

PREDICT SIXES IN 60 ROLLS

- 1 Theory says 1 six in every 6 rolls.
- 2 For 60 rolls divide 60 by 6 to get **10**.
- 3 Expect about 10 sixes, but not exactly every time.

 WARM-UP

Fill the tally chart for how children travel to the games club.

Category	Tally	Count
Walk		
Car		
Bus		

1. Tally 20 for Walk
2. Tally 11 for Car
3. Tally 10 for Bus

 PRACTICE

- 1** In the playground game with a die, players roll **60** times and count the sixes.

If a fair die is rolled 60 times, how many sixes do you predict?

- 2 During the dice game at break, the first 20 rolls show 4 sixes.

After 20 rolls you see 4 sixes. What is the experimental probability as a fraction?

- 3 The class game needs 40 rolls to see how close the sixes come to the prediction.

Roll a die 40 times. How many sixes does theory predict?

- 4 After the full game of 60 rolls the tally shows 12 sixes.

In 60 rolls you get 12 sixes. Write the experimental probability two ways as a fraction.

? ALWAYS, SOMETIMES, NEVER

Always, sometimes or never true? Write A, S or N.

- a. Rolling a dice 60 times gives exactly ten 6s.
- b. Theory predicts 10 sixes in 60 rolls.
- c. More rolls make the experimental probability closer to $1/6$.
- d. A single roll can be predicted exactly.

REFLECT

Did your experiment match your prediction? What could explain any difference?