MOSI
KEEP DISCOVERING.

Sarasota Schools Grant

The MOSI in Motion Mobile Science Lab brings the excitement of a field trip to your middle schools. Immerse your students in STEM, (Science, Technology, Engineering, and Mathematics), with customized 90-minute sessions that address the Science Standards for 6th, 7th and 8th grade, and align to the pacing and curriculum guides provided by Sarasota County School's Year at a Glance.

MOSI is excited to have the opportunity to help make science real for your students. We are looking forward to this collaboration with your administration, teachers and most of all – the students. We encourage involvement and feedback from all parties to make this partnership as meaningful, beneficial and impactful as possible and to help your students reach their highest STEM potential.

MOSI will provide:

- A standards based STEM program.
- Custom programs designed to match 6th, 7th and 8th grade standards delivered at 8 middle schools.
- A rigorous curriculum that addresses 6th, 7th and 8th grade science standards that students are tested on, that focuses on the application and understanding of science concepts as well as the nature of science.
- Programs that will bring MOSI's enthusiastic, knowledgeable science and technology educators who are Lunsford certified.
- Programs that will contain instructional hands-on activities/labs, including demos that match science standards.
- Face to face interaction and engagement with the students.
- All materials needed for a maximum of 30 students per session.
- A field trip to MOSI (transportation provided by Sarasota County)
- A pre and post assessment at the beginning of the sessions and at the end based on interest, engagement and standards.

MOSI requires:

- A classroom with access to water and electricity.
- A classroom conducive to group work for up to a maximum of 30 students.
- Two-week notice for any schedule changes or cancellations.
- Payment on a monthly basis.

Timeline: Mondays - Thursdays

January

22 School A Topics 1 and 2	23 School B Topics 1 and 2	24 School C Topics 1 and 2	25 School D Topics 1 and 2
29 School E Topics 1 and 2	30 School F Topics 1 and 2	31 School G Topics 1 and 2	1 School H Topics 1 and 2

February

5 School A Topics 3 and 4	6 School B Topics 3 and 4	7 School C Topics 3 and 4	8 School D Topics 3 and 4
12 School E Topics 3 and 4	13 School F Topics 3 and 4	14 School G Topics 3 and 4	15 School H Topics 3 and 4
19 No School	20 School B Topics 5 and 6	21 School C Topics 5 and 6	22 School D Topics 5 and 6
26 ***Schools A and E*** Topics 5 and 6	27 School F Topics 5 and 6	28 School G Topics 5 and 6	29 School H Topics5 and 6

March

4 School A Topics 7 and 8	5 School B Topics 7 and 8	6 School C Topics 7 and 8	7 School D Topics 7 and 8
Spring Break			
18 School E Topics 7 and 8	19 School F Topics 7 and 8	20 School G Topics 7 and 8	21 School H Topics 7 and 8
25 School A Topics 9 and 10	26 School B Topics 9 and 10	27 School C Topics 9 and 10	28 School D Topics 9 and 10

April

1 School E Topics 9 and 10	2 School F Topics 9 and 10	3 School G Topics 9 and 10	4 School H Topics 9 and 10
8 School A Topics 11 and 12	9 School B Topics 11 and 12	10 School C Topics 11 and 12	11 School D Topics 11 and 12
15 School E Topics 11 and 12	16 School F Topics 11 and 12	17 School G Topics 11 and 12	18 School H Topics 11 and 12

*Field Trip to MOSI on a Saturday

Science Club can continue to complete the grant in Fall of 2024:

Schools A-G; Mondays - Thursdays 2024 Dates (two week rotation again)	
Weeks of August 19 and 26	Topics 1, 2, 3
Weeks of Sept. 2 and 9	Topics 4, 5, 6
Weeks of Sept. 16 and 23	Topics 7, 8, 9
Weeks of Sept. 30 and Oct. 7	Topics 10, 11, 12
Weeks of Oct. 14 and 21	Topics 1, 2, 3
Weeks of Oct. 28 and Nov. 4	Topics 4, 5, 6
Weeks of Nov. 11 and 18	Topics 7, 8, 9
Weeks of Dec. 2 and 9	Topics 10, 11, 12

*Field Trip to MOSI on a Saturday

Curriculum Scope and Sequence for sessions. Labs and Hands-On Activities with the Nature of Science embedded throughout all sessions:

Topic 1: **Based on 6th Grade Standards**

The Solar System
- Formation of the solar system
- Planets
- The Sun
- Space Exploration

Earth and Moon
- Earth and Moon relationship
- Effect on Earth's systems (i.e. seasons, tides, moon phases, and eclipses)

Topic 2: **Based on 6th Grade Standards**

Our Place in the Universe
- Stars
- Ancient astronomy
- Modern astronomy

Weather and Climate
- Weather events
- Climate regions
- Climate change
- Earth's atmospheric layers

Topic 3: **Based on 6th Grade Standards**

Land Formations
- Landforms
- Erosion
- Weathering - Chemical and Mechanical

Earth's Interior
- Earth's internal layers
- The Rock Cycle
- Geologic History
- Fossils

Topic 4: **Based on 6th Grade Standards**

Plate Tectonics
- Plate Tectonic Theory
- Plate Movement

Earthquakes and Volcanoes
- Earthquakes
- Volcanoes

Topic 5: **Based on 7th Grade Standards**

Investigating Cells
- The cell theory
- Cell types
- Cell processes

Organizing Life
- Characteristics of Living Things
- Classification of Living Things

Topic 6: **Based on 7th Grade Standards**

Human Body Systems
- The Human Body Systems
- Relationships between the Systems
- Homeostasis

Heredity and Reproduction
- Heredity
- Cell Division: Mitosis and Meiosis
- Human Growth and Development

Topic 7: **Based on 7th Grade Standards**

Infectious Agents
- Infectious Agents
- Infectious Diseases

Interdependence of Organisms
- Ecosystems
- Trophic relationships
- Populations and Communities
- Human Impact on Environment

Topic 8: **Based on 7th Grade Standards**

Evolutionary Theory
- Fossil Record
- Adaptations of Organisms
- Natural Selection

Energy and Life
- Energy in Ecosystems
- Photosynthesis
- Cellular Respiration
- Cycles of Matter

Topic 9: **Based on 8th Grade Standards**

Energy Force and Motion
- Motion
- Types of Energy
- Newtons Laws
- Electricity and Magnetism

Light Energy
- Heat and Temperature
- Types of Waves
- Electromagnetic Spectrum
- Nature of Light

Topic 10: **Based on 8th Grade Standards**

Thermal Energy
- Heat
- Temperature
- Types of Heat Transfer

Transforming Energy
- Human Use of Energy
- Energy Conservation

- Energy Storage and Transport

Topic 11: **Based on 8th Grade Standards**

Properties of Matter

- Properties of Matter

Structure of Matter

- Structure of Atoms
- Changes in States of Matter
- Periodic Table

Topic 12: **Based on 8th Grade Standards**

Chemical Changes

- Molecules
- Compounds
- Acids and Bases
- Chemical Reactions

The curriculum will spiral – and be based on test specs to help prepare for testing.

Budget

Program Expenses	Cost per Session	Number of Sessions	Cost	# of Schools	Total
Weekly Sessions includes instructor, travel time, mileage, hands-on/lab experience, and materials	$1,000	x 12 topics	$12,000	x 8 schools	$96,000
Curriculum Writing Fee	$500	x 12 topics	$6,000		$6,000
Field Trip to MOSI	$12/person	x 30 students	$360	x 8 schools	$2,880
- **Does not include transportation**					
Cost per Semester					$104,880

$104,880 x 3 semesters (total of 36 sessions and 3 field trips) = $314,640