

BINARY SEARCH GUESSING GAMES

Complete STEP 4 of your My STEM Life badge

A binary search divides a range of values into halves, and continues to narrow down the field of search until the unknown value is found. A binary search can be used to access ordered data quickly and is commonly used in computer programming.

Number Guess

An example of binary search in action is a simple guessing game in which a player has to guess a positive integer selected by another player between 1 and N, using only questions answered with yes or no. Supposing N is 16 and the number 11 is selected, the game might proceed as follows.

Is the number greater than 8? (Yes)

Is the number greater than 12? (No)

Is the number greater than 10? (Yes)

Is the number greater than 11? (No)

Therefore, the number must be 11.

Binary Birthday Lineup

Another way to play this is to put girls in order by their birthdays. To find a girl with the birthday closest to the current date (August 1 for this example), split them in half, ask if August 1 is between dates in the first or second half. Then, split that group in half again. Keep going until you have the girl whose birthday is closest to August 1.

