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:
- 14 DNA/RNA Kits
- 14 Booklet 1
- 14 Booklet 2
- 14 Gene Strips
- 14 Codon Card Sets
- Teacher Guide
- Kit Management Tools
- Storage Crate

Protein and tRNA Sets coming soon!

Download curriculum materials online: [http://edgerton.mit.edu/DNA-proteins-sets](http://edgerton.mit.edu/DNA-proteins-sets)

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