A Black Box Activity

Mystery Tube®

The Mystery Tube® introduces your students to the practice of science. Research scientists frequently face the challenge of examining an object or organism without taking it apart. As your students first pull the cord on one end and the other end pulls into the tube they may think the solution is easy. But wait. As they continue their investigation they will be challenged to describe a model for the inner workings of the Mystery Tube®, provide supporting evidence and defend their hypothesis.

12-Tube Set $102.00 (MTAB-12)  •  6-Tube Set $54.00 (MTAB-06)
2-Tube Set $20.00 (MTAB-02)

Connections to: A Framework for K-12 Science Education
Practices, Crosscutting Concepts, and Core Ideas*

Dimension 1: Scientific and Engineering Practices
1. Asking questions (for science) and defining problems (for engineering)
2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
5. Using mathematics and computational thinking
6. Constructing explanations (for science) and designing solutions (for engineering)
7. Engaging in argument from evidence
8. Obtaining, evaluating, and communicating information

Dimension 2: Cross Cutting Concepts
2. Cause and effect: Mechanism and explanation
3. Scale, proportion, and quantity
4. Systems and system models
6. Structure and function

Dimension 3: Disciplinary Core Ideas:

Physical Sciences
PS2: Motion and Stability: Forces and Interactions
PS2.A: Forces and Motion
PS2.B: Types of Interactions
PS2.C: Stability and Instability in Physical Systems

Engineering Technology, and Applications of Science
ETS1: Engineering Design
ETS1.A: Defining and Delimiting an Engineering Problem
ETS1.B: Developing Possible Solutions
ETS1.C: Optimizing the Design Solution