Objective Simulating Probability of Compunds Events

Warm-Up

1. Explain how to use a random number table to simulate whether an evenly divided spinner lands on red, blue, green, or yellow.

Overall, the percent of people in the U.S. having each blood group is given in the table. The percents have been rounded to the nearest whole number percent.

Blood Groups	A	B	O	AB
Percent of Population	42%	10%	44%	4%

Suppose the Red Cross is having a blood drive at the community center.

1. What is the probability that the next person who enters the community center to donate blood has Group A blood?

2. What is the probability that the next person who enters the community center to donate blood has Group A or Group O blood?

3. Determine the probability that out of the next 5 people to donate blood, at least 1 person has Group AB blood.

a. Describe different strategies you could use to simulate the blood groups of people who give blood.

b. Because of the values of the percents, use a random number table for this simulation. How could you assign numbers to people to account for the different blood groups?

c. Describe one trial of the simulation.

d. Conduct 20 trials of the simulation and record your results in the table.

e. Out of the 20 trials, how many had at least 1 number that represented an AB blood donor?

f. According to your simulation, what is the probability that out of the next 5 people to donate blood, at least one of them has Group AB blood?

Trial Number	Number of AB blood donors
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

4. How many people would be expected to donate blood before a person with Group B blood would donate blood?
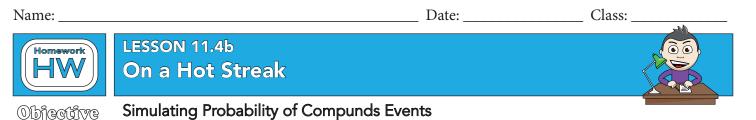
a. Describe one trial of the simulation.

b. Conduct 20 trials of the simulation and record your results in the table.

Trial Number	Number of Donors Until a Group B
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	

c. Calculate the average for your 20 trials.

d. About how many people would be expected to donate blood before a person with Group B blood enters?

LESSON 11.4b
On a Hot Streak

Homework **HW**

Objective   Simulating Probability of Compunds Events

Practice

1. In 1900, half of the babies born in America were born with blue eyes. What is the probability that 3 out of 4 babies born had blue eyes?

a. What might be a good model for simulating the probability of a baby being born with blue eyes in 1900?

b. Describe how you would assign outcomes and then describe one trial of the simulation.

c. Conduct 20 trials of the simulation and record your results in a table.

d. According to your simulation, what is the probability that 3 out of 4 babies born have blue eyes?