



Communicating Solutions With *Star Wars*® Pit Droids®

Curriculum Connection: Each student should be expected not only to present and explain the strategy he or she used to solve a problem but also to analyze, compare, and contrast the meaningfulness, efficiency, and elegance of a variety of strategies. *Principles and Standards for School Mathematics*

Lesson Plan (Grades 5-8)

Use *Star Wars Pit Droids* as a starting point for students to communicate their solutions to problems.

Demonstrate a clear explanation to a problem by first showing the class a solution, then presenting your method out loud.

- Start by projecting a problem, probably a simpler problem will work best.
- Solve the problem, using students' suggestions. Work backwards, by asking questions like "What do I need to do BEFORE the droid reaches this area?" or "What does the droid need to look like to enter?"
- Demonstrate thinking aloud and reducing options. For example, "I know I can't go this way, because..."
- Demonstrate how you would present a solution. Supply students with the words for the puzzle pieces to enable them to clearly describe their steps.
- Take questions from students, if they have any.

Next, ask students to work together in groups of two. They'll be solving the problems on their own. You can outline suggestions for them on the board, such as:

- Work Backwards
- Think Aloud
- Document Your Thoughts

Tell them they will present their solutions and take questions from their classmates. Give each pair of students a copy of pages 42 through 45 of the Pit Droids Owner's Manual, for reference. (These are the pages that describe the puzzle pieces.)

Suggestions for puzzles to start with:

Sorting: Watto's Junkyard:

- Attribute Mazes
- Simple Sort Puzzles

Geometric and Spatial Relations: Arena Gate:

- Ratio Thread

As an extension, have students keep a “Problem Solving Journal”, where they document thought processes. They can use these notebooks when presenting their processes and taking questions from classmates about their solutions.

Consider using the Puzzle Maker with your class. As students make their own puzzles, they’ll gain insight into the solutions to other puzzles.

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