



GRADE 7 · STATISTICS & PROBABILITY · PRACTICE

PROBABILITY FROM EXPERIMENTAL DATA

Today's goal: I can predict the approximate relative frequency given the probability and understand that more trials of a chance experiment will increase the accuracy of the probability estimate.



Pick your peppers!

Everyone does Mild & Medium. Then climb as high as you can.



Mild

Tan the Turtle



Medium

Digit the Fox



Spicy

Blaze the Dragon



Extra Spicy

Pi the Owl

WATCH MR DJ SOLVE

How many would you predict in 1000 spins?

1 $\frac{3}{10}$ of 1000 = 300.

Answer: **300 reds**



REMEMBER

Relative frequency is what you **observed**; probability is what the situation **predicts**. They rarely match exactly, and the gap tends to shrink as trials increase. To predict a count: multiply the probability by the number of trials.



MILD

Tan the Turtle: Slow and steady. Warm up!

1 20 spins give 6 reds. Find the relative frequency.

Answer

2 50 spins give 12 reds. Find the relative frequency.

Answer



OOPS ALERT

Careful on #1! The slip Mr DJ sees most: Answered 6, giving a count.

**MEDIUM****Digit the Fox:** Stretch your brain.

3 How far is that from $\frac{3}{10}$?

Answer

4 How many reds would you predict in 50 spins? Compare with the 12 observed.

Answer

5 How many reds would you predict in 400 spins?

Answer

**SPICY****Blaze the Dragon:** Bring the heat!

6 How does that compare with the theoretical $\frac{3}{10}$? Does an exact match prove the spinner is fair?

Answer

- 7 A student spins 10 times, gets 3 reds, and says “this proves the probability is $\frac{3}{10}$.” Explain what is wrong.

Answer



EXTRA SPICY

Pi the Owl: Big-brain challenge.

- 8 Another student has spun 99 times with no reds at all and says red is “due” on the next spin. Explain why this is wrong.

Answer



How did this sheet feel?



Easy for me



Just right



Made me think

Stuck? Watch Mr DJ explain it

Step-by-step video lessons on YouTube: [youtube.com/@MathWithMrDJ](https://www.youtube.com/@MathWithMrDJ)

Brain break: daily puzzles

Three new math puzzles every day, free: puzzles.mathwithmrdj.com