



Developing Problem Solving Skills With *Star Wars*® Pit Droids®

Curriculum Connection: “Problem solving is an integral part of all mathematics learning, not an isolated part of the mathematics program.... Students should have frequent opportunities to formulate, grapple with, and solve complex problems that require a significant amount of effort...”
Principles and Standards for School Mathematics

Lesson Plan (Grades 5-10):

Select a puzzle from the **Pit Droids Puzzle Chooser**. Easier puzzles have fewer attributes and less complexity than those at higher levels. You may want to select one of the more complex problems for this activity.

Display the puzzle on a monitor or projection screen in your classroom. Divide the students into groups and ask each group to look carefully at the puzzle and devise a strategy for solving the puzzle. Allow about 10 minutes for the group to develop their strategy. You may want to provide them with graph paper to use for planning their route.

Ask each group to present its ideas about how to solve the problem to the class. Ask the remaining class members to predict what will happen if the solution strategy is applied. Write their predictions on the board.

Following each presentation, ask a member of the group to try her group’s strategy on the computer. Ask the other students to observe and compare the results with their predictions about what would happen.

When all groups are finished, identify how many different solutions to the puzzle worked. Compare and contrast the various solutions.

Ask the students to list the steps they took in solving the puzzle. Write their ideas on the board.

Compare the steps the students took in solving the puzzle to those of Polya (1957): understanding the problem, devising a plan, carrying out the plan, and looking back.

Think About: Ask the students to consider how they might approach solving a puzzle differently the next time.

(Thanks to educators Linda Honeyman, Glen Lusebrink, Jenni Martin, Carol Murphey, Sally Scholl, and Eric Thiel for helping brainstorm teaching ideas for our products.)