Unit 8 Lesson 3: Sample Spaces

1 Rolling Cubes (Warm up)
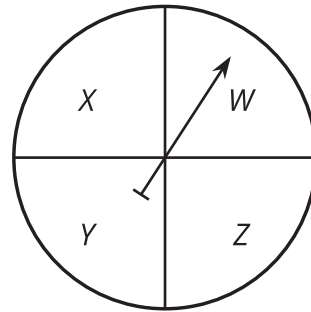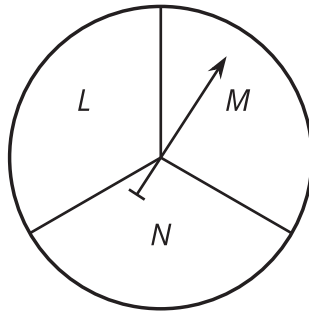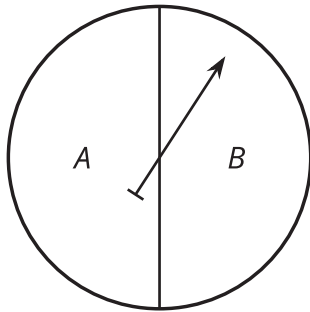
Student Task Statement

When rolling two standard number cubes, one of the possible outcomes is 1 and 1.

1. What are the other possible outcomes?

2. How many outcomes are in the sample space?

2 Spinner Sample Space

## Student Task Statement

Each of the spinners is spun once.

- Diego makes a list of the possible outcomes: ALW, ALX, ALY, ALZ, AMW, AMX, AMY, AMZ, ANW, ANX, ANY, ANZ, BLW, BLX, BLY, BLZ, BMW, BMX, BMY, BMZ, BNW, BNX, BNY, BNZ

- Tyler makes a table for the first two spinners.

	L	M	N
A	AL	AM	AN
B	BL	BM	BN

Then he uses the outcomes from the table to include the third spinner.

|	W	X	Y	Z
AL	ALW	ALX	ALY	ALZ
AM	AMW	AMX	AMY	AMZ
AN	ANW	ANX	ANY	ANZ
BL	BLW	BLX	BLY	BLZ
BM	BMW	BMX	BMY	BMX
BN	BNW	BNX	BNY	BNZ

- Lin creates a tree to keep track of the outcomes.
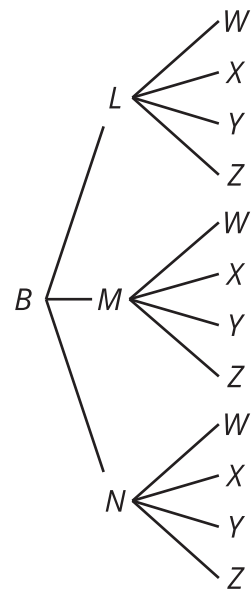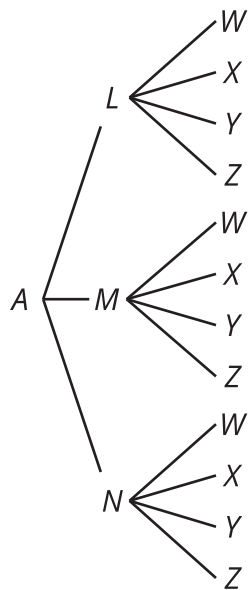
1. How many outcomes are in the sample space for this experiment?

2. One of the outcomes from Diego's list is BLX. Where does this show up in Tyler's method? Where is it in Lin's method?

3. When spinning all three spinners, what is the probability that:
    a. they point to the letters ANY? Explain your reasoning.

    b. they point to the letters AMW, ANZ, or BNW? Explain your reasoning.

4. If a fourth spinner that has 2 equal sections labeled S and T is added, how would each of the methods need to adjust?
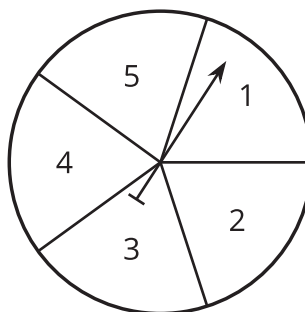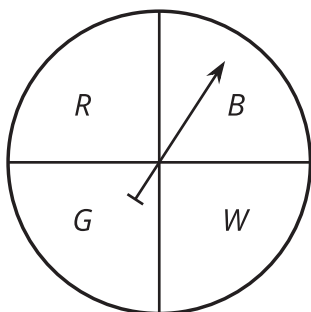
Activity Synthesis
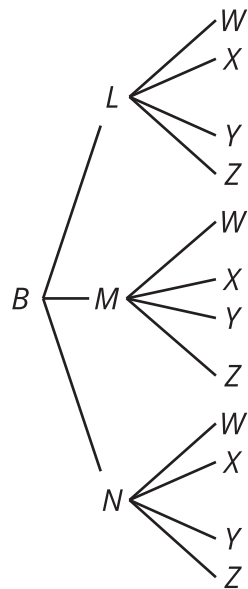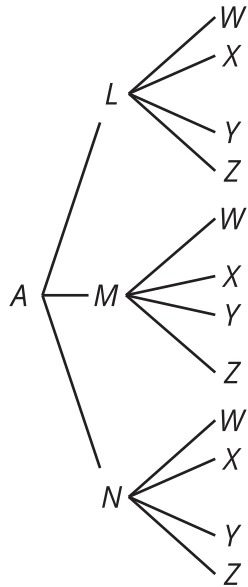
3 Sample Space Practice

Student Task Statement

List all the possible outcomes for each experiment.

1. A standard number cube is rolled, then a coin is flipped.

2. Four coins are flipped.

3. The two spinners are spun.

4. A class block is chosen from 1, 2, 3, 4, or 5, then a subject is chosen from English or math.