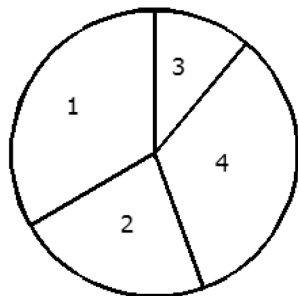
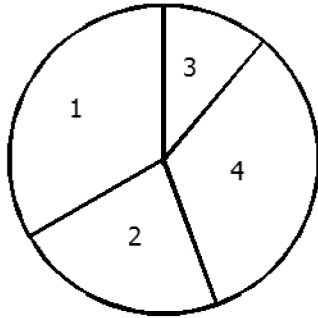




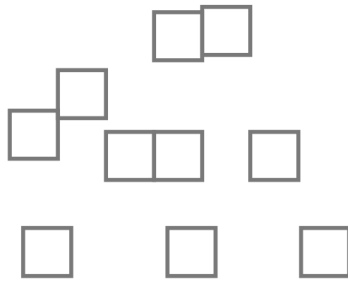
1. For each of the following chance experiments, list the sample space (all the possible outcomes).
  - a. Rolling a 4-sided die with the numbers 1–4 on the faces of the die.
  - b. Selecting a letter from the word *mathematics*.
  - c. Selecting a marble from a bag containing 50 black marbles and 45 orange marbles.
  - d. Selecting a number from the even numbers from 2–14, inclusive.
  - e. Spinning the spinner below:



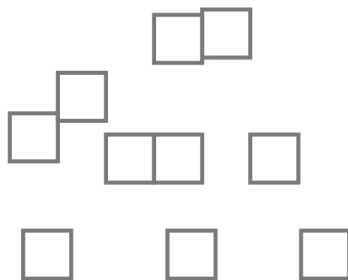
2. For each of the following, decide if the two outcomes listed are equally likely to occur. Give a reason for your answer.
- Rolling a 1 or a 2 when a 6-sided number cube with the numbers 1–6 on the faces of the cube is rolled.
  - Selecting the letter *a* or *k* from the word: take.
  - Selecting a black or an orange marble from a bag containing 50 black and 45 orange marbles.
  - Selecting a 4 or an 8 from the even numbers from 2–14, including 2 and 14.
  - Landing on a 1 or 3 when spinning the spinner below.



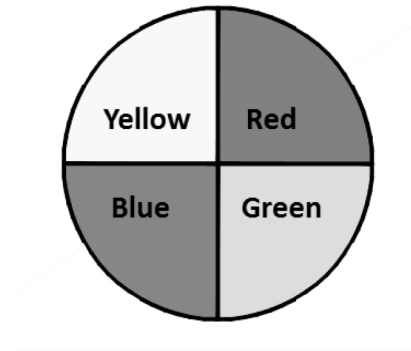
3. Color the cubes below so that it would be equally likely to choose a blue or yellow cube.



4. Color the cubes below so that it would be more likely to choose a blue than a yellow cube.



5. You are playing a game using the spinner below. The game requires that you spin the spinner twice. For example, one outcome could be yellow on 1<sup>st</sup> spin and red on 2<sup>nd</sup> spin. List the sample space (all the possible outcomes) for the two spins.



6. List the sample space for the chance experiment of flipping a coin twice.

The numbers from 1–10 are written on note cards and placed in a bag. One card will be drawn from the bag at random.

1. List the sample space for this experiment.

1, 2, 3, 4, 5, 6, 7, 8, 9, and 10

2. Are the events selecting an even number and selecting an odd number equally likely? Explain your answer.

*Yes, each has the same chance of occurring. There are 5 even and 5 odd numbers in the bag.*

3. Are the events selecting a number divisible by 3 and selecting a number divisible by 5 equally likely? Explain your answer.

*No. There are 3 numbers divisible by 3 (3, 6, and 9), but only 2 numbers divisible by 5 (5 and 10). So the chance of selecting a number divisible by 3 is slightly greater than the chance of selecting a number divisible by 5.*

1. For each of the following chance experiments, list the sample space (all the possible outcomes).

- a. Rolling a 4-sided die with the numbers 1–4 on the faces of the die.

1, 2, 3, or 4

- b. Selecting a letter from the word *mathematics*.

*m, a, t, h, e, i, c, or s*

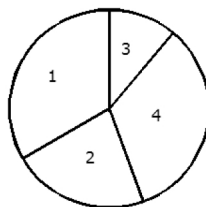
- c. Selecting a marble from a bag containing 50 black marbles and 45 orange marbles.

*Black or orange*

- d. Selecting a number from the even numbers from 2–14, inclusive.

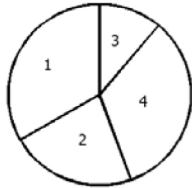
2, 4, 6, 8, 10, 12, or 14

- e. Spinning the spinner below:



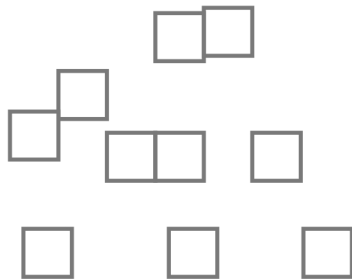
1, 2, 3, or 4

2. For each of the following decide if the two outcomes listed are equally likely to occur. Give a reason for your answer.
- Rolling a 1 or a 2 when a 6-sided number cube with the numbers 1–6 on the faces of the cube is rolled.  
*Yes, each has the same chance of occurring.*
  - Selecting the letter *a* or *k* from the word *take*.  
*Yes, each has the same chance of occurring.*
  - Selecting a black or an orange marble from a bag containing 50 black and 45 orange marbles.  
*No, black has a slightly greater chance of being chosen.*
  - Selecting a 4 or an 8 from the even numbers from 2–14, including 2 and 14.  
*Yes, each has the same chance of being chosen.*
  - Landing on a 1 or 3 when spinning the spinner below.



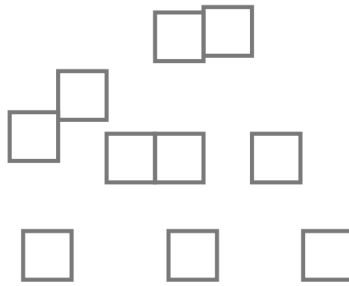
*No, 1 has a larger area, so it has a greater chance of occurring.*

3. Color the cubes below so that it would be equally likely to choose a blue or yellow cube.



*Answers will vary, but the students should have the same number colored blue as they have colored yellow.*

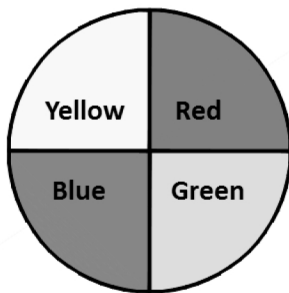
4. Color the cubes below so that it would be more likely to choose a blue than a yellow cube.



*Answers will vary. Students should have more cubes colored blue than yellow.*

5. You are playing a game using the spinner below. The game requires that you spin the spinner twice. For example, one outcome could be yellow on 1<sup>st</sup> spin and red on 2<sup>nd</sup> spin. List the sample space (all the possible outcomes) for the two spins.

*There are 16 possibilities:*



1 <sup>st</sup> spin	2 <sup>nd</sup> spin
Y	Y
Y	R
Y	G
Y	B
R	Y
R	R
R	G
R	B
G	Y
G	R
G	G
G	B
B	Y
B	R
B	G
B	B

6. List the sample space for the chance experiment of flipping a coin twice.

*There are four possibilities:*

1 <sup>st</sup> toss	2 <sup>nd</sup> toss
H	H
H	T
T	H
T	T