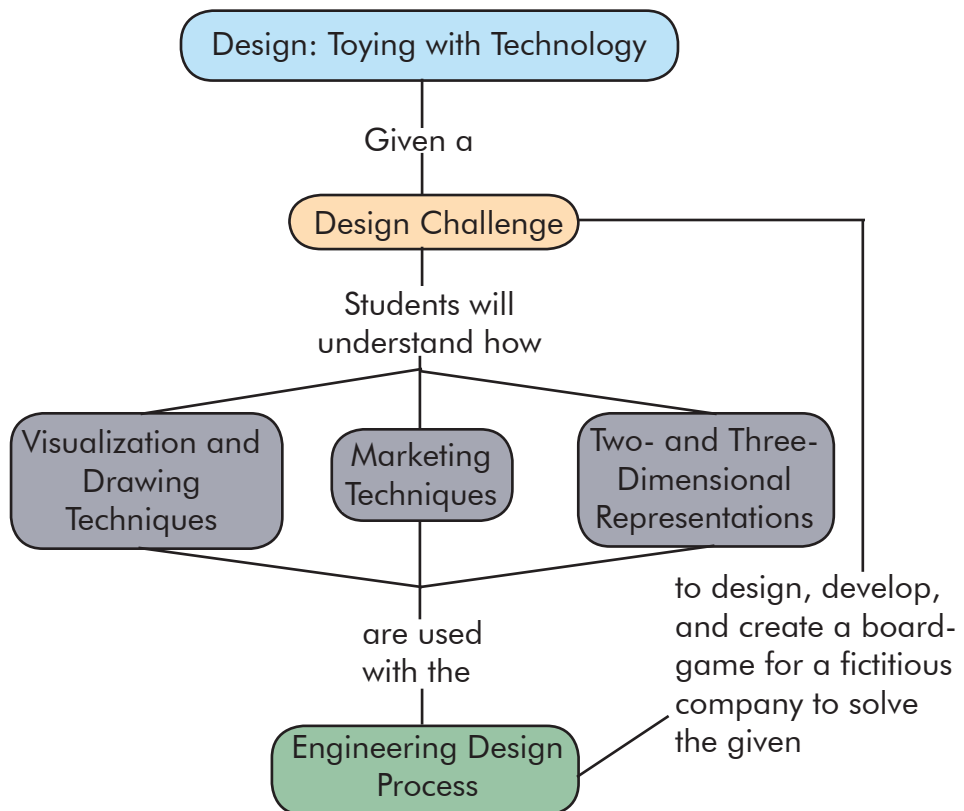


Design: Toying with Technology

This unit integrates the study of technology, science, and mathematics through the application of two-dimensional and three-dimensional visualization and drawing techniques to design and develop a new game.



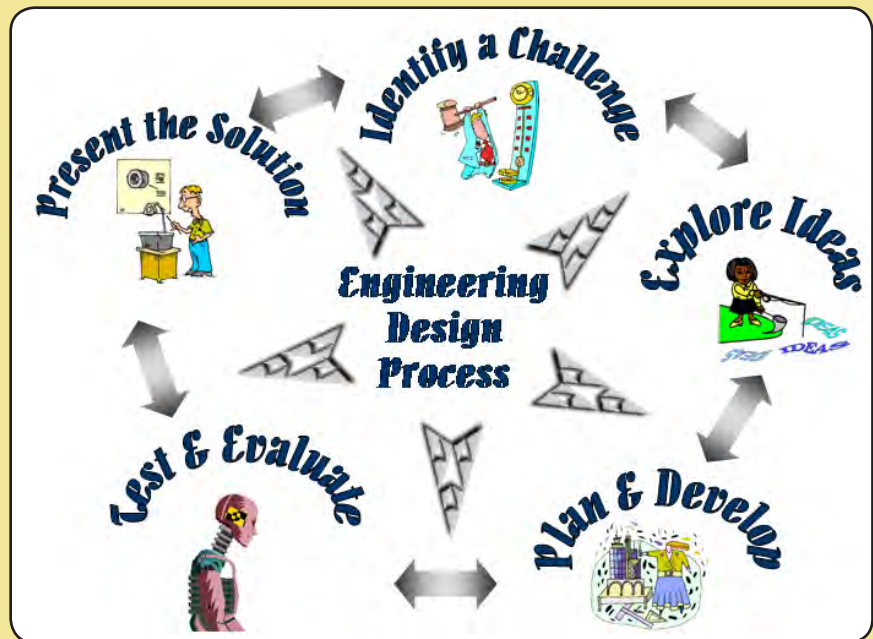
Conducting the Unit

Notes:

There are eight main topics in this unit. Each topic will take different amounts of time to complete depending on class size, teaching schedule, and instructional time.

Topic I: Engineering Design Processes (1 Hour)

1. Introduce the unit by asking the students about their favorite board games and recording their answers on a board, transparency, or computer with LCD display. Ask them why they like the game and how they might improve it.
2. Discuss key terms using the *Key Terms* transparencies. (Pages 25-28)
3. Distribute the *Engineering Design* handout. Discuss the process using the handout and the *Engineering Design Process* transparency. (Page 29)
4. Have the student write what each step involves in the ovals on the worksheet. (Page 36)



5. Organize the class into design teams of three to four students.
6. Distribute the *Famous Toy Inventors' Biographies* handout found on page 37 as homework reading.



Gameland News

Scenario

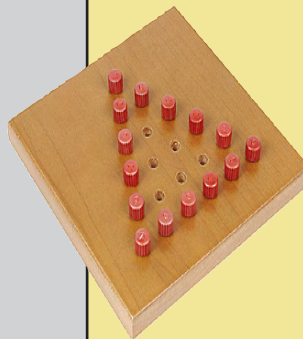


A major corporation, Happyland Games, produces games for children of all ages. You have been contracted as an outside design firm to design a new board game that will be interesting and challenging for children who are five to ten years old.

Design Considerations

The new board game must have the following features:

- a colorful playing board
- a different playing piece for each player (four maximum)
- a set of clearly written rules



International Toy Fair

The American International Toy Fair is the toy trade's major annual event where toy companies and inventors showcase their products and attract buyers. The event attracts about 1600 exhibitors and 20,000 buyers.

The first Toy Fair was held in 1903 and has been held every year since then, except 1945, when the show was cancelled due to war-time restrictions.



What You Will Learn

You will learn to define and describe a design challenge, make two-dimensional sketches of design ideas, three-dimensional models (prototypes) of design solutions, and evaluate products.



Toying with Technology

Identify a Challenge

Name: _____ Design Group Number: _____

1. Age group that will play the game: _____

2. How many can play the game: _____

3. Basic idea for the game: _____

4. Goal of the game: _____

5. How will the game be played:

6. Hazards for the players:
