiency and different types of power plants. Ultimately, students will engineer a device that showcases their knowledge of the origins of energy and its conversion.
- **SK4.2 Simple Machines and Simple Circuits;**
In Simple Machines, students will examine the six classical machines and how they reduce the amount of effort required to complete work. Students will be able to use all six machines as they investigate force, work, and effort. In a cumulating project, students will take their knowledge of simple machines and design a compound machine. Simple Circuits is a kit designed to help students better understand the flow of electricity. In this kit, students will make and manipulate electrical circuits to clarify the roles of the components in the circuits. A cumulating activity will allow students to demonstrate their knowledge of electrical circuits.
- **SK4.3 Shaping our Earth*;**
In this kit, students will take a more in-depth look at erosion and erosion prevention. Then they will look at layering of deposited material (rock layers), fossils evidence and plate tectonics. Finally, they will study and model plate tectonics and work on the design of an earthquake-proof building.
- **SK4.3 Structure and Functions of Life*;**
Students will study the internal and external structures of the fiddler crab and relate those structures to those of other organisms including humans. The will examine how these structures allow organisms to survive, grow, and reproduce. A controlled study of the fiddler crab as it relates to survival and growth will complete the unit.

Grade level descriptions: (Maximum four titles per teacher)

OHM BOCES SCIENCE KIT REGISTRATION Dates – 2019-2020 SCHOOL YEAR							
	GRADE LEVEL	Classification	KIT NAME	Dates			
Maximum 4 titles per teacher	Grade Five	Earth Science	Earth Systems	9/8/20- 11/17/20	11/17/20- 2/1/21	2/1/21- 4/12/21	
	Grade Five	Earth Science	Space Systems		11/17/20- 2/1/21		4/12/21- 6/21/21
	Grade Five	Life Science	Energy of Life	9/8/20- 11/17/20			4/12/21- 6/21/21
	Grade Five	Physical Science	Chemistry in Our World	9/8/20- 11/17/20		2/1/21- 4/12/21	

NYSSLS Aligned Kits*:

- **SK5.1 Chemistry in Our World*;**
In Chemistry in Our World, students will learn about the structure of the atom, physical and chemical changes, and properties of matter. Students will experience direct and indirect measurement methods, and they will understand how scientists can learn about atoms when they are too small to be seen. With this information, students will be challenged to identify properties of mystery substances and then they will be challenged further to separate a mixture and then determine if a change was physical or chemical, and to justify their reasoning.
- **SK5.2 Earth Systems*;**
In Science Kit 5.2 students will be learning about the Earth’s atmosphere, lithosphere and hydrosphere and how all three interact to support life on earth. Teacher directed instruction will be supported by student inquiry activities that reinforce the scientific method. Students will gain an understanding of how the water cycle influences weather and climate, and thus determines the patterns of human population around the world.
- **SK5.3 Space Systems*;**
In this kit, students will study latitude and longitude as they relate to location on earth and time of day. Students will also relate cyclical variations to changes in angle of insolation and seasonal changes. Next, students will take a closer look at the solar system with attention paid to the organization of the planets and the effect of gravity on their paths. Finally, they will study constellations and their motion relative to earth as well as the moon and associated tides.
- **SK5.4 The Energy of Life*;**
Students will gain an understanding for the cycle of energy and matter through an ecosystem through the direct observation of organisms in a food chain. A controlled study looking at the decomposition of various materials will complete the unit.