Probability parent guide

You do not need to be an expert to read this book together. Your job is to ask how the explanation works and give the learner room to think.

What this book helps explain

Keep the reference group visible when interpreting a probability.

Three short conversations

First, ask: If a warning catches most faulty items, must most warned-about items be faulty?

Next, read “The number underneath matters” together. Ask the learner to draw the idea and explain one unfamiliar term. Use the glossary rather than guessing.

Then use the activity below. Let the learner try before reading the answers on the next page. Ask what information would change the answer.

Try it together

Draw 1,000 imaginary items. Ten are faulty. A warning flags 9 of the 10 faulty items and 99 of the 990 sound items. Make a two-by-two count table before calculating a percentage.

1. How many items receive a warning?

2. What fraction of warned items are faulty?

3. What fraction of all faulty items received a warning?

A small activity at home

Use colored paper counters to build a warning table. Keep the setting fictional rather than applying the numbers to a real medical test.

Probability conversation notes

Answers to discuss

1. 9 + 99 = 108 items.

2. 9/108 = 1/12, about 8.33%.

3. 9/10 = 90%. This uses a different denominator from the previous answer.

Listen for this distinction

P(warning given fault) is not the same question as P(fault given warning).

Useful follow-up

Repeat with 100 faulty items, 90 correctly flagged and 90 sound items flagged. Now 90/180 = 50% of warnings indicate a fault.

When the explanation is unclear

Ask “Which part are we sure about?” and “Can you show me with a smaller example?” Say when you do not know. Read the relevant chapter together and check its sources if the question goes beyond the example.

Signs of understanding

The learner can explain the idea in their own words, use a diagram or example, and say one thing the example does not prove. Repeating the book word for word is not the goal.

Keep the conversation comfortable

Use fictional people and amounts. Do not require personal disclosures. Short sessions are enough; stop before frustration turns reading into a test.

Reading route

The number underneath matters; The background changes the answer; Bayes is organized recounting

Companion to Probability: NOW It Makes Sense by Sonny Saggar. First edition. This guide uses original supplementary teaching examples.