Year 5 · Probability: Testing Chance with Trials

Name: _____ Date: _____

Hi there! This sheet is all about chance, how likely things are to happen and what we find out when we actually try an experiment lots of times. Grab a pencil and let's explore!

Warm-up

1. Choose the best word for this event: 'The sun will rise tomorrow morning.' Is it impossible, unlikely, even-chance, likely, or certain?

2. Choose the best word for this event: 'You will roll a 7 on an ordinary six-sided dice.' Is it impossible, unlikely, even-chance, likely, or certain?

3. When you flip a fair coin, what are all the possible outcomes? (This set of outcomes is called the sample space.)

4. A bag has 5 red counters and 5 blue counters. If you take one without looking, is picking a red counter unlikely, even-chance, or likely?

Practice

5. Ana spins a spinner split into 4 equal colours: red, blue, green and yellow. What is the probability the arrow lands on green? Write your answer as a fraction.

6. On the spinner above, what is the probability of landing on either red OR blue?

7. Draw a number line from 0 to 1. Place these three events on it: A – 'It will rain somewhere in New Zealand this week', B – 'You will grow wings and fly to school', C – 'A tossed coin lands on heads'.

8. Word problem: Tama rolls a six-sided dice 30 times and records how often he gets an even number (2, 4 or 6). He gets an even number 14 times. Write his experimental probability of rolling an even number as a fraction, then compare it to what he would expect.

9. Word problem: In Room 12 at Avondale Primary, the teacher puts 8 lolly names in a jar: 3 chocolate, 4 mint and 1 caramel. A name is pulled out at random. Which flavour is most likely to be picked, and what is its probability?

10. Mere flips a coin 20 times and gets 12 heads and 8 tails. What fraction of her flips were tails? Was tails more or less common than expected?

Challenge

11. A spinner has sections coloured red, blue and green. The probability of red is 1/4 and the probability of blue is 1/2. What is the probability of green? Explain how you know.

12. Hemi rolls a dice 60 times. He records 6 appearing 18 times. The theoretical probability of rolling a 6 is 1/6. Roughly how many 6s would he expect in 60 rolls, and does his result suggest the dice might be unfair? Explain.