

# Constructing Explanations

## Activity #1: Rope Tube

To be completed AFTER the [Designing Solutions Activity #1: Rope Tube](#)

**General Objective:** To provide an opportunity for students to construct explanations in science based on observing a phenomenon and asking questions.

The facilitator does the following:

1. Once students have seen the Rope Tube phenomenon, asked questions, and designed solutions, have them construct an explanation of the phenomenon based on the created model.  
[Rope Tube Podcast](#) (requires [Adobe Flash](#))
2. Students should be able to construct their explanation both in written and verbal form.

At this point, do NOT expect all students to have the same answer, since each student's answer needs to be based on their particular design solution.

[Here is a link to one possible solution to the Rope Tube.](#) In addition to the solution shown here, the ropes can also be connected with a washer, paper clip or knots.

### Related Crosscutting Concepts:

- [Patterns](#)
- [Cause & Effect](#)
- [Systems & System Models](#)
- [Structure & Function](#)

### Related Disciplinary Core Ideas:

- [Core Idea PS1: Matter and Its Interactions](#)

- [PS1.A: Structure and Properties of Matter](#)
- [Core Idea PS2: Motion and Stability: Forces and Interactions](#)
  - [PS2.A: Forces and Motion](#)
  - [PS2.B: Types of Interactions](#)
- [Core Idea ETS1: Engineering Design](#)
  - [ETS1.A: Defining and Delimiting an Engineering Problem](#)
  - [ETS1.B: Developing Possible Solutions](#)
  - [ETS1.C: Optimizing the Design Solution](#)