

By the end of this lesson you will be able to \_\_\_\_\_.

What are dependent events? \_\_\_\_\_.

How does a gumball machine help explain dependent events?

**Example 1: Without Replacement**

What is the probability that you can get two red gumballs from the machine?

- \_\_\_ blue
- \_\_\_ yellow
- \_\_\_ pink
- \_\_\_ red
- \_\_\_ green
- \_\_\_ white
- \_\_\_ **Total**



Probability for  
the 1<sup>st</sup> event

Probability for  
the 2<sup>nd</sup> event

How did you determine the probability for the 1<sup>st</sup> event?

How did you determine the probability for the 2<sup>nd</sup> event?

What is the probability for these events to occur together?

As a fraction? \_\_\_\_\_

As a decimal? \_\_\_\_\_

As a percent? \_\_\_\_\_

**Example 2: Without Replacement**

What is the probability that you can get the red gumball and then the blue gumball?

Probability for  
the 1<sup>st</sup> event

Probability for  
the 2<sup>nd</sup> event

How did you determine the probability for the 1<sup>st</sup> event?

How did you determine the probability for the 2<sup>nd</sup> event?

What is the probability for these events to occur together?

As a fraction? \_\_\_\_\_

As a decimal? \_\_\_\_\_

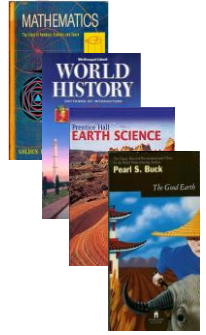
As a percent? \_\_\_\_\_

### Example 3: Without Replacement

You have four homework assignments to complete in each of your core classes. What is the probability that you will choose to complete your math homework first and your science homework second?

Probability for  
the 1<sup>st</sup> event

Probability for  
the 2<sup>nd</sup> event



How did you determine the probability for the 1<sup>st</sup> event?

How did you determine the probability for the 2<sup>nd</sup> event?

What is the probability for these events to occur together

As a fraction? \_\_\_\_\_

As a decimal? \_\_\_\_\_

As a percent? \_\_\_\_\_

### Example 4: Without Replacement

Two girls and a boy are taking a test. What is the probability that they will finish in the order girl, boy, girl?

Probability for  
the 1<sup>st</sup> event

Probability for  
the 2<sup>nd</sup> event

Probability for  
the 3<sup>rd</sup> event

How did you determine the probability for the 1<sup>st</sup> event?

How did you determine the probability for the 2<sup>nd</sup> event?

How did you determine the probability for the 3<sup>rd</sup> event?

What is the probability for these events to occur together?

As a fraction? \_\_\_\_\_

As a decimal? \_\_\_\_\_

As a percent? \_\_\_\_\_

**Your Turn to Practice.** [Fill in the missing information for each problem using the video.]

Find the probability of the events. Write as a fraction, decimal and a percent. Round to the nearest thousandth.

- 1) Probability of choosing two vowels, without replacement, from the word \_\_\_\_\_.
  
- 2) Probability of picking an odd number, not putting it back, and then picking a multiple of 10, from the numbers \_\_\_\_\_.
  
- 3) Probability of picking two red gumballs, without replacement, from \_\_\_\_\_ red and \_\_\_\_\_ blue.
  
- 4) \_\_\_\_\_ boys and \_\_\_\_\_ girls are running in a race. What is the probability that the order of finishers will be in the order of \_\_\_\_\_?