

Who's Important?

Ages 9–14 + parents · 1–4 players · about 25 minutes · no screens

OBJECTIVE

A Surfer wanders three towns by dice, following one-way arrows and now and then jumping anywhere. Tally every spot it lands on and predict which one collects the most visits. It isn't always the spot with the most arrows pointing in. This is how search engines first decided which web pages matter.

MATERIALS

3 Town Maps, two dice (one is the Jump die), a coin or game piece for the Surfer, and a pencil.

SETUP

- 1 Print the three Town Maps. Play them in order: Main Street, Lakeside, The Mall.
- 2 Pick one die to be the Jump die. Only one die? Roll it twice: first for Jump, then for Path.
- 3 One Surfer for the whole table. Put it on spot 1. The start doesn't get a tally.
- 4 Take turns rolling. Playing solo? Do every roll yourself.

A ROLL

- 1 Roll the Jump die and the Path die together.
- 2 Jump die shows 6: the Surfer jumps to the spot with the Path die's number. It can land where it already is.
- 3 Anything else: find the Path die's number in the face table on the Surfer's spot, and follow that arrow.
- 4 Make one tally mark on the spot where the Surfer lands.

COUNT AND RANK

- 1 Main Street: 30 rolls. Lakeside: 40 rolls. Then count: the spot with the most tallies wins the map.
- 2 Two spots tied for most? Keep rolling until one pulls ahead.
- 3 The Mall has a trap. Part A: Path die only, no jumping, 20 rolls, and make a dot where the Surfer lands. Where does it end up? Part B: back to spot 1 and 40 rolls with both dice, tallying as usual.

HOW TO SCORE

- 1 Main Street and Lakeside: before rolling, everyone writes the spot they think will win. Right: +2.
- 2 After each of those maps, check the Answer Key. If the table's winner is the key's top spot, everyone gets +1.
- 3 The Mall: before Part B, everyone guesses how many of the 40 tallies will land on Arcade or Snack Bar. Closest guess: +2. Ties all score.
- 4 Most points after three maps wins.

WHAT THE SURFER TEACHES

- 1 Important = pointed at by important spots. Tallies pile up wherever the arrows from busy spots lead.
- 2 Pizza Place has 4 arrows pointing in. Skate Park has only 2. Skate Park still wins, 41% to 26%, because Pizza Place sends every Surfer straight to Skate Park.
- 3 Why the Jump die: in Part A of The Mall, the Surfer is stuck in the Arcade–Snack Bar loop by roll 20 in about 100 games out of 100. Jumping is the only way out.
- 4 Even with jumping, the trap collects about 71% of all visits. Fake web pages that link to each other try exactly this trick.

FOR GROWN-UPS: THIS IS HOW SEARCH STARTED

- 1 This is PageRank, the idea Google's founders published in 1998 to rank web pages: picture a surfer clicking random links and now and then jumping anywhere, then rank pages by how often the surfer is on them.
- 2 The Jump die makes the jump chance 1 in 6. The original paper used about 1 in 7. The Answer Key is real PageRank for these maps, and the more you roll, the closer the tallies get to it.
- 3 Modern search mixes in many more signals, but who links to you, and how important they are, still counts. The same idea scores people in social networks and stations in transit maps.
- 4 Look these up together at hibot.space/learn/concepts: PageRank, graph, social graph.

ANSWER KEY

- 1 Main Street: Park 35%, Bakery 13%, Library 13%, School 13%, Pool 13%, Diner 13%.
- 2 Lakeside: Skate Park 41%, Pizza Place 26%, Boathouse 20%, Campground 4%, Bait Shop 4%, Ranger Station 4%.
- 3 The Mall: Arcade 36%, Snack Bar 35%, Fountain 9%, Bookstore 8%, Shoe Store 6%, Pet Shop 6%.
- 4 In 1,000 test games, 30 rolls crowned the right Main Street winner 99% of the time, and 40 rolls crowned the right Lakeside winner 98% of the time.
- 5 The Mall Part B: about 28 of 40 tallies land on Arcade or Snack Bar.

VARIANTS

- 1 Draw your own town: six spots, each with 1, 2 or 3 arrows out. Predict the winner, then roll.
- 2 Point Pizza Place somewhere else on Lakeside. Who wins now?
- 3 Long game: keep rolling well past the count. The tallies settle closer and closer to the Answer Key.

PRINT TONIGHT

Plain paper, one side, Actual Size / 100%. Print the three Town Maps (landscape), one set per table. You need two dice (mark one as the Jump die, or roll one die twice), a coin or game piece for the Surfer, and a pencil.

Town Maps: 3 pages, landscape, one set per table.