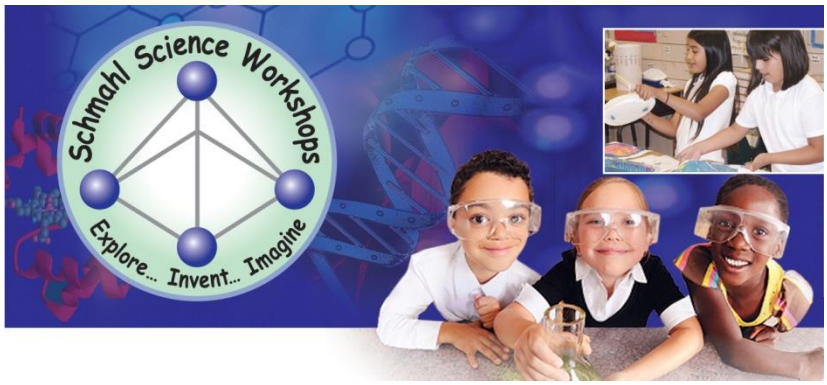
ZOOM to Friends



Intellectually Engaging, Hands-on, Interactive

Our science workshops are designed to provide an experience and body of information that inspire students:

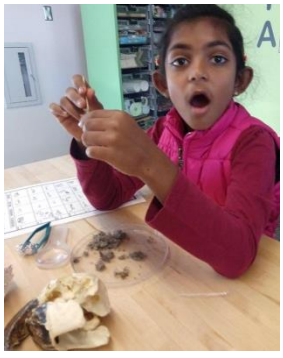
- to delve more deeply into questions they have about science
- to consider science as a possible future path
- to develop the skills and inquisitive mindset of a serious student and lifelong learner

Our instructors utilize open ended questioning and Socratic discussion to foster a minds-on introduction to a topic of exploration. Historical context of a topic provides insight into the processes and practices of science investigation that were applied and that will continue to be important tools in future investigations (modeling, observation, surveys, fair test).

The compelling message that science is an unfolding story that students may become a part of now is delivered with depth of knowledge, respect and enthusiasm.

Science Workshops for Small Groups

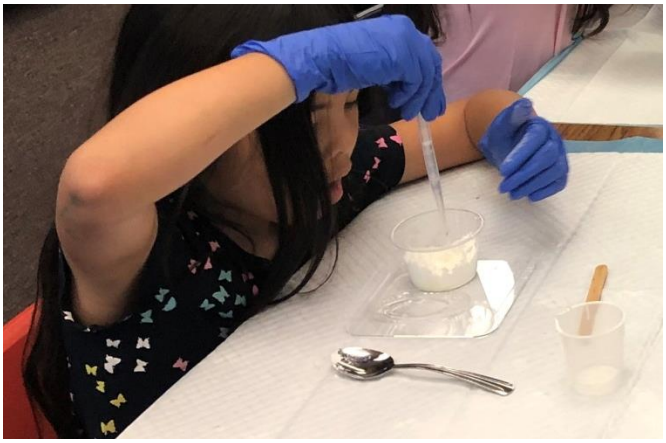
- Instructor led
- 5 friends learn together
- Same interests and similar grade level
- Up to 5 students : $100 / hr
- Scheduled in groups of 4 workshops
- Flexible day of week and time of day
- TK – 8th grade
- Biology
- Chemistry
- Physics
- Earth Science
- Astronomy



Hands-On Activities

Many of our workshops have been revised so that activities use alternative materials or new activities are identified with materials that are commonly available. The workshops use materials that :

- Are readily found at home
- Are standard student materials (e.g.markers,crayons)
- Can be easily obtained at the grocery store
- Can be ordered online



Minds-On Engagement

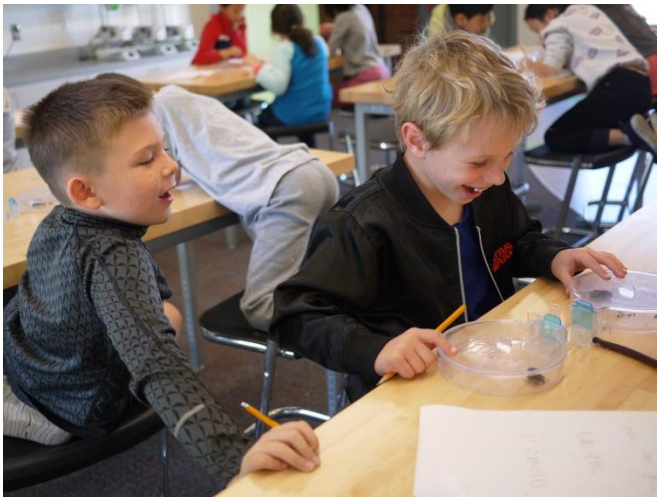
Effective hands-on exploration is rooted in a well framed context of information, modeling and analysis. As with the classroom setting, our instructors connect with students:

- Questions to begin a discussion – “Who has seen a butterfly in their garden?” “Did you notice if it spent more time near a particular plant?”
- Soliciting observations - “What do you notice about the airflow around the wing?”
- Open ended questions of reasoning - “Why do you think Galileo didn’t always get the same result?”

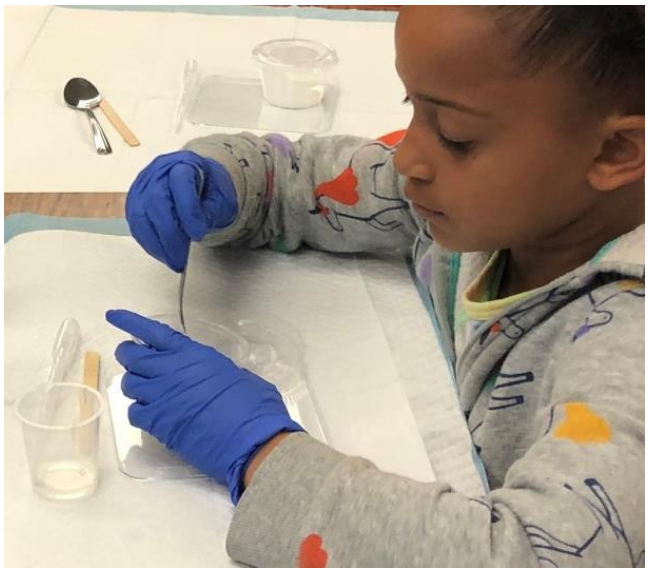
- Results discussion - “Those of you with baking soda had a different result than students using Alka Selzer” “Why do you think that is?”
- Process discussion - “Why do you think we need to have a cup of warm water and a cup of cold water?”
- Problem solving - “Can you think of a reason why you are not seeing any bubbles forming?”
- Results analysis - “You can make a table of your measurements with time needed for each cup”

Science concepts are also brought to life through a variety of other elements.

- Demonstrations – instructors perform demonstrations at their location that students can observe/discuss via video
- Animated notes – vocabulary, diagrams, pictures
- Real-time search for reference material and articles to address extension questions
- Video snippets further illuminate concepts and engage students.



Interactive instruction is our focus, but a well-placed video clip can be invaluable. In discussions of Galileo’s investigations on the Tower of Pisa, it is important to consider the factors that may have affected his results. (1 time in 10, the 2 objects did not hit the ground simultaneously) In considering air movement and resistance, the opportunity for students to see a clip of the NASA experiment of bowling ball vs feather in a vacuum is very impactful to the students’ understanding of the effects of air.



Online simulations, clips and animations can:

- Depict ocean currents in a memorable format.
- Reveal the physics behind spectroscopy and its use of varying wavelengths of light to identify materials at the microscopic level.
- Introduce students to researchers giving an explanation their experimental design, research techniques, or analysis of results.
- Capture whales as they use bubble netting techniques to encircle prey.

Making It Happen

Find four other friends who want to share fun and inspiring science activities / explorations. (OK if fewer than 5 students. Max 7 students with additional fee.)

- Pick a subject matter area so we can plan your 4 workshops
- Figure out days / times that work for your group
- How many times per week do you want to meet? 1-4
- $400 for the 4 meeting series

CONTACT US – We can help!

customerservice@schmahlscience.org

408 281 7595 x10

www.schmahlscience.org