

# Wizard Duel

3-4 Players

## Part I - Building Your Wand

Each player takes turns picking one piece of their wand at a time. Go in a circle. Roll off to see who goes first.

## Part II - The Duel

When wands are assembled, the wizard with the fastest wand (the lowest roman numeral) goes first.

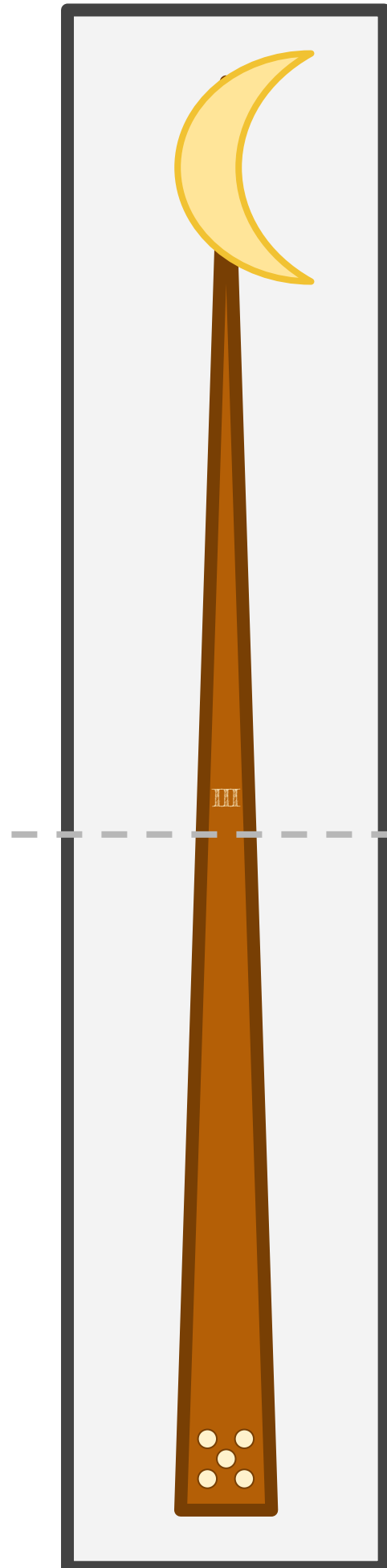
On their turn, a wizard can pass the turn, or attempt to zap another wizard.

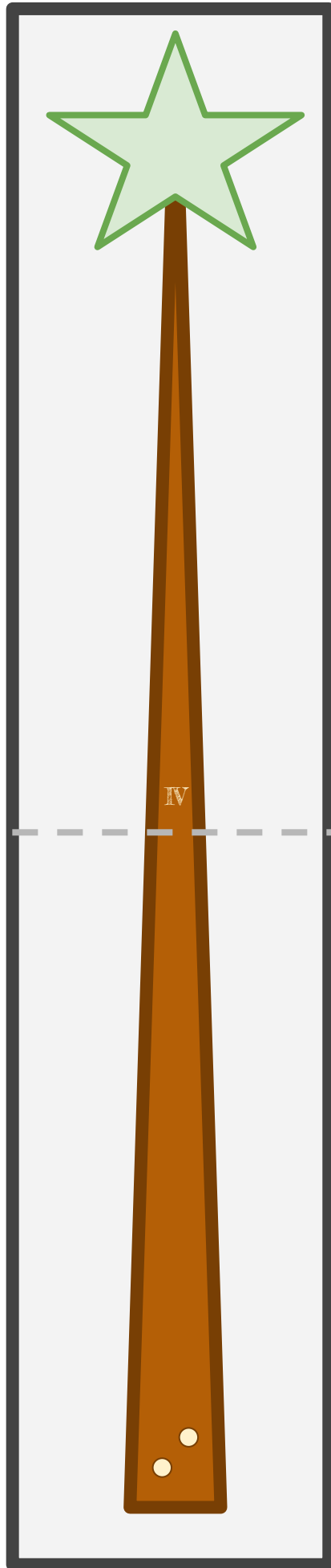
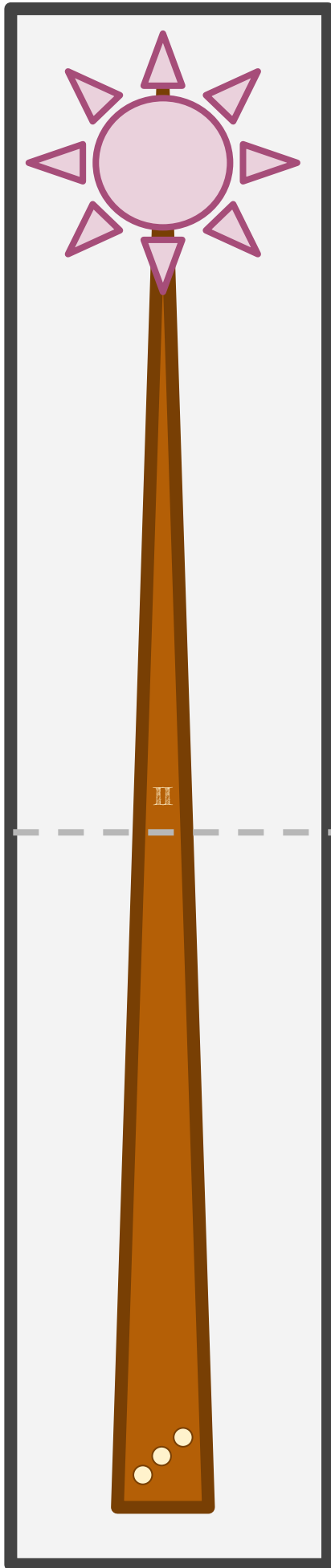
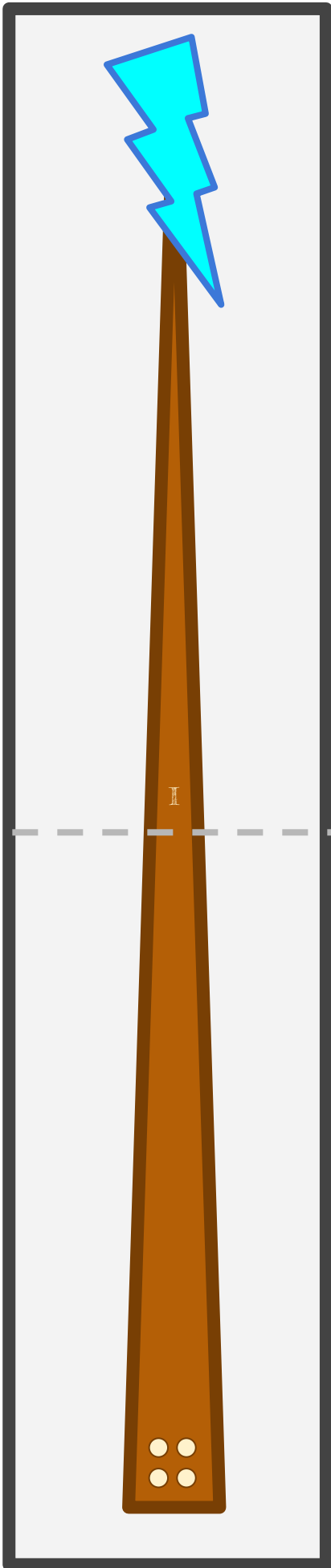
To zap a wizard, you must roll the number shown on the bottom of your wand or higher.

A wizard is eliminated when they have been zapped. (If you choose, you can play so that everyone has two "lives" instead.)

Each round is a chance to experiment with a new wand and a new strategy. The first wizard to win 3 duels is the victor!

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## **Designer's Notes:**

I believe the best qualities for a classroom math game are for it to be quick, fun, rich enough to elicit conversation about math concepts, and yet accessible by everyone. I think this game embodies all of those things!

Wizard Duel could work well as a precursor to a unit on probability. Introducing it before the unit will motivate students to learn more as a way of unlocking strategies for the game.

## **Lesson Plan:**

1. Explain the instructions of the game in a way that is accessible to your class.
2. Model the game with students once or twice. Elicit advice from the class while you play with two student volunteers.
  - a. "Should I take the wand that goes first? Or the wand that is the most likely to zap someone?" "Who should I zap first?"
  - b. Most kids and adults go for the wand that is most likely to succeed in zapping, but once they play a few rounds they find that this quickly makes them the first to get eliminated. You can let students discover this on their own.
  - c. Make sure to remind students that this game involves multiple rounds. If you lose your first duel, it is a chance to think about how you would play differently, and to test that new strategy in the next round.
3. Allow students some time to play on their own.
4. After everyone has had a chance to play a few rounds, ask students to explain their strategies. Focus in on ideas about probability, but let students explain their thinking through the lens of strategy. You can highlight information about probability as they explain their thoughts. "i.e. You say you should always pick the wand with the highest chance of zapping someone, but does having that wand mean you always have the highest probability of winning?"
5. Allow students to revisit the game after these conversation breaks, as well as later in the math unit as their understanding of probability deepens.

## **Guiding Questions and Avenues for Investigation:**

1. How much of winning this game is strategy, and how much is luck?
2. Is there a wand combination that always gives you the best chances of winning?
3. Watch [the TedEd Wizard Standoff video](#) with your class, and have them apply what they've learned in trying to solve the puzzle. (This game is modeled off of the situation in the video)