

# DICE PROBABILITY GAME

This is a game where you make dice and roll to see who scores the highest, but it's not as simple as it first seems!

## Making our dice:

On the other page is a template of the three dice.

- Using **scissors** cut out the **solid lines** only
- Fold the dotted lines and glue the tabs to make a cube



## How to play:

This is a two player game.

- Both players pick a dice, with one player choosing first.
- The goal of each round is to roll higher (greater) than your opponent. Play **15** rounds in a game, whoever wins the most rounds wins the game!
- Record who wins, but also which colour dice (**blue**, **red** or **green**) beat which other dice. Play a few games and compare dice. Which colour beats which?
- Is one dice always the **best**, or does it change?

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## SPOILER ALERT

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These dice are examples of something called **non-transitive**, this means there is no BEST dice. Playing a game is a lot like rock paper scissors. Just like how rock will beat paper but lose to scissors **each dice will beat one dice and lose to one dice.**

This means you can play your family and let them pick first! They will think you are being super nice and letting them pick the best dice, but after a few games you will know which dice you'll need to pick to beat theirs whatever they choose!

The maths behind it is really interesting, and all down to probabilities. This is also why you need to play best out of 15 in a game, as even if you have the better dice, you'll lose some rounds in each game!

