

WHAT'S IN THE BOX?

This activity helps illustrate the chances of winning a special item in a loot box by cutting up pieces of paper.



TIME:

20-25 min



RESOURCES:

3 sheets of A4 paper, scissors for each participant, a container

METHOD

1

Hand out 3 pieces of A4 paper to 3 volunteers, and ask them to cut each of these into 4 equal sized pieces by halving them, then halving again. Place the 12 pieces into a box or container.

2

Take one piece and mark it in a certain colour, then place it back in the box. There are now 12 pieces of paper in the container – meaning the chances of pulling the particular piece you drew on would be **1:12** or **8.3%**.

These are the same odds as winning an 84+ player from a premium gold pack in FIFA 22, or similar odds to winning a legendary (gold) item in Overwatch (1:13.5 / 7.4%).

The odds don't change if you purchase the same loot box twice. You can further illustrate this by allowing each participant to have a go at trying to pull the highlighted piece of paper from the box with their eyes closed. After each draw, they have to put the paper back to represent the same odds.

3

Now, divide up the 12 pieces of paper between the participants and equip each of them with a pair of scissors. They now have to halve each piece exactly 5 times. Once completed, add the pieces to the container – there should be 384 pieces in the container now.



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Again, highlight a single piece from the container and place it back inside. The odds of drawing this piece are **1:384** or **0.2%**. These are common odds for rare items from a loot box.

Examples include:*

- **Mario Kart Tour** – odds of winning “High End” character from a pipe (Dry Bowser, Metal Mario, Peachette, Pauline) (1:384/0.26%)
- **League of Legends** – odds of winning Ultimate Tier skin from Hextech chest (1:384/0.26%)
- **FIFA 22** – likely odds of winning an 87+ player in a Premium gold pack (1:416/0.24%)
- **Pokemon Go** – odds of hatching a ‘shiny’ pokemon (a specific Pokémon with different coloration to what is usual for its species) (1:500/0.2%)

5

Ask if anyone believes they could draw the highlighted piece, and how many times they believe it would take them to draw it. Mathematically, to have a chance of drawing the highlighted piece it would take 384 draws, and even then it’s not a guarantee but an average calculation. Participants can have a shot at blindly drawing if they like, but each time they have to place the piece they drew back into the container.

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You can now also calculate how much money they would need to spend on loot boxes so that statistically they have a chance to win – for example:

- **League of Legends** – 1 Hexchest costs 125RP; 310RP cost £2.25. Total: £349
- **Pokemon Go** – 1 Incubator costs 150 Pokecoins (or 200 for a Super Incubator); 100 PokeCoins cost £0.79. Total: £455
- **FIFA 22** – 1 Premium Gold Pack costs £1; Total: £417
- **Mario Kart Tour** – 1 pipe draw costs 5 rubies; 3 rubies cost £1.99. Total: £1,274

Alternative options:

Instead of cutting up paper, you can ask participants to draw lines horizontally and vertically, with each rectangle representing a loot box draw.

You could also use marbles, sweets or other small items in a container representing odds.

Additional notes:

*Odds ratios are examples taken from the best information sources available: developer websites if available, other media sources if not. Odds for getting rare items from loot boxes can be subject to change, or not fully disclosed. This means players may have no way of knowing their chance of getting desired items.

For more on loot box odds disclosures, see Xiao et al. (2023) [What are the odds? Poor compliance with UK loot box probability disclosure industry self-regulation.](#)

