

Special Ed

Probability for middle/high school



ALSO INCLUDES GOOGLE SLIDES



This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader and counts to 20, but with some support he is able to do this unit, and enjoys the challenge. He is my tester!!

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This unit contains 16 days of material that is in both printable and digital formats. I have included a detailed lesson plan to help you make the most of everything in this unit including how to add some group activities.

Probability Lesson Plan


Preparation

- Print out a vocabulary board for each student to use throughout unit
 - Laminate or place in page protector
- Book
 - Print out, laminate, and bind
 - OR your students can listen to the pre-recorded version
- Vocabulary cards
 - Print out a set of cards onto cardstock and laminate
 - Make one set for each student and also one for the teacher to use in I Spy games

Preassessment (do day 1 before starting lesson)

- Choose the form of the assessment that best fits the learning level of your students
- Give the assessment to assess what your students may already know
- I cannot emphasize enough how important this step is. If you want to see growth, this preassessment is so important!!

Teaching Tips

1. **Color Coding:** this is a really easy way to add more structure to a matching activity. Outline or color in an  the corresponding picture symbol task.
 - a. For more info, read more <https://specialneedsforspedifferentiation/>
 - b. I also have a blog post or <https://specialneedsforspedifferentiation.com/3-ways-easily-and-effectively/>
2. **Make your own copies of the act** yesterday. For that reason:
 - a. I often complete the activity that I could use year after
 - b. My copies were also help more support or as a way

Day 2

Activity	Notes	Materials
Read or listen to a recording of the book (10 minutes)	<ul style="list-style-type: none"> • Read through the story, asking lots of questions • Continue to make connections between book and vocabulary board 	<ul style="list-style-type: none"> • Book • Vocabulary board
Vocabulary cards I Spy Game (10 minutes)	<ul style="list-style-type: none"> • I play this game, or variations of it the first few days <ul style="list-style-type: none"> ◦ Determine how many cards your students can handle in front of them. This can vary, some students may be able to have all the cards, so may only be able to handle a field of 3-5 • Since this is the first time playing this game, I make it easy. Hold up a card, and have students find the matching one and hold it up • Discuss relevant points on the card <ul style="list-style-type: none"> ◦ You can also play this game in this manner having them find the symbol on their vocabulary board 	<ul style="list-style-type: none"> • Vocabulary cards (student set and teacher set) • Vocabulary board
Circle map review (5 minutes)	<ul style="list-style-type: none"> • Review the worksheet completed yesterday 	<ul style="list-style-type: none"> • worksheet from yesterday
Label a probability line (10 minutes)	<ul style="list-style-type: none"> • Students will label a probability line. • Do 1-2 worksheets. • Add color coding if needed 	<ul style="list-style-type: none"> • Worksheet • Scissors • glue
Sharing (10 minutes)	<ul style="list-style-type: none"> • Each student shares one of their finished probability line with the group using the communication method of their choice 	<ul style="list-style-type: none"> • Completed objectives/templates • Communication devices

Quick Look

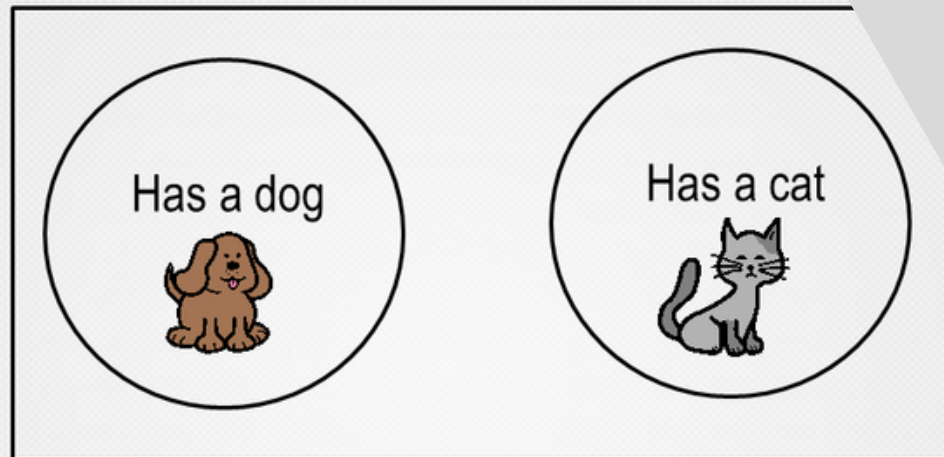
Day	Activity	Day	Activity
1	<ul style="list-style-type: none"> • Book • Vocabulary activity • Circle map 	9	<ul style="list-style-type: none"> • Book • Vocabulary activity • Labeling and reading a Venn diagram
2	<ul style="list-style-type: none"> • Book • Vocabulary activity • Label a probability line 	10	<ul style="list-style-type: none"> • Book • Vocabulary activity • Labeling and reading a Venn diagram
3	<ul style="list-style-type: none"> • Book • Vocabulary activity • Label a probability line 	11	<ul style="list-style-type: none"> • Book • Vocabulary cut and paste • Determine probability from a Venn diagram
4	<ul style="list-style-type: none"> • Book • Vocabulary activity • Sorting impossible and certain 	12	<ul style="list-style-type: none"> • Book • Vocabulary cut and paste • Determine probability from a Venn diagram
	<ul style="list-style-type: none"> • Book • Vocabulary activity 	13	<ul style="list-style-type: none"> • Book • Vocabulary cut and paste • Determine probability from a Venn diagram
		14	<ul style="list-style-type: none"> • Book • Vocabulary cut and paste • Sudoku puzzle
		15	<ul style="list-style-type: none"> • Book • Vocabulary cut and paste • Close worksheets
		16	<ul style="list-style-type: none"> • Review if needed • Assessment

There is a 16 day lesson plan with group and individual activities.

But what about things that are not that easy to figure out, like the weather? If you hear thunder and there are dark clouds in the sky, you know it is **likely** it will rain.







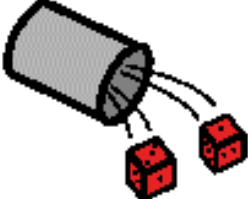



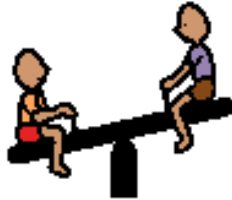

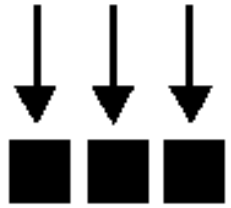








Now, we want to know how many people have a dog or how many people have a cat. These are each called an event or possible **outcome**. We draw each event as a circle.



This unit contains a book that is 45 pages to introduce the topic.

It comes in a pdf version as well as a voice-recorded PowerPoint (so you don't have to print it out.)

$P(A)$ probability	 certain	 impossible	 likely	 unlikely
 50/50 chance	 experiment	 outcome	 sample space	
 independent	 dependent	 chance	 ways it can happen	 flip a coin
 repeat that	 I like that	 I don't like that	 I don't know	 I need a break

This unit comes with a vocabulary board.

Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

Tips on how to use in the unit!!

There are vocabulary cards students will use every day for a group activity. There is also a cut and paste activity.

unlikely

Will probably not happen; less than 50/50 but more than impossible.



50/50 chance

Even chance that either of 2 outcomes will happen.



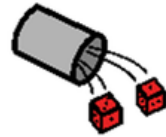
sample space

All the possible outcomes in an experiment.



outcome

Possible result of an experiment.



probability

How likely something will happen.



impossible

Cannot happen.



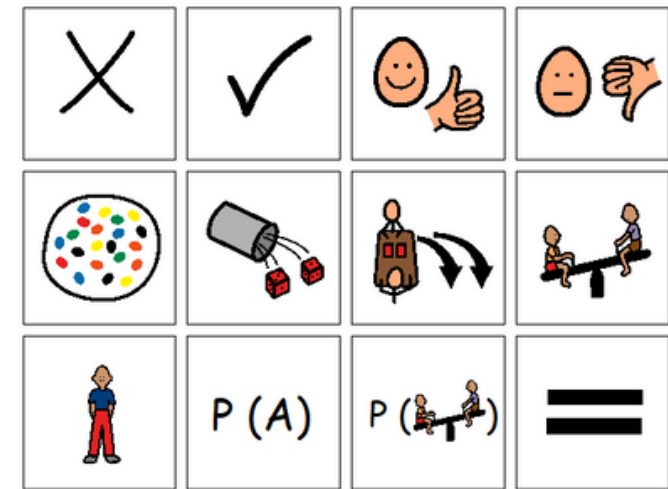
certain

Will definitely happen.



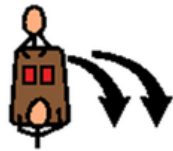
likely

Will probably happen; more than 50/50 but less than certain.



experiment

Something you do over and over that has a certain set of possible results.



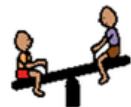
conditional probability

Any time you have dependent events.



dependent

One event is affected by another event.



independent

When the outcome of one event has no effect on future outcomes.



unlikely



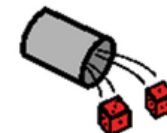
50/50 chance



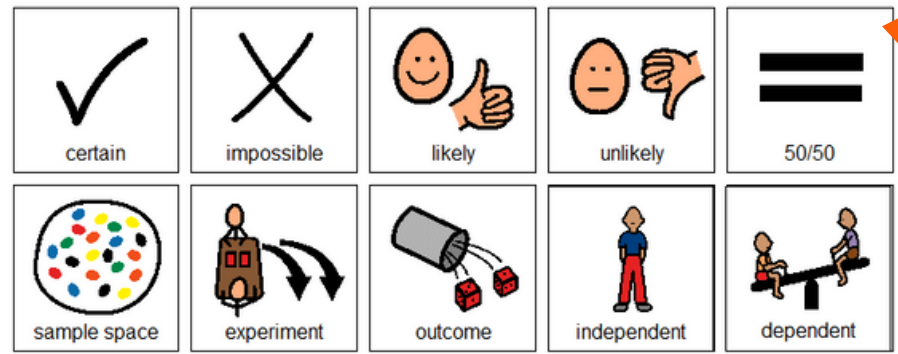
sample space



outcome



How likely something will happen.	Something you do over and over that has a certain set of possible results.
One event is affected by another event.	Possible result of an experiment.
Will probably happen; more than 50/50 but less than certain.	Will definitely happen.



Errorless

Circle map on probability.

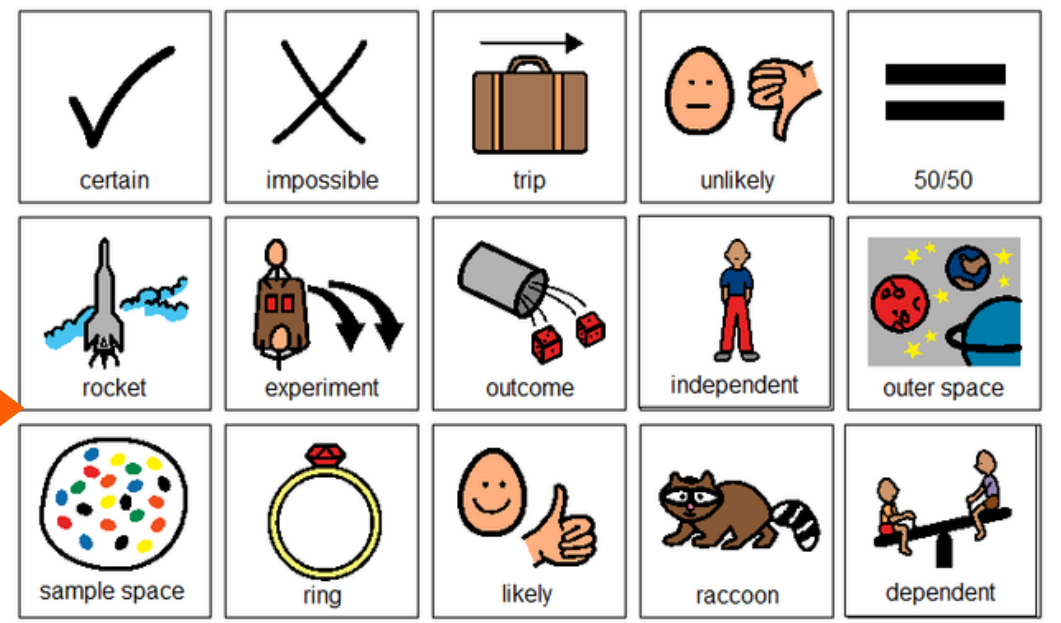
This circle map is a great way for students to see a the concept at a glance. There are 2 versions:

- One is errorless
- One has wrong answers mixed in students will have to set aside

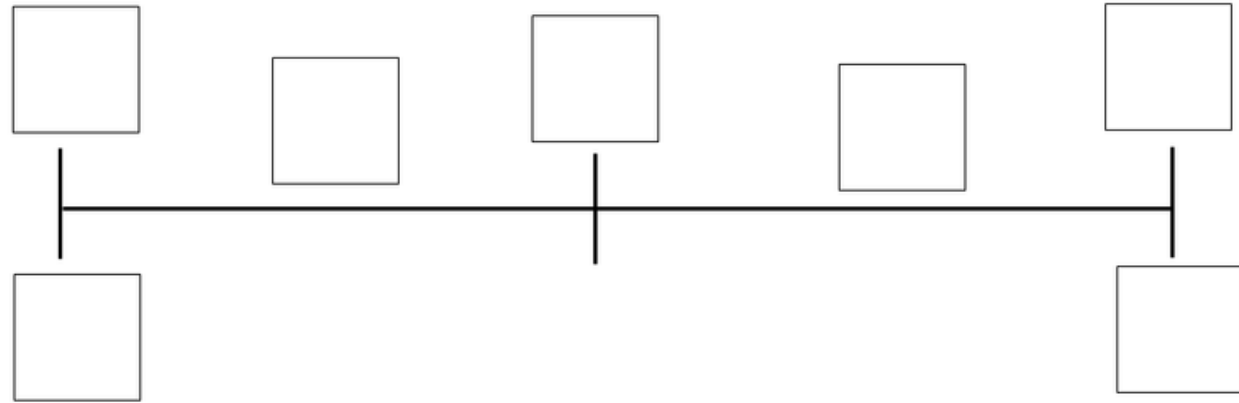
$P(A)$



harder

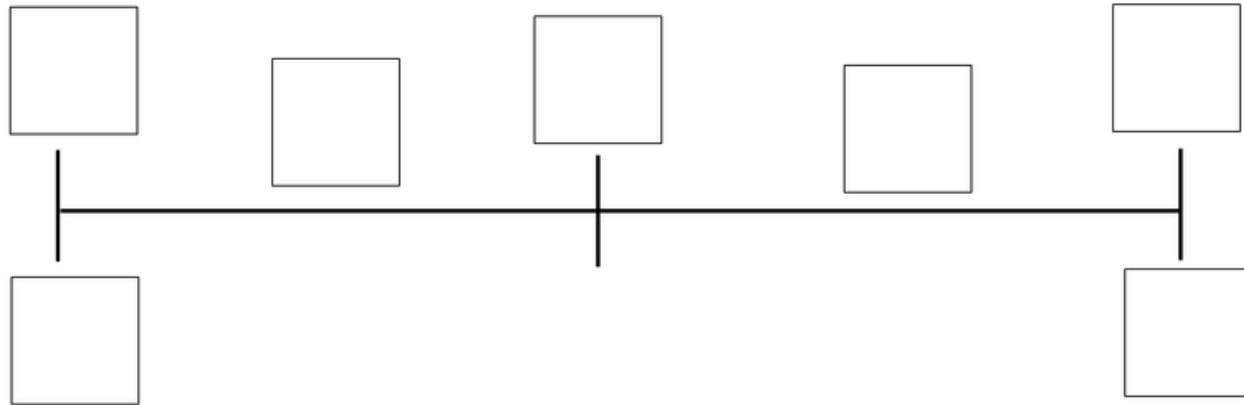


Place the labels below on the probability line.



0 1 impossible certain 50/50 chance likely unlikely

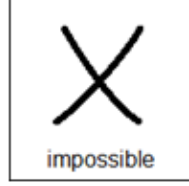
Place the labels below on the probability line.



0 1 get heads when flip a coin monster in pool win a gold medal do well on test sun rises

This unit contains **a lot** of worksheets.

Here, students will label a probability line. First with standard labels and then with specific examples.



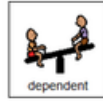
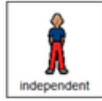
 snowing in summer	 dinosaur in the forest	 flower grows	 get food from garden	 worm attacks you
 ice freezes in fire	 play piano	 hike up a mountain	 sun falls out of sky	 swim
 storm	 pigs fly	 you get mail	 get an A on test	 monster in lake
 dragon flies by	 stay awake for 10 days	 have chicken for dinner	 pumpkin walks away	 get lost

In this activity, students sort events that are certain and those that are impossible.

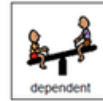
Directions on how to differentiate with color is included.

Listen to each example below and decide if the outcome is dependent or independent.

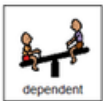
1. Joe does a magic trick and tells you to draw a card from a regular deck of cards. What is the probability you will draw the 7 of hearts?



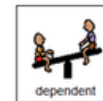
2. Chocolate chip is the most popular type of cookie at the bakery. What is the probability you will get a chocolate chip cookie if you wait until later in the day?



3. What is the probability your teacher will bring an umbrella to school if it is cloudy outside?



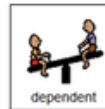
4. What is the probability you will do well on the test if you study an extra 2 hours the night before?



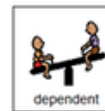
2 worksheets

Listen to each example below and decide if the outcome is dependent or independent.

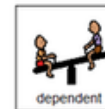
5. What is the probability you will roll a 3 on a standard die?



6. What is the probability they would have pizza in the cafeteria for lunch if they had pizza yesterday?



7. What is the probability the coin will land on tails?

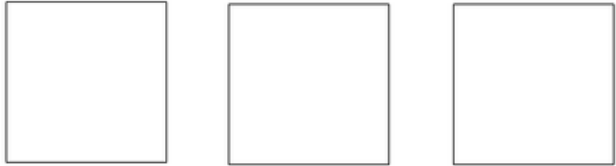


8. What is the probability of wearing red shorts on Friday?

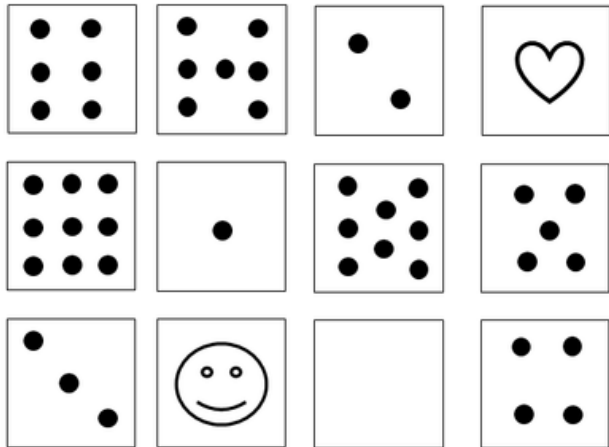


This set has students identify whether events are dependent or independent. There are 8 questions.

Draw all of the possible outcomes if you roll this classic die one time.

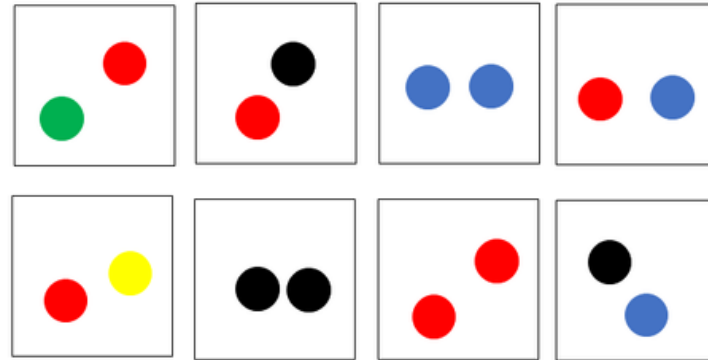
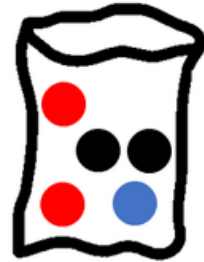


Circle all of the possible outcomes if you roll this classic die one time.



4 experiments

Circle all of the possible outcomes if you draw 2 marble out of the bag. There are 2 red, 1 blue, and 2 black marbles.



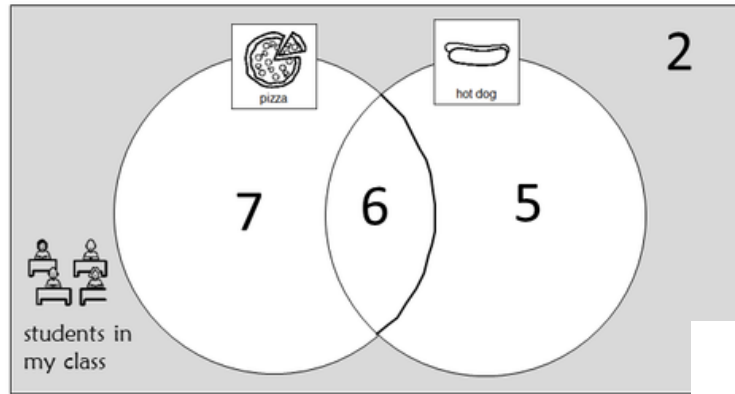
This set has students evaluate several experiments and determine all of the possible outcomes.

Each one comes with a differentiated version where students circle the possible outcomes.

differentiated

This unit has students learning how to use a Venn diagram when it comes to probability.

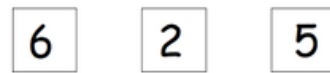
Answer the following questions about this Venn diagram



1. What does the shaded part of this Venn diagram mean?



2. How many students don't like hot dogs OR pizza?

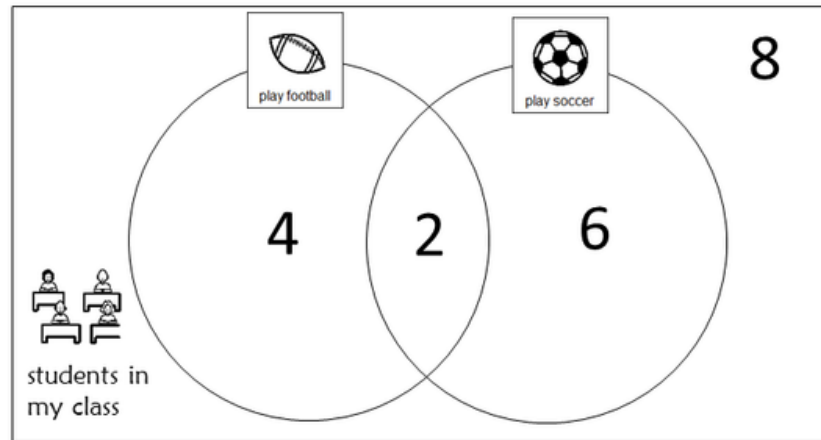


3. How many students are in the sample space?



Christa Joy, Special Needs for Special Kids
The Picture Communication Symbols ©1981–2020 by Tobii Dynavox. All Rights Reserved
Worldwide. Used with permission. Boardmaker® is a trademark of Tobii Dynavox

Calculate the probabilities using the information in the Venn diagram. This is assuming events are **independent**.



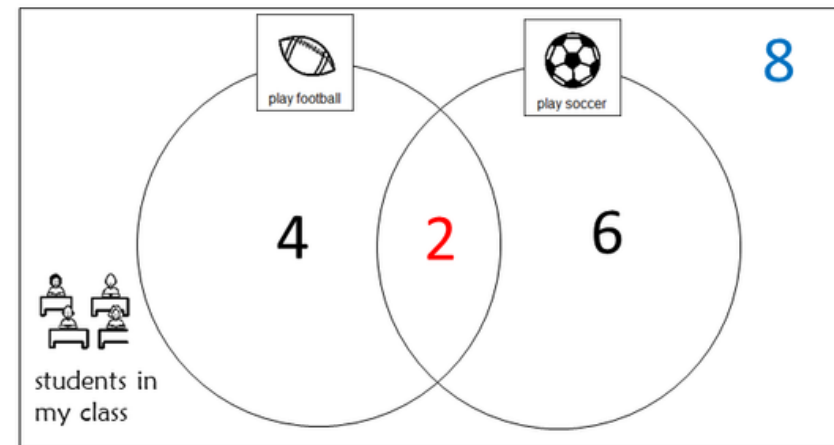
1. What is the probability someone in a similar class will play football?

$$P = \frac{\square}{\square}$$

2. What is the probability someone in a similar class will play **ONLY** soccer?

$$P = \frac{\square}{\square}$$

Calculate the probabilities using the information in the Venn diagram. This is assuming events are **independent**.



1. What is the probability someone in a similar class will play football AND soccer?

$$P = \frac{\square}{\square}$$

2. What is the probability someone in a similar class will play neither soccer or football?

$$P = \frac{\square}{\square}$$

differentiated

Probability

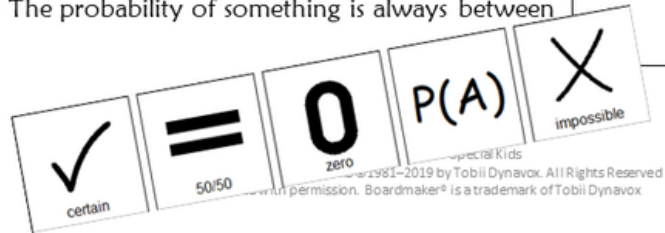
1. How likely something is to happen is called .

2. Some things are like a pig flying.

3. Some things are like the sun rising tomorrow.

4. When you flip a coin, we say the chances are it will land on heads.

5. The probability of something is always between and 1.



Probability

6. It is you will meet the president.

7. You can also show probability using a .

8. The sample space shows all the possible .

9. Events that are do NOT affect one another.

10. It is there will be more people at the pool on a sunny day.



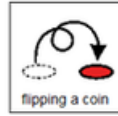
Close worksheet are a great informal assessment. This unit has 2 of them, for a total of 10 fill-in-the-blank questions.

Answer key included.

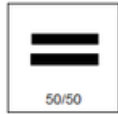
1. An example of something that is likely to happen is:



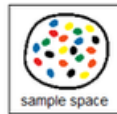
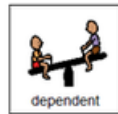
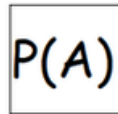
2. An example of an independent event is:



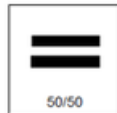
3. If the probability =1, then it is:



4. This is all the possible outcomes in your experimer

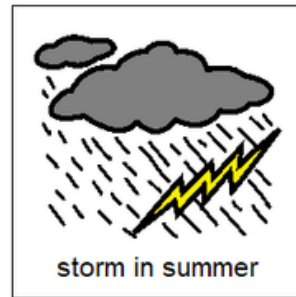


5. The probability your puppy will get bigger as it gr

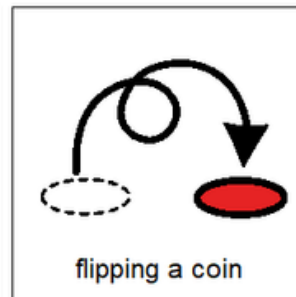


Version 2
Print onto cardstock or mount on index cards. Cut pictures apart and show student answer choices for each question.

Q 1



Q 2



The 10-question assessment has 3 versions.

1. An example of something that is likely to happen is:

- A. storm in summer
- B. rain in desert
- C. see a ufo

2. An example of an independent event is:

- A. eating pizza
- B. flipping a coin
- C. bring an umbrella

3. If the probability =1, then it is:

- A. impossible
- B. 50/50
- C. certain

4. This is all the possible outcomes in your experiment:

- A. P(A)
- B. dependent
- C. sample space

5. The probability your puppy will get bigger as it grows is:

- A. unlikely
- B. certain
- C. 50/50

6. If you remove a card from the deck each time you do the experiment, then the events will be:

- A. 50/50
- B. independent
- C. dependent

But if you are eating a bag of chocolate and vanilla cookies that has 3 chocolate and 3 vanilla cookies and you eat the cookie you pull out each time, what do you think happens?

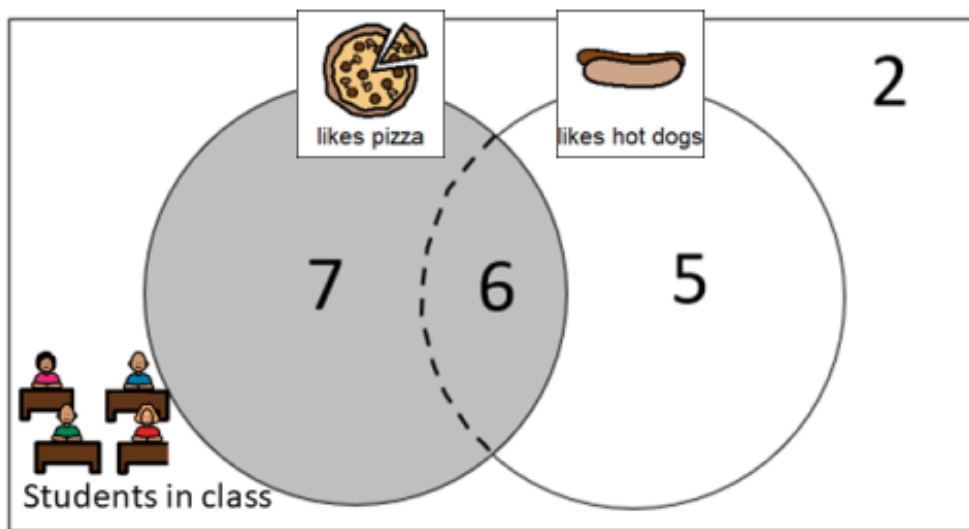


Christa Joy, Special Needs for Special Kids

Watch the
movie on
Probability

This unit also includes digital versions of the activities.

Students can watch a movie book version of the book rather than printing it out.



Circle the answers to the questions about the Venn Diagram.



1. What does the shaded part of this Venn diagram mean?



2. How many students like pizza?

7+6

2

5

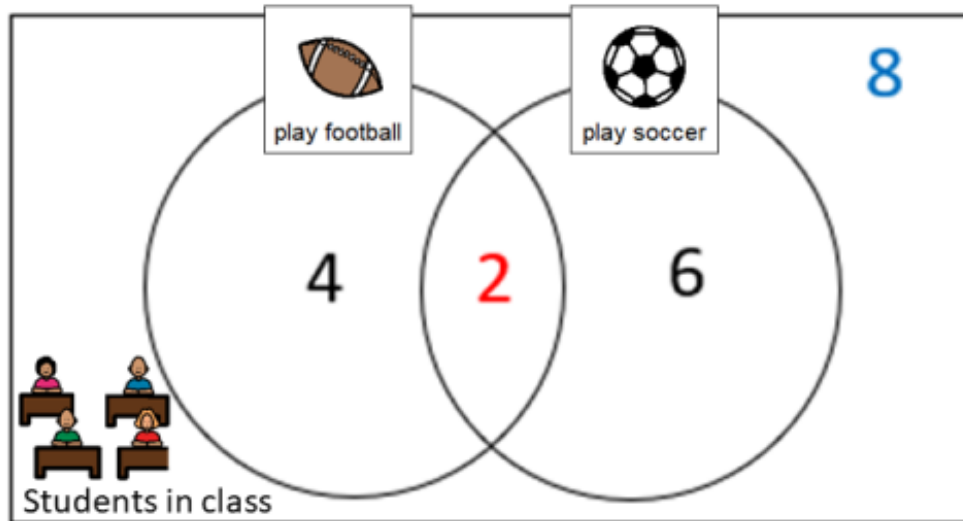
3. How many students don't like pizza?

5+2

5

6

Each activity is set up so students can click and drag answers. No typing is required.



Calculate the probabilities using the information in the Venn diagram. This is assuming events are **independent**.

1. What is the probability someone in a similar class will play football AND soccer?

$$P = \frac{2}{20}$$

2. What is the probability someone in a similar class will play neither soccer or football?

$$P = \frac{8}{20}$$

20 20
8 2

The second set of slides uses color for differentiation and extra support for students who may need it. Mix and match slides from both sets to make the perfect set for each student.

Save money and get this unit in a bundle with 7 more statistics units that cover 22 weeks of instruction. All you need to teach statistics to your class.

Statistic Bundle



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