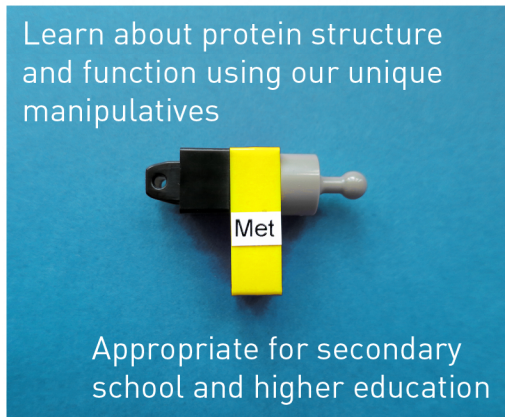
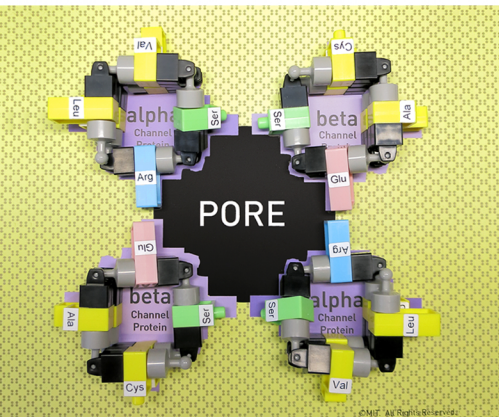


Protein Set

Teach abstract concepts in concrete ways



About the models

About the curriculum

Classroom Set: \$1200

- 14 Protein Kits
- 14 Booklet 1
- 14 Booklet 2
- 14 Protein Card Packs
- 14 Cell Membrane Mats
- 14 Trypsin Mats
- 14 Chymotrypsin Mats
- 28 Actin Filament Mats
- Storage Crate

Price includes shipping to continental U.S. only. Shipping to additional destinations will require additional costs.

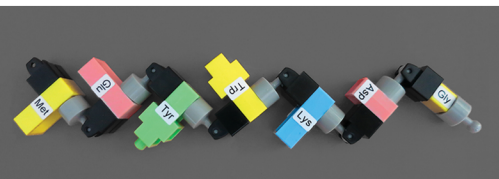
Our models are designed to teach function, in addition to structure. They are made to be manipulated, so learners can fold proteins into specific shapes.

Lessons are appropriate for middle school, high school, AP Biology, and adult levels. Diverse populations including English language learners, nurses, and judges have all found the lessons an engaging way to learn difficult concepts.

Additionally, teachers can use the models to illustrate key proteins in human body systems, such as the immune and digestive systems.

- Booklet 1 Activities:**
- Name the parts of an amino acid
 - Compare amino acid side chains
 - Assemble your own proteins
 - Fold a protein using hydrophobic and hydrophilic interactions
 - Construct a channel protein
 - Convert one protein into another by changing the amino acid order

- Booklet 2 Activities:**
- Model all 4 levels of protein structure
 - Assemble alpha helices and beta pleated sheets
 - Create disulfide bonds and salt bridges in proteins
 - Build and fold:
 - Trypsin and Chymotrypsin
 - Insulin
 - Antibody
 - Actin and Myosin



DNA Classroom Set: \$1200
tRNA Classroom Set: \$200
 See flyers for additional information

Download Teacher Guide and additional materials online:
<http://edgerton.mit.edu/DNA-proteins-sets>

Learn about DNA and RNA
using our unique manipulatives

Appropriate for secondary
school and higher education

About the models

Our models are designed to teach processes, in addition to structure. They are made to be manipulated, so learners can perform cellular functions with their own hands.

Lessons are appropriate for middle school, high school, AP Biology, and adult levels. Diverse populations including English language learners, nurses, and judges have all found the lessons an engaging way to learn difficult concepts.

About the curriculum

Booklet 1 Activities:

- Name the parts of a nucleotide
- Assemble the double helix structure
- Discover the base pairing rule
- Complete basic DNA replication
- Copy DNA into mRNA messages
- Decode messages in DNA and RNA
- Compare genes and amino acid sequences

Booklet 2 Activities:

- Discover 3' and 5' DNA structure
- Assemble triphosphate nucleotides
- Replicate DNA with leading and lagging strands
- Damage DNA using free radicals
- Repair oxidative DNA damage
- Create 4 kinds of mutations: missense, nonsense, silent, and frameshift



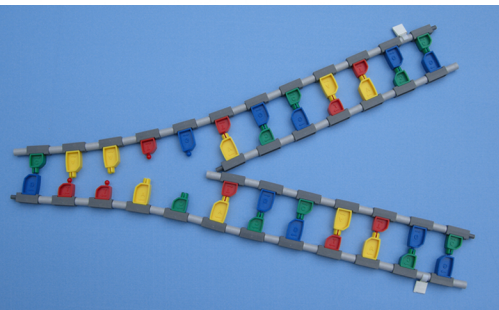
Classroom Set: \$1200

14 DNA/RNA Kits
14 Booklet 1
14 Booklet 2
14 Gene Strips
14 Codon Card Sets
Storage Crate
Teacher Guide (online)

Price includes shipping to continental U.S. only. Shipping to additional destinations will require additional costs.

Protein Classroom Set: \$1200

tRNA Classroom Set: \$200
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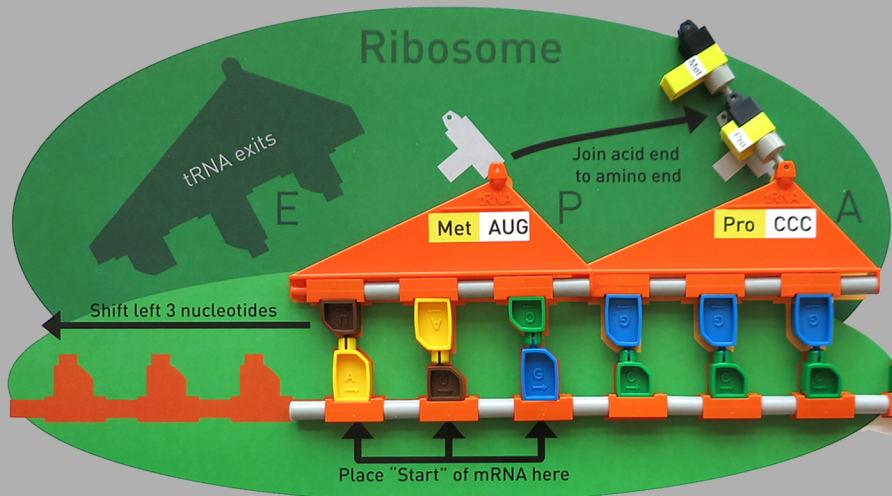
Massachusetts
Institute of
Technology

Curriculum questions:
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Purchasing questions/Ordering:
edgerton-k12-info@mit.edu

Teach abstract concepts in concrete ways

Learn about protein synthesis using our unique manipulatives



Appropriate for secondary school and higher education



About the models

Our models are designed to teach function, in addition to structure. They are made to be manipulated, so learners can translate messenger RNA into protein chains.

Lessons are appropriate for middle school, high school, AP Biology, and adult levels. Diverse populations including English language learners, nurses, and judges have all found the lessons an engaging way to learn difficult concepts.

About the curriculum

Booklet 1 Activities:

- Name the parts of a tRNA molecule
- Discover the structure of a ribosome
- Assemble and load tRNA molecules
- Construct messenger RNA
- Review the steps of protein synthesis
- Complete translation for 4 different channel protein genes
- Compare the difference between original and mutated protein chains

Classroom Set: \$200

Designed for use with DNA/RNA and Protein Sets

- 4 tRNA Kits
- 4 Booklet 1
- 4 Ribosome Mats
- Teacher Guide (online)

Price includes shipping to continental U.S. only. Shipping to additional destinations will require additional costs.

DNA Classroom Set: \$1200
Protein Classroom Set: \$1200
See flyers for additional information

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