



Pneumatics Activity

Worksheet

Intelligent Systems
BioRobotics

Interval 1
Segment 7

BUILD:

- Build the model on Blue Card 2, but stop at Step 14. Notice the connected levers that look like scissors in the middle of the model.

INVESTIGATE:

- Move the handle to different positions and push the pump handle. Notice how the piston rod and the connected levers move?
- How high does your scissors lift reach? _____ (cm or in.)
- How far does the bottom wheel roll? _____ (cm or in.)
- What items in everyday life could be lifted using such a device?

BUILD:

- Continue building your model to Step 16. Notice that the piston rod is connected to the scissors lift at a different place.

INVESTIGATE:

- How high does your scissors lift reach now? _____ (cm or in.)
- How far does the bottom wheel roll? _____ (cm or in.)
- Compare your two sets of measurements. Which measurements are larger, the first or the second? _____ Why?

WHAT HAVE YOU LEARNED?

1. A scissors lift can move farther than a piston rod can move by itself.
True _____ False _____

2. The energy in the compressed air causes the scissors lift to:

3. On the back of this sheet, describe what you have learned about the mechanics of a scissors lift.