

# Teacher Notes

## The Mystery Tube®

### Teacher

- A. Use the Mystery Tube® as a tool to introduce students to keeping a laboratory journal.
- B. Have students work in groups of two or three for this activity. Collaboration is an important skill to develop in the field of science.
- C. There are two versions — A and B — in the mystery tube construction. Have students discuss that different constructions can lead to similar behavior.
- D. An answer key is not provided to preserve the integrity of the Mystery Tube® and provide an authentic experience for both the teacher and the students.
- E. Warn students not to pull the strings too hard or pry off the end caps. Breaking the Mystery Tube® defeats the purpose of the activity.

### Classroom Extensions

- A. Have the students design a model to test their hypothesis. Inexpensive materials may include paper towel tubes, string, rubber bands and various fasteners.
- B. Have students present and defend their hypothesis to other group members.
- C. Discuss technological developments that have occurred which allow researchers to “extend their senses”. For example, the development of the microscope has allowed examination of a specimen beyond the range of normal human eyesight.





## National Framework

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

#### Dimension 1

##### Scientific and Engineering Practices

1. Asking questions and defining problems
2. Developing and using models
6. Constructing explanations and designing solutions
7. Engaging in argument from evidence

#### Dimension 2

2. Cause and effect: Mechanism and explanation
4. Systems and system models

#### Dimension 3

PS 2: Motion and stability: Forces and interactions

ETS 1: Engineering design