

Schedule a Workshop

To reserve a workshop for your school or adult group, please make arrangements at least 3 weeks in advance:

Call: 617-253-5927

e-mail: thecell@mit.edu

Workshops take 2.5 hours and can accommodate up to 24 participants. Workshops can be scheduled anytime during MIT Museum hours. Times outside regular Museum hours are available at the discretion of MIT Museum staff.

Costs:

Adult/corporate rate: \$500/workshop

Schools rate: \$150/workshop

Please ask about discounts for Title 1 schools.

Additional Offering

Regularly scheduled free workshops for middle and high school teachers are available. Call for dates and registration information.

Workshop for corporate learners



Learning Lab Partners

Center for Environmental Health Sciences (CEHS)

CEHS was instrumental in developing *Learning Lab: The Cell* in partnership with the MIT Museum. MIT's Center for Environmental Health Sciences is an interdisciplinary network of biologists, chemists, civil and environmental engineers, biological engineers and microbiologists.

The Center's mission is to investigate how environmental agents affect human health. A solid grounding in molecular biology underlies this approach to studying health and the environment, including knowledge of processes involving DNA, RNA and protein synthesis, as illustrated in *Learning Lab: The Cell*. Please contact us if your organization is interested in replicating this teaching space and program.

In July, CEHS also hosts at the MIT Museum, a two-day teacher workshop in environmental health science. Teachers review the basics of DNA and focus on the relationship between DNA repair and health.

Dr. Kathy Vandiver
CEHS Director of Community Outreach and Education
617-324-0252
kathymv@mit.edu
http://cehs.mit.edu/COEP/COEC_teacher.html

MIT Museum

The mission of the MIT Museum is to engage the wider community with MIT's science, technology and other areas of scholarship in ways that will best serve the nation and the world in the 21st century. The Museum offers a range of educational programs and workshops.

Jon Markowitz Bijur
MIT Museum, Education & Public Programs
617-253-9607
jbijur@mit.edu
web.mit.edu/museum

Additional outreach programs at MIT are listed on the following website: web.mit.edu/outreach

Acknowledgements

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LEGO® Education

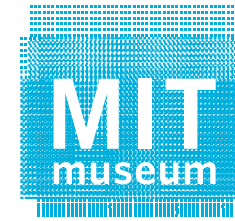
Arthur Vining Davis Foundation

The Concord Consortium

MIT Museum

Open daily 10 a.m. - 5 p.m. Closed major holidays.
265 Massachusetts Ave. Cambridge, MA 02139

web.mit.edu/museum



Learning Lab: The Cell

An immersive learning environment
about DNA, RNA and proteins

Workshops for students, teachers and
adult learners

Cover photo: high school workshop

The Cell: An Immersive Learning Environment

Learning Lab: The Cell is an innovative new space developed by the MIT Museum in collaboration with the MIT Center for Environmental Health Sciences (CEHS). This exhibit is a laboratory for facilitated learning about molecular biology.

Students, teachers, and adult learners are invited to participate in sophisticated simulations that illuminate the workings of DNA, the code of life. Using interactive tools, videos and the unique LEGO® DNA Kits, this hands-on approach helps participants to obtain an intuitive understanding of how DNA directs the assembly of protein molecules.



High school class in *The Cell*

Student Workshops

The LEGO models are perfect for teaching concepts to many different ages because the models do the teaching, and vocabulary and terminology can be adjusted.

Middle school science students will:

- ◆ *Assemble proteins from subunits*
- ◆ *Discover the DNA base pairing rule*
- ◆ *Decode messages in DNA genes*

High school students will do all the above, plus:

- ◆ *Copy DNA into mRNA messages (transcription)*
- ◆ *Produce proteins from mRNA messages (translation)*
- ◆ *Build proteins to illustrate protein structure*

Advanced or AP biology students will do all the above, plus:

- ◆ *Compare mutations for genetic outcomes*
- ◆ *Learn higher-level terminology and discuss DNA damage and repair*

Teacher Workshops

Sharpen your cell biology concepts while enjoying the LEGO construction tasks. Teachers will work with a partner and be able to ask many questions about the molecular processes to supplement existing knowledge of DNA and proteins.

Adult Learners

Workshops are similar to the high school version with emphasis on health, aging, and cancer, as group interest dictates.



Workshop for nurses

The Learning Lab's Approach to Teaching

In the Learning Lab, students benefit from a unique instructional approach that includes:

- ◆ *a custom designed space that mimics the interior of a cell*
 - ❖ *provides physical cues that reinforce cellular understanding*
- ◆ *innovative Lego-based manipulatives*
 - ❖ *demonstrates molecules in action in cellular processes*
- ◆ *multiple teaching methods*
 - ❖ *includes computer and physical models*