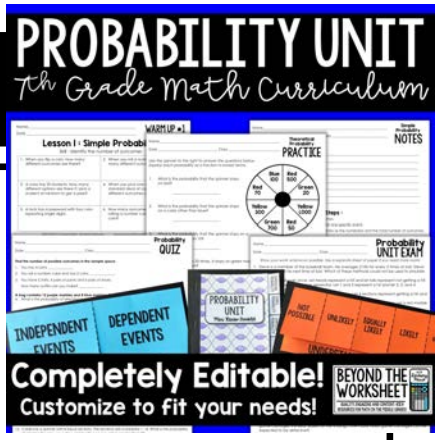
ABOUT THIS RESOURCE



Details :

This 13 day unit covers 7th Grade Probability Standards. If the skills don't completely align to your state standards, that's OK because this resource is 100% editable! All content can be modified to make this unit perfect for your classroom!

Included Resources :

- Weekly warm up recording sheets
- Weekly exit ticket sheets
- Blank lesson plans
- Unit tracking pages
- Unit vocabulary sheet
- Unit pre-assessment
- Warm ups
- Partner Activity
- Traditional notes
- Fold and Flip Notes
- Practice assignments (for homework or classwork)
- A complete PDF of the unit
- An editable PPT version of the unit.
- A binder cover and spine labels
- Unit post-assessment

Lessons :

- Lesson 1 : Simple Probability
- Lesson 2 : Compound Probaiblity
- Lesson 3 : Simulations

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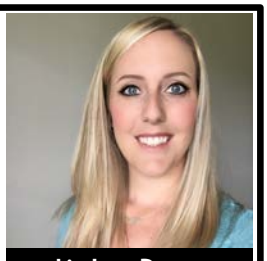
STAY IN TOUCH!

Meet the Author :

My name is Lindsay Perro and I have been an educational writer and content developer since 2009. After spending 8 years as a Middle School Math Teacher and Interventionist, I am now following my passion and focusing on creating quality educational resources to make your job easier and keep students engaged and excited about math!



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BEYOND THE WORKSHEET
QUALITY, ENGAGING AND CONTENT-RICH RESOURCES FOR MATH IN THE MIDDLE GRADES!

PROBABILITY UNIT PLAN

13 DAY UNIT

Lesson	Resources
Unit Prep (pgs. 6 – 13)	• Vocabulary Page • Warm Up Page • Unit Pre-Assessment
(1) Simple Probability (pgs. 14 – 37)	• Four Warm Ups • Understanding Probability Notes • Understanding Probability Fold and Flip Notes • Understanding Probability Sorting Activity • Simple Probability Notes • Theoretical and Experimental Probability Notes • Theoretical and Experimental Partner Activity • Odds vs. Probability Notes • Simple Probability Practice • Simple Probability Spinner Practice • Theoretical Probability Spinner Practice • Theoretical Probability Extra Practice (4 pages) • Experimental and Theoretical Probability Practice (3 pages)
(2) Compound Probability (pgs. 38 – 55)	• Four Warm Ups • Compound Probability Notes (2 pages) • Independent and Dependent Events Sorting Activity • Independent and Dependent Events Fold and Flip Notes • Compound Probability Practice (2 pages) • Tree Diagrams Practice • Constructed Response Practice (2 pages) • Probability Quiz (Two different versions – two pages each)
(3) Simulations (pgs. 56 – 67)	• Four Warm Ups • Simulations Notes • Simulations Practice Worksheets (4 different resources - 7 different pages)
End of Unit (pgs. 68 – 77)	• Mini Review Booklet • Unit Post-Assessment

Name_____

Date _____

WARM UP #1

Lesson 1 : Simple Probability

Skill : Identify the numbe

1. When you flip a coin, how many different outcomes are there?	2. W m
3. A class has 20 students. How many different options are there if I pick a student at random to get a prize?	4. W st d
5. A lock has a password with four, non-repeating single digits.	6. H r c

Name_____

Date _____

Name_____

Date _____

WARM UP #1

Lesson 2 : Compound Probability

Skill : Identify the number of outcomes

1. How many outfits can you make if you have 4 shirts, 5 pairs of shorts and 3 pairs of shoes?	2. How many different combinations are there for a lock if there are 3 numbers in the combination, 0-9 and they can be repeated?
3. You must pick a PIN number for your bank account. You can pick the numbers 0-9 and it must be 4 digits long. Digits cannot be repeated!	4. How many different pizzas can you make if you have 4 options for a crust, 3 sauce flavors and you can pick one of 8 different toppings?

Name_____

Date _____

WARM UP #3

Lesson 2 : Compound Probability

Skill : Calculating combinations and probability

1. You download 6 songs. You randomly choose 4 of the songs to play. How many different combinations of the four songs are there?	2. You can take 5 friends to a concert. You have 9 friends who want to go. How many different combinations of friends can you take to the concert?
3. You have the letters A L G E B R A in a bag. You pull out an A and keep it out. What is the probability that the next letter you pull is an L?	4. Y b G

Name_____

Date _____

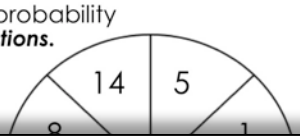
WARM UP #2

npound Probability

and dependent probability

to answer the questions.

multiple of three.



Name_____

Date _____

WARM UP #1

Lesson 3 : Simulations

Skill : Identify the number of outcomes and combinations.

1. Paige, Alyssa, Lauren and Safa ran a race. In how many different ways can they finish?	2. How many ways can a president and vice president be selected from a class of nineteen students?
3. In how many ways can 5 people stand in line?	4. You are creating three digit password

Name_____

Date _____

Lesson 2 : Compou

Skill : Compound pr

1. You roll two number cubes. What is the probability of landing on a six on each?	3. C n c id s
2. A bag contains cubes. Each cube displays one letter from the alphabet.	

outcomes are there in the sample space?

5 sectioned spinner and flipping tails on a coin?

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Warm Ups

Name_____

Date _____ Class _____

Understanding Probability NOTES

Define :

- Probability is the _____
- Probability is the _____ of the numb
  number of possible outcomes.
- Probability can be expressed as a _____

Calculating probability :

- Write the probability as a fraction. The denominato
  and the numerator will be the number of ways the
- Simplify the fraction.
- Re-write the fraction as a decimal or percent if nee

Name_____

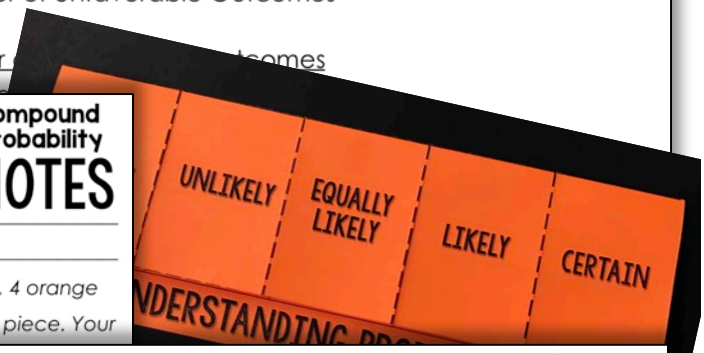
Date _____ Class _____

Odds Vs. Probability NOTES

- Probability is a measure of the likelihood, or chance, that an event will occur.
- Odds compare the number of favorable and unfavorable outcomes. When determining odds, you do not use the total number of outcomes.

Odds in Favor = $\frac{\text{Number of Favorable Outcomes}}{\text{Number of Unfavorable Outcomes}}$

Odds Against = Number [illegible]



Define :

Compound Probability NOTES

- Dependent Events – _____

➢ **Example** : *You pick a piece of candy out of a jar. There are 5 strawberry pieces, 4 orange pieces, 3 cherry pieces and 6 banana pieces. You choose and eat a strawberry piece. Your friend chooses a cherry piece. What is the probabil cherry piece?*

Step 1 - Are the events are independent or depende

Explain _____

Step 2 – Find the probability of each event.

The probability of picking a strawberry c

The probability of picking a cherry candy

Step 3 – Multiply the two probabilities. Simplify. _____

Tree Diagrams :

Tree diagrams can be used to show all possible outco example, identify all possible outcomes for making a one of two sauce flavors and one of two toppings.

Name_____

Date _____ Class _____

Simulations NOTES

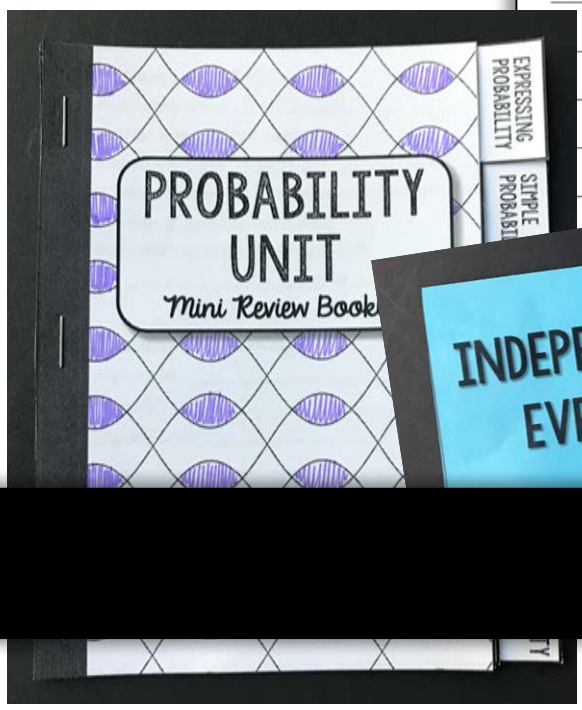
Define :

Simulation : _____

Designing a Simulation : The Steps

1)_____

2)_____



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Notes

Name_____

Date _____ Class _____

Simple Probability PRACTICE

Directions : *Use the spinner to complete this page.*

What is the theoretical probably of :

- Spinning a 2 : _____
- Spinning an even number : _____
- Spinning a 5 or 7 : _____
- Spinning a 2, 4 or 6 : _____
- How many times would you expect to land on a 2 or a 3 after 8 spins?

_____

	Theoretical Probability (as a fraction)	Prediction for 20 spins	Results for 20 spins
1			

Theoretical Probability PRACTICE

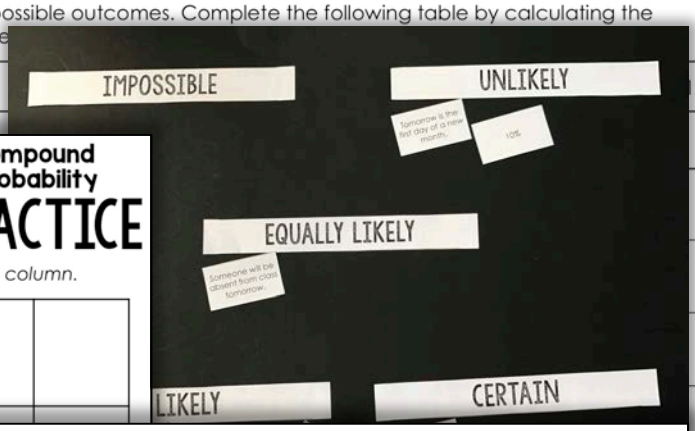
Suppose you are playing a game where two dice are tossed and the values on the faces of the cubes are added together. The possible outcomes in this game will be the sums of the two dice.

Complete the table below to show all of the possible sums.

Faces	1	2	3	4	5	6
1	2	3	4			
2	3	4	5			
3						
4						
5						
6						

6. There are 36 possible outcomes. Complete the following table by calculating the probability of e

Sum	
Probability	



Name_____

Date _____ Class _____

Compound Probability PRACTICE

Solve each problem. Show your work in the second column. Put your answer in the third column.

1	You flip a coin and roll a dice. What is the probability the coin lands on heads and the dice lands on a number less than 3?		
2	You have 18 shirts in your closet. 4 blue, 4 red, 3 green and 7 black. You pick one without looking. What is the probability of picking a blue or black shirt?		
3	8 of the last 40 cars that passed you were black. What is the probability the next car will be black?		

Name_____

Date _____ Class _____

Simulations PRACTICE

Science Class

It's time for a quiz in Science, but you are not at all prepared!
The quiz consists of 10 true / false questions. You decide to guess at each response.

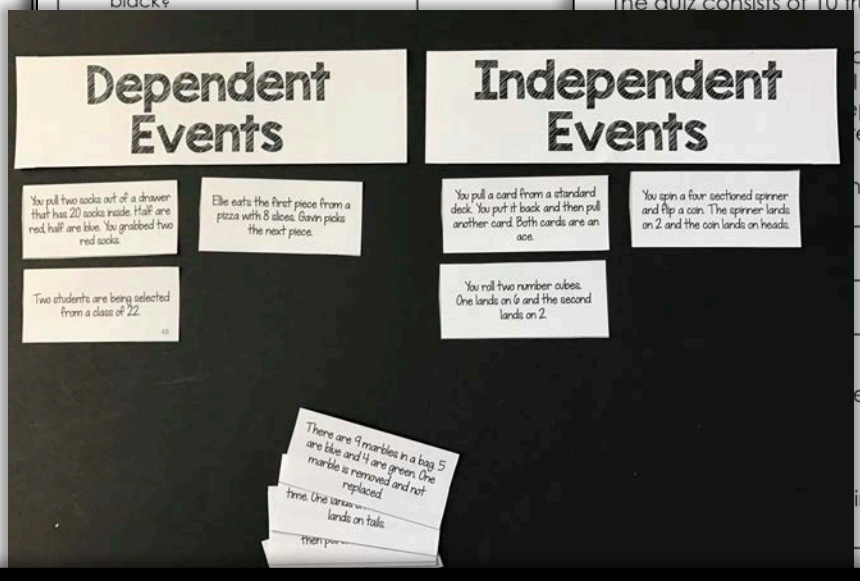
ct responses to get a C on the quiz, and you want to estimate
pass. You will simulate guessing on the test by flipping a coin
presents one statement on the test. Let heads represent a
epresent and incorrect answer.

nd record your results in the table below.

	3	4	5	6	7	8	9	10

esults, how mo

imes and reco



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Worksheets

Name_____

Date _____

PRE-ASSESSMENT

Probability

1) The probability of rain today is 20% and the probability of rain tomorrow is 45%. What is the probability that it will rain both days?

2) You
prob
once

3) The password to a safe is made up of four letters. Only the letters A – G can be used and each letter may be used only once. How many possible combinations are there for the safe password?

4) A ba
blue
rand
a gre

Name_____

Date _____ Class _____

Probability QUIZ

Find the number of possible outcomes in the sample space.

1. You toss 4 coins. _____
2. You roll a number cube and toss 2 coins. _____
3. You have 5 shirts, 4 pairs of pants and 6 pairs of shoes.
   How many outfits can you make? _____

A bag contains 12 purple marbles and 8 blue marbles. You choose a marble at random.

4. What is the probability of selecting a purple marble? Express the probability as a decimal.

5. You randomly select two marbles, one after the other. What is the probability that you pick a purple marble, followed by a blue marble? The first marble was not replaced.

6. With replacement, what is the probability of pulling a purple marble, followed by another purple
ction in simplest form.

A, A, B, C, C, C, C, D, E, E
abeled with a C? Write the probability as a decimal.

ll labeled with something other than a B? Express the

Name_____

Date _____ Class _____

Probability UNIT EXAM

Show your work whenever possible. Use a separate sheet of paper if you need more room!

1. Steve is a member of the baseball team. He averages 2 hits for every 5 times at bat. Steve might get a hit his next time at bat. Which of these methods could not be used to simulate this situation?
   a. Flip a fair coin once. Let heads represent a hit
   b. Use a random number generator. Let 1 and 5
   represent not getting a hit.
   c. Spin a spinner with 10 equally-sized sections. Le
   let 6 sections represent not getting a hit.
   d. Draw a marble from a bag that contains 8 red
   represent getting a hit and let a blue marble r

2. What is the range of the bowling scores in the table b

Week	1	2	3	4	5	
Score	123	154	117	121	163	

3. Javier wants to collect data about the number of ho
week. Based on the principles of simple random sam
method for Javier to collect his data?

   a. Randomly select 20 students from both the girls
   b. Randomly select 10 freshmen, 10 sophomores,
   c. Choose any 3 buses, and randomly select a to
   d. Number all students in the school, and random

4. At Mary Mount Middle School there are 9 mathemat
are selected for a school competition, what is the nu

5. A quality control engineer for the Have Fun Toys Com
cartridges and found 3 defective cartridges. The cor
game cartridges this year. Based on the findings, hov
expected to be defective?

Probability Unit Exam

6. The table shows the number of students in a high school by grade level. A student is selected at random. Which spinner would best simulate the grade level of the student?

Grade	Number of Students
9	400
10	300
11	150
12	150

a. 

b. 

c. 

7. Jeremy plays soccer. He scores a goal in 40% of his games. Jeremy wants to design a simulation using a spinner to predict the probability that he will score a goal in 8 out of 10 games. Which simulation design has an appropriate device and a correct trial?

   a. Divide a spinner into 5 equal sections labeled 1, 2, 3, 4, and 5. Spin the spinner 8 times.
   b. Divide a spinner into 5 equal sections labeled 1, 2, 3, 4, and 5. Spin the spinner 10 times.
   c. Divide a spinner into 4 equal sections labeled 1, 2, 3, and 4. Spin the spinner 8 times.
   d. Divide a spinner into 4 equal sections labeled 1, 2, 3, and 4. Spin the spinner 10 times.

8. Each year Ms. Fong, a physics teacher, has her students build bridges out of toothpicks. Last year Ms. Fong recorded the number of toothpicks that 20 of her students used is shown. Ms. Fong will use the mode o this data set to determine the number needed for each student this year. Hov toothpicks will be needed for each stu

# of toothpicks used by each student

157 200 150 175 130

9. Marty has a bag with 5 yellow candies candies. His friend, Susan, picks a can

   • Step A: What color candy is Susan m

   • Step B: Explain why your answer is c

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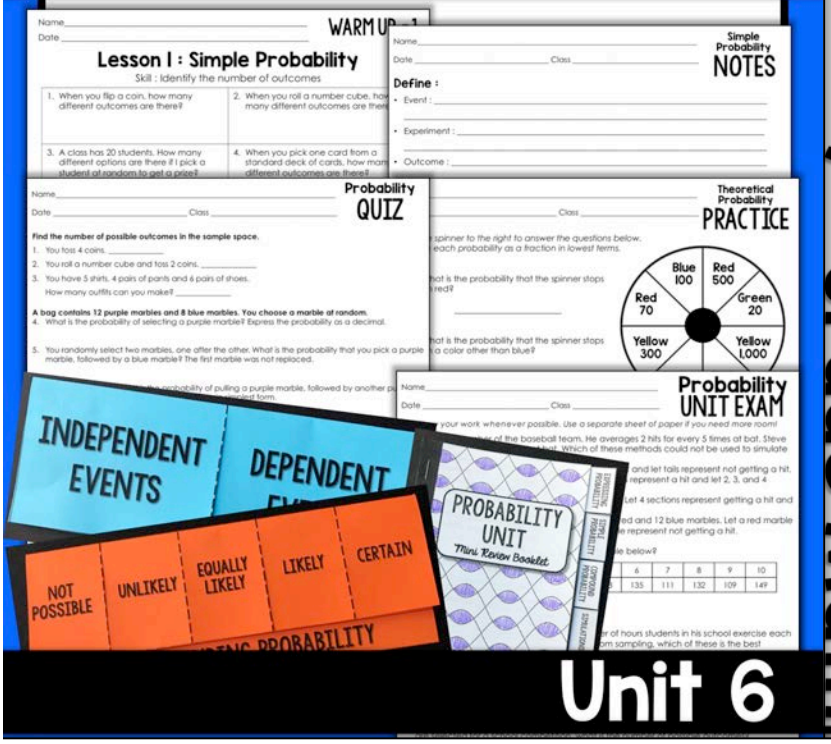
Assessments

7th Grade Math Curriculum

Probability



Unit 6

Unit 6 7th Grade Math

Unit 6 7th Grade Math

Unit 6 7th Grade Math

7th Grade Math Unit 6
Probability

STUDENT TRACKING

Name	Pre Assessment	Post Assessment	Notes

Unit SIX Lesson TWO
Compound Probability

STUDENT TRACKING

Name	Compound Probability Practice 1	Compound Probability Practice 2	Tree Diagrams Practice	Constructed Response Practice	Probability Quiz

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Tracking Sheets & Binder Labels

PROBABILITY UNIT PLAN

Vocabulary	Ob
• Compound Event • Dependent Event • Equally Likely • Event • Experiment • Experimental Probability • Certain • Impossible • Independent Event • Likely • Mutually Exclusive Event • Odds	• Develop, probabilit • Understan between impossible equally lik • Simple pro • Compoun tree diagr • Represent and ident outcomes • Design an

Name_____

Week of _____ to _____

WEEKLY WARM UP SHEET

Date:	
Date:	

Exit Ticket	Exit Ticket	Exit Ticket	Exit Ticket	Exit Ticket
Name_____ Date _____	Name_____ Date _____	Name_____ Date _____	Name_____ Date _____	Name_____ Date _____

Probability Lesson Plan

Standard(s): _____ **Date(s):** _____

Student Materials:

- ❑ Calculator ❑ Scissors ❑ Compass ❑ _____
- ❑ Colored pencils ❑ Glue ❑ Graph paper ❑ _____
- ❑ Ruler ❑ Protractor ❑ Dry erase ❑ _____

PROBABILITY UNIT VOCABULARY

Compound Event	
Dependent Event	
Equally Likely	
Event	
Experiment	
Certain	

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Planning Pages