Dice Sums: Predict

Name _____ Date _____

Probability · Grades 3–5

You need two dice. Make your prediction first, then do all 36 rolls.

1 Predict + Record | 2 Tally | 3 Graph | 4 Is It Fair?

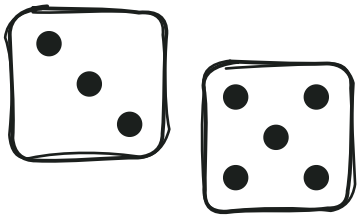
A Predict

Roll two dice and add the dots. You will do this 36 times.

Which sum do you think will come up the most? Circle one.

2 3 4 5 6 7 8 9 10 11 12

Why? _____



3 + 5 = 8

B Record · write each sum for each roll

1 ☐ + ☐ = ☐	2 ☐ + ☐ = ☐	3 ☐ + ☐ = ☐	4 ☐ + ☐ = ☐
5 ☐ + ☐ = ☐	6 ☐ + ☐ = ☐	7 ☐ + ☐ = ☐	8 ☐ + ☐ = ☐
9 ☐ + ☐ = ☐	10 ☐ + ☐ = ☐	11 ☐ + ☐ = ☐	12 ☐ + ☐ = ☐
13 ☐ + ☐ = ☐	14 ☐ + ☐ = ☐	15 ☐ + ☐ = ☐	16 ☐ + ☐ = ☐
17 ☐ + ☐ = ☐	18 ☐ + ☐ = ☐	19 ☐ + ☐ = ☐	20 ☐ + ☐ = ☐
21 ☐ + ☐ = ☐	22 ☐ + ☐ = ☐	23 ☐ + ☐ = ☐	24 ☐ + ☐ = ☐
25 ☐ + ☐ = ☐	26 ☐ + ☐ = ☐	27 ☐ + ☐ = ☐	28 ☐ + ☐ = ☐
29 ☐ + ☐ = ☐	30 ☐ + ☐ = ☐	31 ☐ + ☐ = ☐	32 ☐ + ☐ = ☐
33 ☐ + ☐ = ☐	34 ☐ + ☐ = ☐	35 ☐ + ☐ = ☐	36 ☐ + ☐ = ☐

Dice Sums: Tally It

Name _____ Date _____

Probability · Grades 3–5

Use your rolls from sheet 1. Make one tally mark for each roll, then count.

1 Predict + Record | **2 Tally** | 3 Graph | 4 Is It Fair?

A Tally your results

Outcome	Tally marks	Total	Fraction
Sum 2		_____	___ / 36
Sum 3		_____	___ / 36
Sum 4		_____	___ / 36
Sum 5		_____	___ / 36
Sum 6		_____	___ / 36
Sum 7		_____	___ / 36
Sum 8		_____	___ / 36
Sum 9		_____	___ / 36
Sum 10		_____	___ / 36
Sum 11		_____	___ / 36
Sum 12		_____	___ / 36

B Check and think

Add up your totals: _____ It should be 36. If not, count your tallies again.

1. Which sum came up the most?

_____

2. Which sums came up the least?

_____

3. Did any sum never come up? Which?

_____

Dice Sums: Graph It

Name _____ Date _____

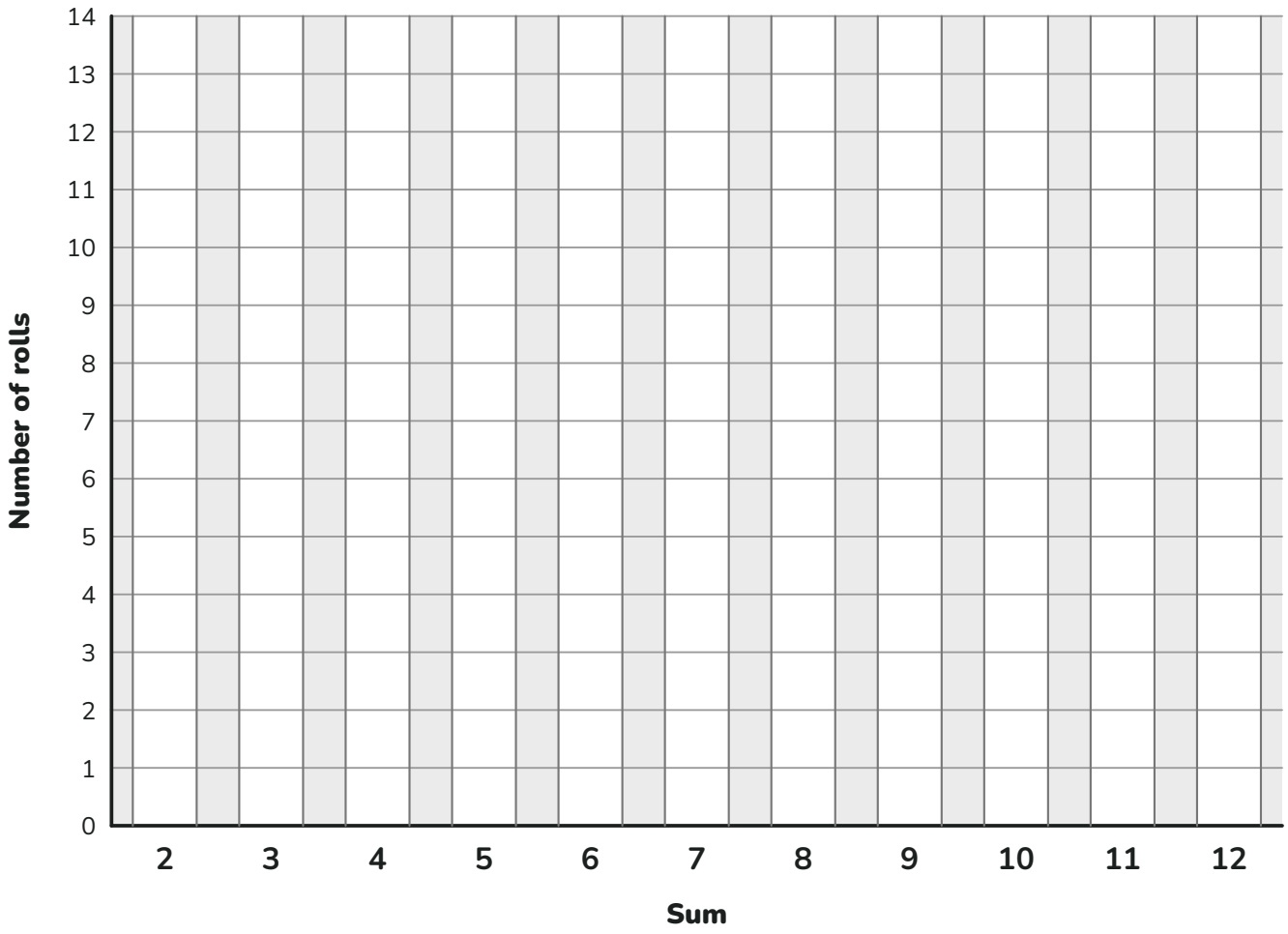
Probability · Grades 3–5

Color one space up for each roll in your tally chart. Count up the side to check.

1 Predict + Record | 2 Tally | **3 Graph** | 4 Is It Fair?

A Make a bar graph

Title: _____



B Read your graph

1. What shape do your bars make? Where are the tallest ones?

_____

2. Did the middle sums come up more often than 2 and 12? Why might that be?

_____

Dice: Is It Fair?

Name _____ Date _____

Probability · Grades 3–5

Work out what should happen, then compare it with what really happened.

1 Predict + Record | 2 Tally | 3 Graph | **4 Is It Fair?**

A All the ways two dice can land

Fill in the sum in every square.
There are 36 squares, one for each way the two dice can land.

Now count the squares for each sum.

Second die

+	1	2	3	4	5	6
1						
2						
3						
4						
5						
6						

First die

B Count the ways

Sum	2	3	4	5	6	7	8	9	10	11	12
Ways	____	____	____	____	____	____	____	____	____	____	____

The most likely sum is _____ . In 36 rolls, expect it about _____ times. You got _____ .

C Is it fair?

Pat wins on 2, 3, 4, 10, 11, 12. Lee wins on 6, 7, 8. On any other sum, roll again.

Pat says: "I have 6 sums and Lee has only 3, so I will win more."

Pat's ways to win: _____ Lee's ways to win: _____ Who will win more? _____

Is Pat right? Explain: _____

_____

Dice: Is It Fair? (Key)

Probability · Grades 3–5

Sheets 1 to 3 are the child's own results (the totals should add to 36).

1 Predict + Record | 2 Tally | 3 Graph | **4 Is It Fair?**

A All the ways two dice can land

Fill in the sum in every square.
There are 36 squares, one for each way the two dice can land.

Now count the squares for each sum.

First die \ Second die	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

B Count the ways

Sum	2	3	4	5	6	7	8	9	10	11	12
Ways	1	2	3	4	5	6	5	4	3	2	1

The most likely sum is **7** . In 36 rolls, expect it about **6** times. You got _____ .

C Is it fair?

Pat wins on 2, 3, 4, 10, 11, 12. Lee wins on 6, 7, 8. On any other sum, roll again.

Pat says: "I have 6 sums and Lee has only 3, so I will win more."

Pat's ways to win: **12** Lee's ways to win: **16** Who will win more? **Lee**

Is Pat right? Explain: **No. Lee's sums are near 7, so they have more ways (16 to 12).**