

## Golf Around the Stacks

Have you ever wanted to set up your own mini-golf course?  
 You can play here using math!  
 Try to be the best mini-golf player to win.



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|--------------------------|---|
| Number & Quantity        |   |
| Algebra                  |   |
| Functions                |   |
| Geometry                 | X |
| Statistics & Probability |   |

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|---|
| Learning goals:   |
| <ul style="list-style-type: none"> <li>Angle of Incident/Reflection</li> <li>Problem Solving</li> </ul> |

**Set up:**

- Construct the hole for each round by placing the obstacles, tee circle, and hole circle.
- Decide on the number of holes you will play with others.

**Object of the Game:** Build geometric problem solving skills by thinking about how to make your shot. Observe the behavior of the ball to explore the angle of incidence and the angle of reflection.

**Pregame Activity:** Tape a piece of paper to the top of one of the obstacles. Roll the ball so that it rebounds off the side of the obstacle. Have an observer try to draw two lines. One line continues in the direction the ball was moving as it went toward the obstacle. The second line shows the direction the ball went after it rebounded off the obstacle. Repeat until you can predict how the ball will rebound off the obstacle when you hit the ball towards it.

**Playing the Game:**

- On your turn place your ball anywhere on the tee. Your goal is to get the ball in the hole by making it hit at least one of the obstacles.
- Each time you hit the ball, you complete one try. If you miss the hole, place your ball back on the tee and try again.
- Keep track of the number of tries it takes you to hit the hole. You get three tries per hole.
- Record the number of tries you took on your turn.
- If your shot hits both of the obstacles and makes it in the hole, subtract two from the number of shots you took on that hole.

**Winning the Game:** Be the player with the lowest score after nine rounds or some other predetermined goal.

**Think About It:**

- How did you decide to place the ball so that it would hit the hole when you hit it off an obstacle?
- How did you decide how hard to hit the ball so that it would hit the hole?
- How did the ball bounce off obstacles?
- What other games could you play and use what you learned in mini-golf?

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| <b>Where:</b>                              |
| Outside <input type="checkbox"/>           |
| Inside <input checked="" type="checkbox"/> |
| On-line <input type="checkbox"/>           |
| On-site <input type="checkbox"/>           |

Turn over...VARIATION GAME on backside of paper...

**Variation:**

**Go Around the Stacks:** If you have not already done so, make a hole go around an unmovable object (like a bookshelf). Position the tee so that you cannot hit the ball to the hole without using one of the obstacles.

Helpful Hints:

- Make sure to watch what other players are doing. How do other players' shots help you decide how to make your shot?