Name: _____ Date: _____

# Compare outcomes

List the outcomes and compare the chances. A fair number cube has faces 1 to 6.



**1** Roll a fair number cube. List the outcomes greater than 4:

💡 Hint: A number cube has the numbers 1, 2, 3, 4, 5 and 6. A coin has heads and tails.

5, 6 / 5 and 6

**2** Roll a fair number cube. List the even outcomes:

💡 Hint: A number cube has the numbers 1, 2, 3, 4, 5 and 6. A coin has heads and tails.

2, 4, 6 / 2, 4 and 6

**3** Roll a fair number cube. List the odd outcomes:

💡 Hint: A number cube has the numbers 1, 2, 3, 4, 5 and 6. A coin has heads and tails.

1, 3, 5 / 1, 3 and 5

**4** Roll a fair number cube. Is rolling a number less than 5 more or less likely than rolling 5 or 6?

💡 Hint: Write down the numbers that fit each event, then count them.

- ◯ More likely
- ◯ Less likely

More likely

**5** Roll a fair number cube. Is rolling a number greater than 3 equally likely as rolling a number less than 4?

💡 Hint: Write down the numbers that fit each event, then count them.

Yes

**6** Roll a fair number cube. Which is more likely: rolling 1 or rolling an even number?

💡 Hint: Write down the numbers that fit each event, then count them.

- ◯ Rolling 1
- ◯ An even number

An even number

7 A bag has 4 red and 2 blue counters. Which colour is more likely?

💡 Hint: Count the counters of each colour, then compare the numbers.

◯ Red ◯ Blue

Red

8 A bag has 2 red and 4 blue counters. Which colour is less likely?

💡 Hint: Count the counters of each colour, then compare the numbers.

◯ Red ◯ Blue

Red

9 Bag A has 3 red and 1 blue counter. Bag B has 1 red and 3 blue counters. Which bag makes red more likely?

💡 Hint: Look at how much of EACH bag is that colour, not just the number.

◯ A ◯ B

A

10 Bag A has 2 green and 2 yellow counters. Bag B has 1 green and 3 yellow counters. Which bag makes green more likely?

💡 Hint: Look at how much of EACH bag is that colour, not just the number.

◯ A ◯ B

A

11 Bag A has 2 red and 2 blue counters. Bag B has 4 red and 4 blue counters. Is red more likely in A, B, or equally likely in both?

💡 Hint: Look at how much of EACH bag is that colour, not just the number.

◯ B ◯ A

◯ Equally likely in both

Equally likely in both

12 A bag has 2 red and 3 blue counters. Add 1 red counter. Are red and blue now equally likely?

💡 Hint: First work out the new number of each colour, then compare.

Yes

13 A bag has 3 yellow and 2 green counters. Remove 1 yellow counter. Are yellow and green now equally likely?

💡 Hint: First work out the new number of each colour, then compare.

Yes

14 A bag has 4 red and 1 blue counter. Add 2 blue counters. Which colour is more likely now?

💡 Hint: First work out the new number of each colour, then compare.

◯ Red ◯ Blue

Red

15 A bag has 1 red and 4 blue counters. Remove 2 blue counters. Which colour is more likely now?

💡 Hint: First work out the new number of each colour, then compare.

- ◯ Red
- ◯ Blue

**Blue**

16 A bag has 4 red, 4 blue, and 1 green counter. Which two colours are equally likely?

💡 Hint: Count the counters of each colour, then compare the numbers.

- ◯ Blue and green
- ◯ Red and green
- ◯ Red and blue

**Red and blue**

17 A bag has 2 red, 3 blue, and 5 yellow counters. List the colours from least likely to most likely:

💡 Hint: Count the counters of each colour, then compare the numbers.

- ◯ Red, blue, yellow
- ◯ Blue, red, yellow
- ◯ Yellow, blue, red

**Red, blue, yellow**

18 A bag has 6 green and 4 yellow counters. Is green likely, unlikely, or certain?

💡 Hint: Count the counters of each colour, then compare the numbers.

- ◯ Unlikely
- ◯ Certain
- ◯ Likely

**Likely**

19 A bag has 6 green and 4 yellow counters. Is yellow likely, unlikely, or impossible?

💡 Hint: Count the counters of each colour, then compare the numbers.

- ◯ Impossible
- ◯ Likely
- ◯ Unlikely

**Unlikely**

20 Cards show 1, 2, 3, and 4, one number on each card. Is picking an even number equally likely as picking an odd number?

💡 Hint: Write down the numbers that fit each event, then count them.

**Yes**

21 Cards show 1, 2, 3, 4, and 5. Is picking a number greater than 3 more or less likely than picking a number less than 4?

💡 Hint: Write down the numbers that fit each event, then count them.

- ◯ Less likely
- ◯ More likely

**Less likely**

22 A spinner has 4 equal sections: 3 red and 1 blue. Which colour is more likely?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

- ◯ Blue
- ◯ Red

**Red**

23 A spinner has 6 equal sections: 3 yellow and 3 green. Are the colours equally likely?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

**Yes**

24 A spinner has 6 equal sections: 1 red, 2 blue, and 3 green. Which colour is least likely?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

- ◯ Green
- ◯ Blue
- ◯ Red

**Red**

25 A spinner has 6 equal sections: 1 red, 2 blue, and 3 green. Which colour is most likely?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

- ◯ Blue
- ◯ Red
- ◯ Green

**Green**

26 A spinner has 4 equal sections numbered 1 to 4. Is spinning a number less than 3 equally likely as spinning a number greater than 2?

💡 Hint: Write down the numbers that fit each event, then count them.

**Yes**

27 A bag has 4 red and 4 blue counters. Remove 1 red counter. Which colour is more likely?

💡 Hint: First work out the new number of each colour, then compare.

◯ Blue ◯ Red

**Blue**

28 A bag has 2 red and 5 blue counters. Add 4 red counters. Which colour is more likely?

💡 Hint: First work out the new number of each colour, then compare.

◯ Blue ◯ Red

**Red**

29 A bag has 3 red and 5 blue counters. How many red counters must be added to make the colours equally likely?

💡 Hint: First work out the new number of each colour, then compare.

**2**

30 A bag has 6 yellow and 2 green counters. How many yellow counters must be removed to make the colours equally likely?

💡 Hint: First work out the new number of each colour, then compare.

**4**

31 A fair coin is tossed once. List its possible outcomes:

💡 Hint: A number cube has the numbers 1, 2, 3, 4, 5 and 6. A coin has heads and tails.

◯ Heads only

◯ Heads and tails

◯ Tails only

**Heads and tails**

32 A fair number cube is rolled once. How many possible number outcomes are there?

💡 Hint: A number cube has the numbers 1, 2, 3, 4, 5 and 6. A coin has heads and tails.

**6**

**33** A bag has 4 red and 2 blue counters. Is picking a counter that is red or blue certain, possible but not certain, or impossible?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

- ◯ Certain
- ◯ Impossible
- ◯ Possible but not certain

**Certain**

**34** A bag has 4 red and 2 blue counters. Is picking a green counter certain, possible but not certain, or impossible?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

- ◯ Certain
- ◯ Possible but not certain
- ◯ Impossible

**Impossible**

**35** A bag has 4 red and 2 blue counters. Is picking a blue counter certain, possible but not certain, or impossible?

💡 Hint: Count the equal sections (or counters) of each kind, then compare.

- ◯ Certain
- ◯ Impossible
- ◯ Possible but not certain

**Possible but not certain**

**36** A fair number cube is rolled. Which is more likely: a number less than 3 or a number greater than 2?

💡 Hint: Write down the numbers that fit each event, then count them.

- ◯ A number greater than 2
- ◯ A number less than 3

**A number greater than 2**