

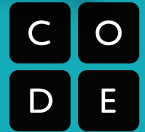


Unplugged

Name: _____

Real-Life Algorithms

Dice Race Activity



You can use algorithms to help describe things that people do every day. In this activity, we will create an algorithm to help each other understand the Dice Race game.

The hardest part about getting a problem ready for a computer can be figuring out how to describe real-life activities. We're going to get some practice by playing and describing the Dice Race game.

Read the rules below, then play a couple rounds of the Dice Race game. As you're playing, think about how you would describe everything that you're doing. What would it look like from the computer's point of view?

The Rules:

- 1) Set each player's score to 0.
- 2) Have the first player roll.
- 3) Add points from that roll to player one's total score.
- 4) Have the next player roll.
- 5) Add points from that roll to player two's total score.
- 6) Each player should go again two more times.
- 7) Check each player's total score to see who has the most points.
- 8) Declare Winner.

Game 1
Example:

	Turn 1	Turn 2	Turn 3	Total
Player 1	3	5	9	9
Player 2	4	10	12	12

Handwritten annotations: +3 above Turn 1, +2 above Turn 2, +4 above Turn 3. +4 below Player 2 Turn 1, +6 below Player 2 Turn 2, +2 below Player 2 Turn 3. The total 12 is circled. A bracket on the right says "Circle the Winner".

Game 2
Example:

	Turn 1	Turn 2	Turn 3	Total
Player 1	6	9	13	13
Player 2	1	6	8	8

Handwritten annotations: +6 above Player 1 Turn 1, +3 above Player 1 Turn 2, +4 above Player 1 Turn 3. +1 below Player 2 Turn 1, +5 below Player 2 Turn 2, +2 below Player 2 Turn 3. The total 13 is circled. A bracket on the right says "Circle the Winner".