



Star Wars® DroidWorks™ Challenge: Pulleys

Curriculum Connection: “All students should develop an understanding of motions and forces.”
National Science Education Standards

Lesson Plan (Grades 5-8):

Ask your students to describe how and where they have seen pulleys used. Make a list of their responses on the board. Ask the students to state why they believe pulleys are useful machines.

Use the InDex (an animated glossary) in *Star Wars DroidWorks* to define and demonstrate how a pulley works.

Divide your students into groups of 4-6. Depending on the number of computers available, over the course of a week or so, have each group play *DroidWorks*, Training Mission 3.

When all the groups have completed Mission 3, discuss the mission with your students. Ask them to describe the steps they took to complete the mission using some of the following questions.

- _ What did you need to consider in building your droid for this mission?
- _ Did you need to try building more than one droid before you could successfully complete the mission? What did you learn from your first try(ies) that helped you improve your design?
- _ What role did pulleys play in helping you complete the mission?
- _ How did the way you configured the pulley affect what happened?

Set up several small pulleys in the classroom. Allow your students to configure them in different ways and experiment by using them to lift items of varying mass and density.

When they are done, ask the students to draw diagrams of different pulley configurations and label them to show how force is applied to do work.

As a homework assignment, ask your students to look for answers to these Earthquest questions.

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