

Lesson 2: Conceptualizing the Golf-Hole Design

Fostering creativity through brainstorming and sketching sessions.

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In the last lesson, you prepped your students about designing a hole for a miniature-golf course. Here, students brainstorm ideas for their holes based on the specific parameters you set.

Engaging Students

Get your students interested in the lesson by asking them the following questions:

- » What's the purpose of sports?
- » What are the differences between ball-based sports and other sports?
- » What are the differences between small-ball sports (baseball, tennis, golf, table tennis) and large-ball sports (basketball, volleyball, football)?
- » Why participate in sports? Why try new sports?
- » What sports are fun for you? For your parents? For your grandparents?
- » Who has played miniature golf or golf before? What are the similarities and differences? What sports are similar to golf?
- » What resources are good for learning about miniature golf? (Ask students to check out Web sites and report back on their findings.)

LESSON OBJECTIVES AND MATERIALS

OBJECTIVES

- » Inform students
- » Overcome possible biases
- » Foster creativity

MATERIALS

- » graph paper
- » examples of golf holes
- » golf putter
- » golf balls
- » Styrofoam cups
- » cardboard
- » balsa
- » other materials for building ramps and obstacles

Project Application: Define and Brainstorm

Define the parameters of the project, and get your students to brainstorm ideas for the possible layout and design of their golf holes. Use online resources and examples to drive student creativity.

STEP 1: DEFINE PARAMETERS OF THE PROJECT.

Before this lesson, come up with specific goals, design requirements, and a timeline for creating the golf holes. Post them in the room or ask your students to write them down. Here's an example, taken from the original project.

Project Goal

To construct a playable nine-hole golf course based on the student's design and presentation.

Design Specifications

- » Each hole needs to meet regulation cup size, which by rule must have a diameter of 108 mm (4.25 inches) and a depth of at least 100 mm (3.94 inches).
- » The putting area for the hole must fall within the assigned area (20 by 20 feet)
- » Students should design the hole so that an average-size person can play it.
- » Each hole should have at least three hazards.
- » All designs must be original!

Timeline

- » **Week 1:** Brainstorm and sketch
- » **Week 2:** Presentation boards
- » **Week 3:** 3-D software design and ball animation
- » **Week 4:** Oral presentations and peer critiques
- » **Week 5:** Final presentation and project submission

STEP 2: BRAINSTORM IDEAS FOR THE HOLE AND COURSE DESIGN.

Open up a discussion to help students think about their individual golf-hole designs. Here are some ways to get the creative juices flowing:

1. Brainstorm about the design: the player, ball, tee, putter, course, hazards, hole, green, border, and decorations and props
2. Brainstorm possible themes:
 - » No theme/neutral
 - » Historical: the American Revolution, the Wild West or frontier, industrialization
 - » Geographical: Central America, Sub-Saharan Africa, Eastern Europe, Japan
 - » Cultural: famous art, inventions, political movements, the green/environmental movement
 - » Animal: dinosaur, domesticated animals, local fauna
 - » Current Trends or Media: technology, science fiction or fantasy, action/adventure
3. Brainstorm possible hazards:
 - » Dips, bumps, blocks, ramps, angles
4. Brainstorm about possible shapes:
 - » Lines, curves, right angles, organic, figurative
5. Check out Web sites and other resources for ideas or bring in models or examples of designs.

Project Application: Define and Brainstorm (continued)

STEP 3: START SKETCHING.

Ask your students to start sketching a hole based on the parameters you've set and their favorite ideas. Build on the last lesson by encouraging students to draw in perspective.

Student Assessment

At the end of this lesson, you should have a good idea of each student's verbal, creative, reasoning, teamwork, and drawing abilities. Here are some guiding points to help you assess each student.

The student's mastery of the subject matter is

- » **Excellent:** Students have multiple ideas they can verbalize clearly. Students sketch several ideas, and the ideas show originality, complexity, or use of multiple influences.
- » **Good:** Students have ideas they can verbalize clearly. Students sketch more than one idea, and the ideas show thought.
- » **Fair:** Students participate in the brainstorming, but may not do so clearly or they may repeat others' ideas. Students sketch one idea or multiple ideas, but go for the easy solution. The ideas mirror expected patterns or have no complexity.
- » **Poor:** Students fail to participate in the brainstorming session. Students draw, but don't take the assignment seriously, or they miss essential items (such as the hole and hazards).

Links to Links

Resources for more golf-related information:

- » ocf.berkeley.edu/~haeber/creations/minigolf.html: "Simply Putt: Mini-Golf Is an Art Form"—a historical and aesthetic look at miniature golf
- » minigolfenthusiast.blogspot.com: The Mini Golf Enthusiast—a blog about miniature-golf topics
- » prominigolf.com: Professional Miniature Golf Association of America—the PGA of miniature golf
- » access-board.gov/recreation/guides/min-golf.htm: Miniature Golf Accessibility Guidelines—discusses accessibility-design issues with an eye to the Federal Americans with Disabilities Act
- » miniaturegolfcourses.net: MiniatureGolfCourses.net—a directory of miniature-golf courses across the United States
- » tigerwoodsfoundation.org: The Tiger Woods Foundation—offers scholarships, grants, and activities for youth

KEY POINTS

Set up a miniature-golf hole in your room to help students understand what miniature golf is, how to play it, and what the hole entails. Create the hole with fake green for the path (if available), a ramp or other objects for obstacles, and a Styrofoam cup for the hole.

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