Tools and Topics

Inspiring Connections Course 2, Chapter 5

Spotlight On: Co-Crafting Questions

Students are encouraged to be curious and inquire as to why mathematical concepts work the way they do. Throughout the course, students engage in lessons where they are asked to Co-Craft questions. Co-Crafting questions flips a math problem so that a set of information is provided, and students produce mathematical questions that could be asked about the information. This way of turning a problem on its head allows students to think deeply about new concepts and produce original ideas that add value to the class discussion. The next time you see an interesting infographic or set of numbers online, ask your student, "What mathematical questions could we ask about this?"

The Big Picture

Growing From
Probability of an event;
Adding and subtracting integers

Working On
Compound probability;
Multiplying and dividing integers

Growing To
Conditional probability;
Probability and independence;
Irrational numbers

Need Help?

Methods & Meanings boxes are included in the Mathematician's Notebook as reference.

5.1.5: Probability Models for Multiple Events
5.1.6: Probability of Compound Events
5.2.3: Multiplying Integers

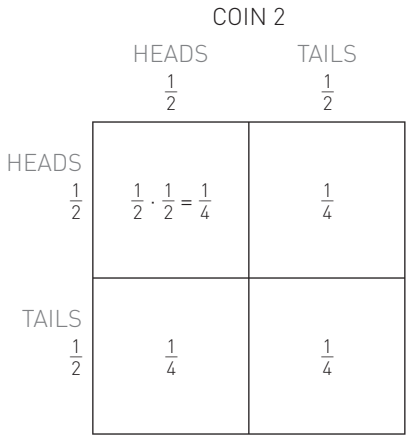
Current Topics

In this chapter, students will solve for the probability of compound events, where two or more events happen in a row. Students will represent compound events visually with lists, tables, area models, and tree diagrams. Students will also multiply and divide integers and represent the operations on a number line. Students will be able to determine whether multiplying or dividing two integers will produce a negative or positive solution.

Probability (Section 5.1)

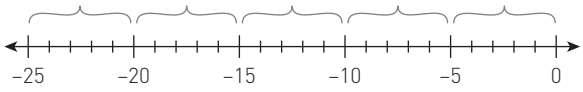
If you flip a coin two times, what is the probability of getting 1 heads and 1 tails? This can be represented with an area model, where each flip of the coin is a single event with two outcomes.

Notice that there are two ways to get 1 heads and 1 tails, so the probabilities of each of those events are added to get $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$.



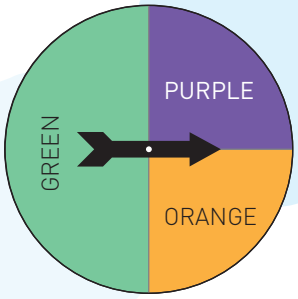
Integer Operations (Section 5.2)

Multiplying and dividing integers can result in the sign of the product or the quotient being positive or negative. There are visual ways to represent integer multiplication and division that help determine the sign of the result. For example, $-25 \div 5$ can be represented as combining 5 groups of -5 on a number line, so that $-25 \div 5 = -5$. The same visual model can also represent $(-5)(5) = -25$.



Try This at Home!

Students will explore probability in many contexts, like with a spinner as shown. With your student, look for examples of probability in your everyday life. For example, what are the chances it will rain tomorrow? Or, how likely is it to flip heads when tossing a coin?



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