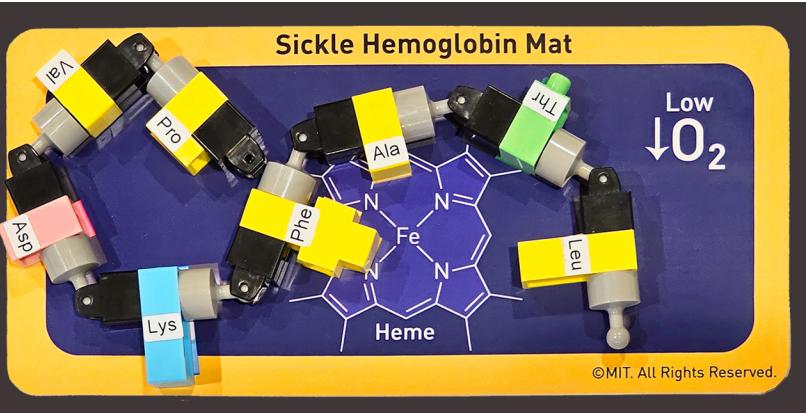
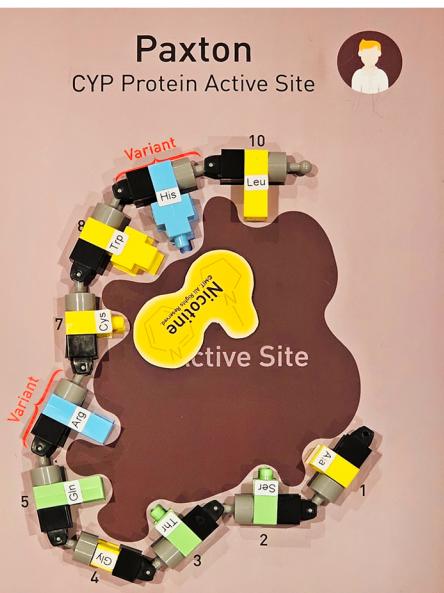


Additional curriculum for the Protein Set\*



## About the models

Our models are designed to teach molecular processes, as well as structure. This Health Pack extends the use of the Protein Sets. Now learners can model the molecular basis of health conditions with the models.



## About the curriculum

### Booklet 3 Activities:

There are several topics in this booklet

#### PART I: Oxygen Transport

- Model how hemoglobin changes shape when bound to oxygen
- Demonstrate why sickle hemoglobin proteins stick together

#### PART II: Drug and Toxicant Metabolism

- Simulate metabolism of drugs and toxicants with CYP450 proteins
- Understand how genetic variants affect smoking behaviors and cancer risk

#### PART III: Cell Signaling and Cancer

- Model how phosphorylation affects protein activation
- Understand how overactive protein kinases can cause cancer

#### PART IV: COVID-19

- Discover mechanisms for coronavirus spike protein binding
- Learn how COVID-19 removes surface receptors that regulate inflammation

**Classroom Set: \$850**

14 Protein Booklet 3  
84 Hemoglobin Mats  
42 CYP Active Site Mats  
70 Substrate Cards  
14 Kinase Mats  
14 ATP Cards  
14 ACE2 Receptor Mats  
42 Spike Cards  
Teacher Guide (online)

NOTE: Protein Set must be purchased separately!\*

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

**\*Protein Classroom Set: \$1550**  
See website for additional information



Find additional resources online:  
<http://edgerton.mit.edu/DNA-proteins-sets>

Curriculum questions:  
[kathymv@mit.edu](mailto:kathymv@mit.edu)

Purchasing questions/Ordering:  
[edgerton-k12-info@mit.edu](mailto:edgerton-k12-info@mit.edu)



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