

SPECIAL ED

GEOMETRY PARALLEL & PERPENDICULAR LINES



INCLUDES GOOGLE SLIDES

This unit was created with this guy in mind. He has autism and an intellectual disability. He is a non-reader, has a very short attention span, and has a few foundational math skills. With some support, he is able to do this unit and enjoys the challenge. He is my tester!!



Parallel & Perpendicular Lines Unit

By
Christa Joy
Special Needs for Special Kids



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Also included in this resource as separate files:

- Lesson plans
- Links and directions to digital activities
- PowerPoint (this is the book in the lesson plan)
- Voice recorded PowerPoint
- Activities in black and white

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This unit contains 14 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.

It comes in 2 separate files. One in color and one in black and white.

Geometry: Parallel & Perpendicular Lines

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 activity. Outline or color in an empty box the corresponding picture symbols the same task.
 - a. For more info, read more here: <https://specialneedsforspecialkids.org/differentiation/>
 - b. I also have a blog post on different <https://specialneedsforspecialkids.org/3-ways-easily-and-effectively/>
2. **Make your own copies of the activities:** I did yesterday. For that reason:
 - a. I often complete the activity myself that I could use year after year.
 - b. My copies were also helpful as either more support or as a way for more work.

Quick Look


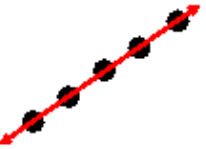



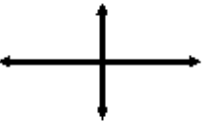
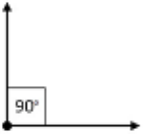













Day	Activity	Day	Activity	Day	Activity
1	<ul style="list-style-type: none"> • Book • Vocab cards activity • Scavenger hunt • Circle map 	6	<ul style="list-style-type: none"> • Book • Vocab cards activity • Create/draw perpendicular lines 	11	<ul style="list-style-type: none"> • Book • Vocab cards activity • Bisecting lines
2	<ul style="list-style-type: none"> • Book • Vocab cards activity • Scavenger hunt • Circle map 	7	<ul style="list-style-type: none"> • Book • Vocab cards activity • Create/draw perpendicular lines 	12	<ul style="list-style-type: none"> • Book • Vocab cards cut and paste • Close worksheet
3	<ul style="list-style-type: none"> • Book • Vocab cards activity 	8	<ul style="list-style-type: none"> • Book • Vocab cards activity 	13	<ul style="list-style-type: none"> • Book • Vocab cards cut and paste • Close worksheet

Day 5

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 Scavenger Hunt (10 minutes)	<ul style="list-style-type: none"> • Place one set of the vocabulary cards around the room before lesson <ul style="list-style-type: none"> ◦ Students walk around and find them, bring them back and matching them to their own set of cards 	<ul style="list-style-type: none"> • Vocabulary cards (extra sets)
Id lines worksheet review (5 minutes)	Review the worksheet completed yesterday	<ul style="list-style-type: none"> • Worksheets completed yesterday
Identifying lines on a grid (10 minutes)	<ul style="list-style-type: none"> • Do one of the worksheets where students have to circle the different types of lines • Choose the best version depending on the learning level of your students (see worksheet directions for more details) • Add color coding if needed • Students complete the worksheet • Make connections to the book as necessary 	<ul style="list-style-type: none"> • Worksheet
Sharing (10 minutes)	<ul style="list-style-type: none"> • Each student shares their finished worksheet with the group using the communication method of their choice 	<ul style="list-style-type: none"> • Completed worksheets • Communication devices

The lesson plans contain:

- Overall tips for teaching students with significant needs
- A quick look at what you will do each day
- Detailed instructions on how that day's lesson should run

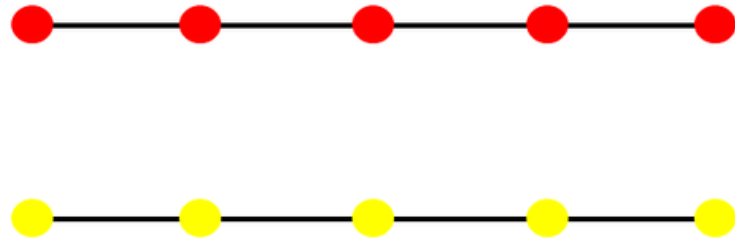
 point	 line	 line segment	 parallel	 slope
 perpendicular	 right angle	 negative reciprocal	 change	 positive
 negative	 cross	 protractor	 same	 confused
 repeat that	 true	 false	 I don't know	 I need a break

This unit comes with a vocabulary board.

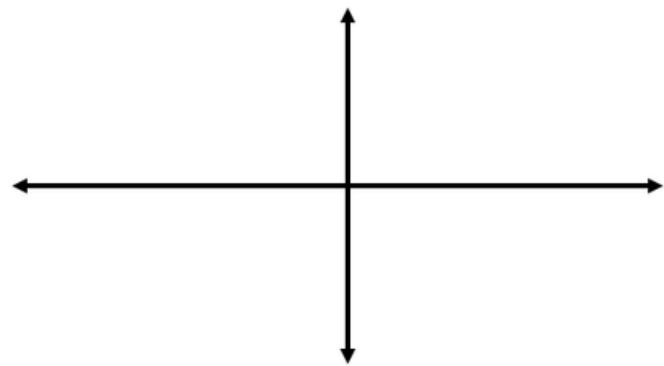
Vocabulary boards are great for ALL students to assist with participation and engagement in group discussions.

Tips on how to use in the unit!!

Parallel lines are lines that have no points in common and they will never cross or touch each other as they travel in both directions.



Perpendicular lines on the other hand, DO cross one another. In fact, they cross each other at a **right angle**.



There is a 29-page book about parallel and perpendicular lines that students will use to complete the activities.

- pdf version
- voice-recorded PPT
- mp4 movie format

point

A specific location, and is drawn as a dot.



line

A series of points joined together that extend in opposite directions forever.



Line segment

A series of points joined together with a starting and ending point.



parallel

Lines that have no points in common and never cross.



point

A specific location, and is drawn as a dot.



line

A series of points joined together that extend in opposite directions forever.



Line segment

A series of points joined together with a starting and ending point.



parallel

Lines that have no points in common and never cross.



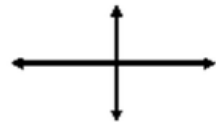
There are 16 vocabulary cards that come in color and black and white.

- Included are suggestions for group activities to do with these each day.
- There is also a cut-and-paste activity.

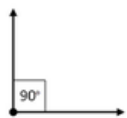
slope



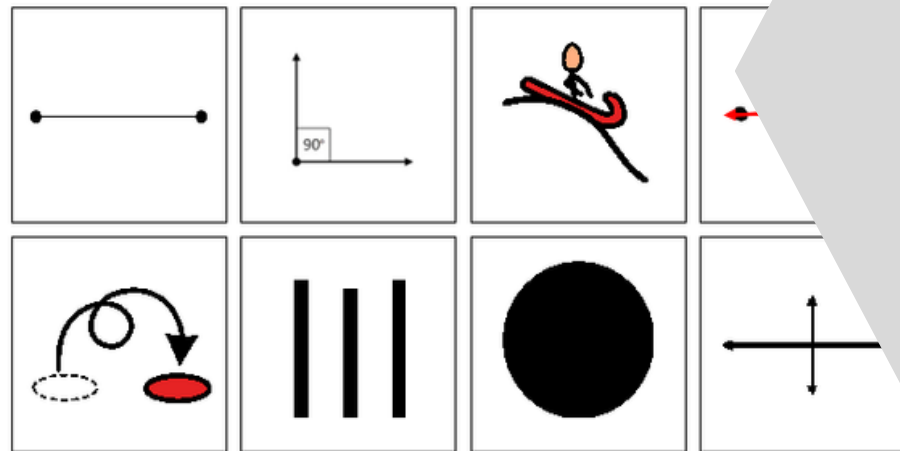
perpendicular



Right angle



Negative reciprocal



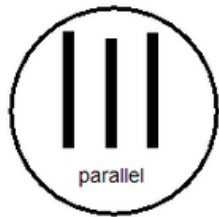
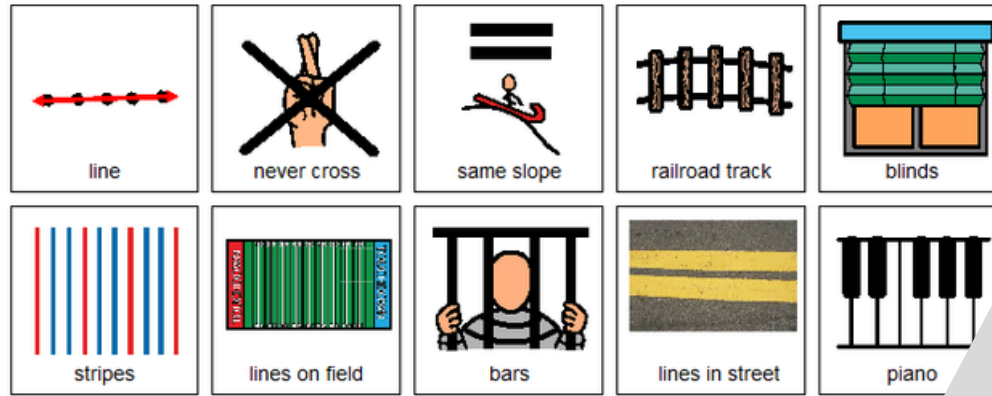
Lines that have no points in common and never cross.

A series of points joined together with a starting and ending point.

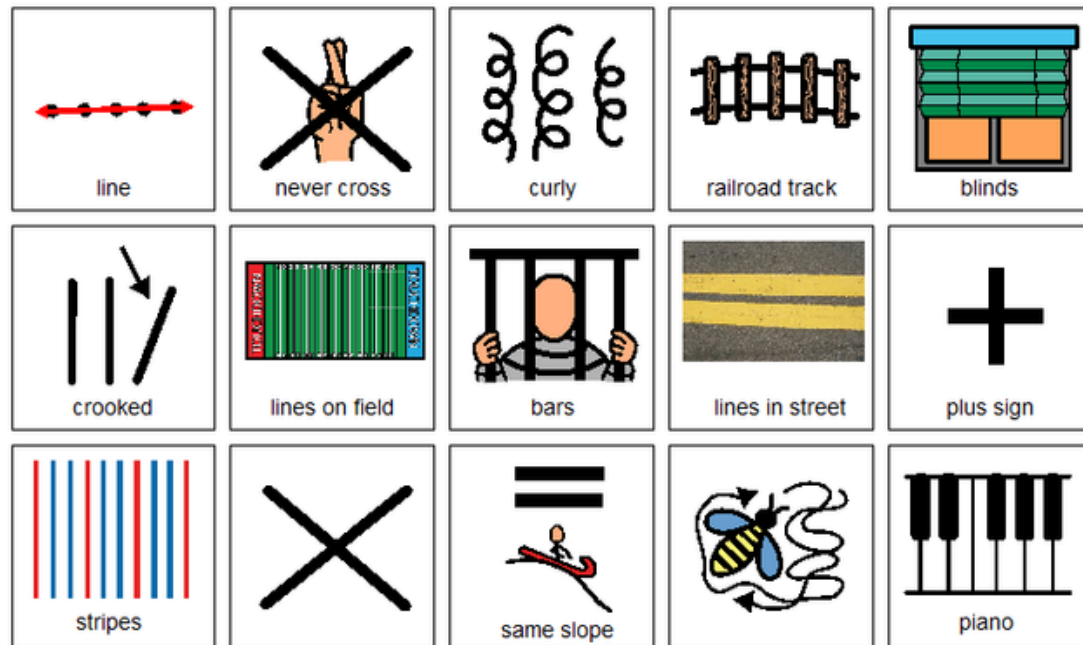
The angle formed when 2 perpendicular lines cross and perfectly square or 90°.

2 lines that cross one another and form right angles.

Cut apart pictures and place in circle map about parallel lines.



Cut apart pictures and place in circle map **ONLY IF** they relate to parallel lines.

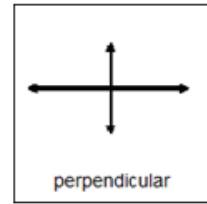
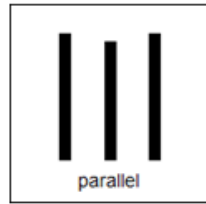


There are 2 circle maps, one on parallel lines and one on perpendicular lines that review facts from the book.

Circle maps are a great way for students to see the concept at a glance.

There are 2 versions:

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

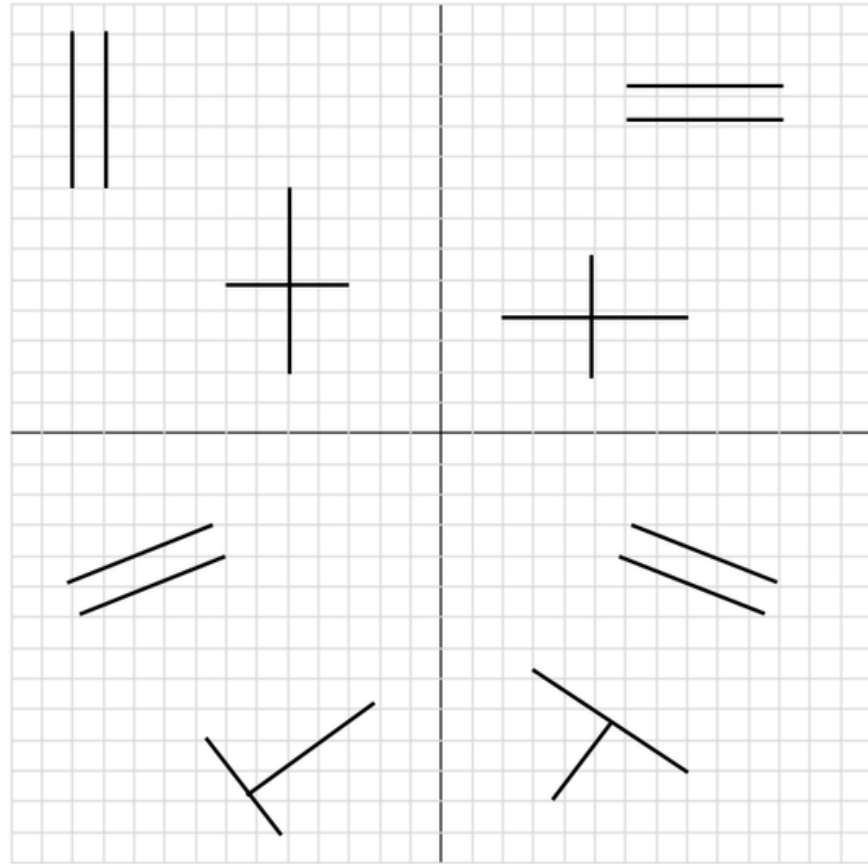


The grid contains the following cards:

- don't cross: A hand with a black 'X' over it.
- negative reciprocal: A dashed line and a solid line with arrows indicating they are perpendicular.
- stripes: A set of vertical red and blue stripes.
- railroad track: A set of parallel railroad tracks.
- cross: A yellow diamond-shaped sign with a black cross.
- stripes in flag: The stripes of the United States flag.
- right angle: A diagram showing two lines meeting at a 90-degree angle.
- same slopes: A person on a red sled on a slope.
- parking spaces: A parking lot with lines.
- different slopes: A person on a red sled on a slope.
- 3:00: A clock face showing the time 3:00.
- fence: A wooden picket fence.
- window: A window with a grid pattern.
- kite: A colorful kite.
- bars: A person behind vertical bars.
- Norway's flag: The flag of Norway.
- cross: A simple black cross.

There is a sorting activity looking at parallel and perpendicular lines. Suggestions for differentiation are included.

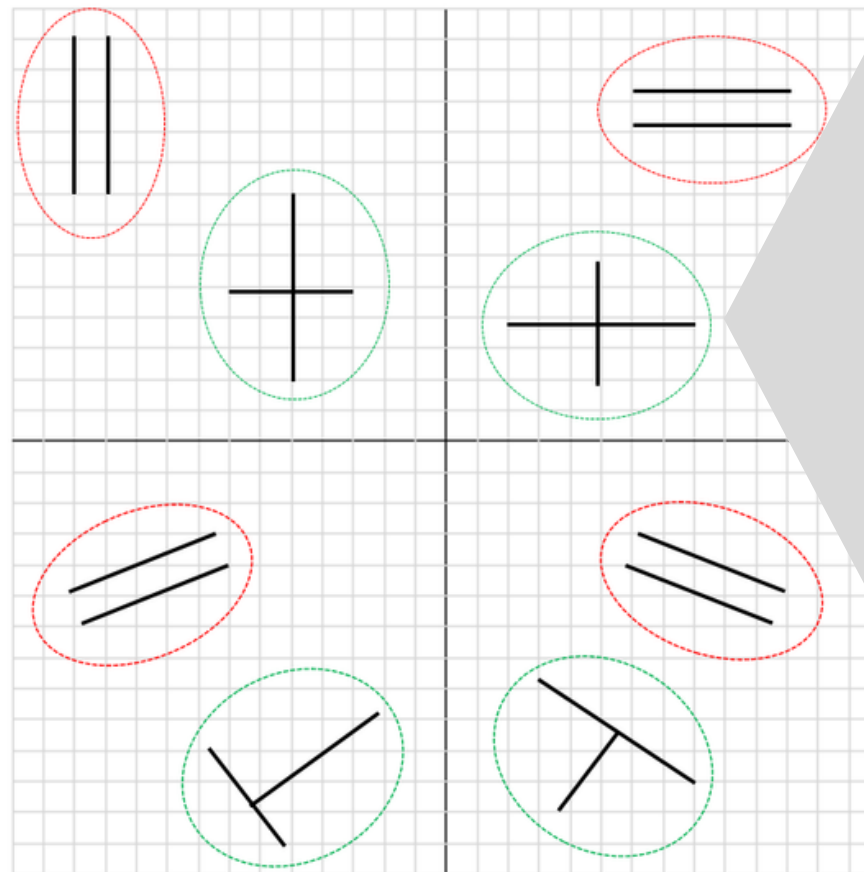
Circle the **parallel lines in red**.
Circle the **perpendicular lines in green**.



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Identify types of lines

Circle the **parallel lines in red**.
Circle the **perpendicular lines in green**.

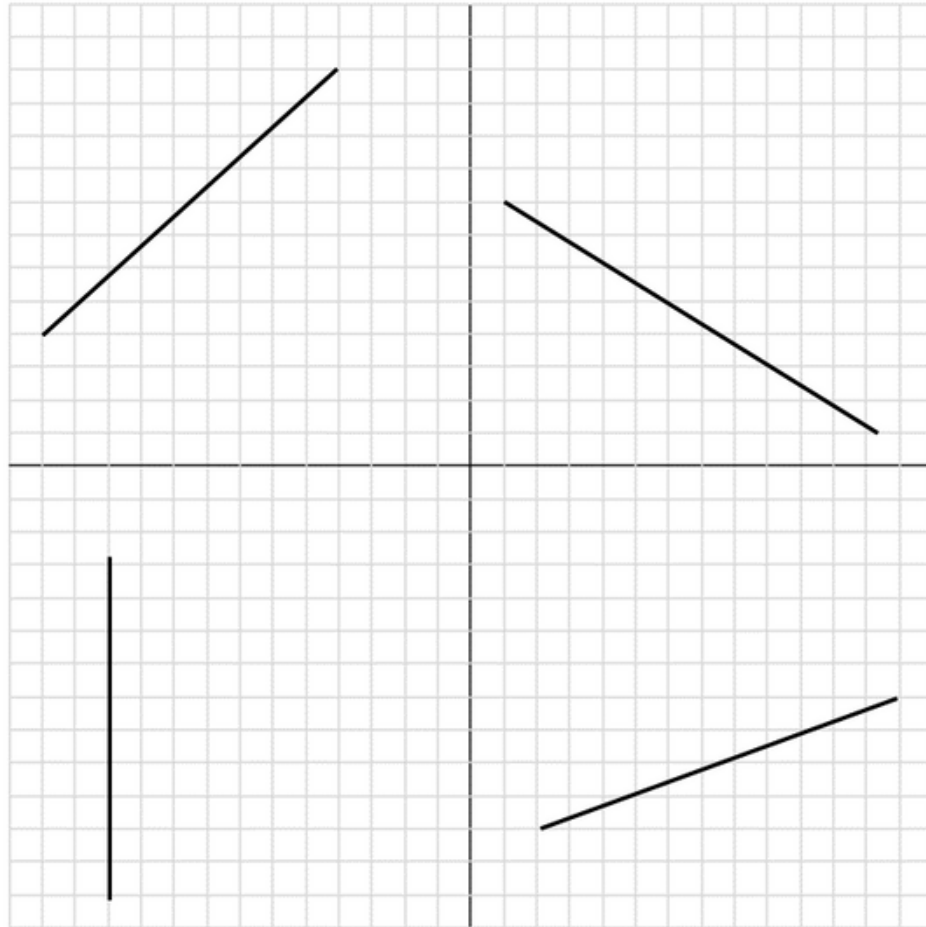


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Students will identify which lines are parallel and which are perpendicular either on a grid or on blank paper. There is a differentiated version with the correct answers circled with dashed lines for students to trace.

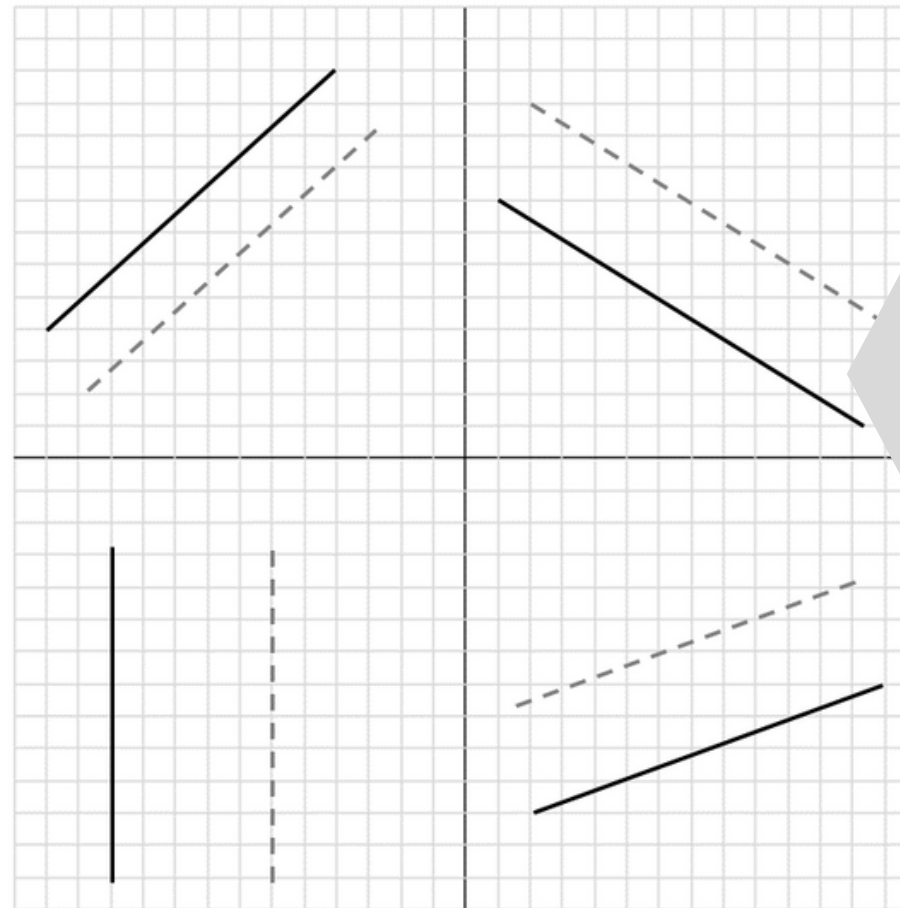
Drawing lines

Draw a line parallel to each line below.



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Draw a line parallel to each line below.



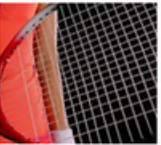









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Given a line, students will draw a parallel or perpendicular line to that one. There is a differentiated version with dashed lines for students to trace.



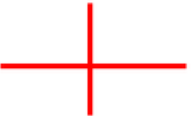



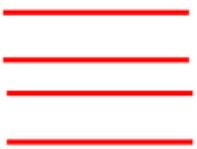
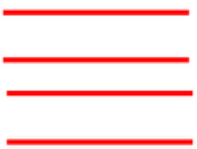
Slope

Look at the two line in each example, and determine if their slopes would be the same or different. Circle the correct answer.

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	<input type="checkbox"/> = <input checked="" type="checkbox"/> ≠		<input type="checkbox"/> = <input checked="" type="checkbox"/> ≠
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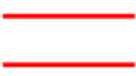





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Look at the two line in each example, and determine if their slopes would be the same or different. Circle the correct answer.

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	<input type="checkbox"/> = <input checked="" type="checkbox"/> ≠		<input type="checkbox"/> = <input checked="" type="checkbox"/> ≠
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Look at the two line in each example, and determine what the slope of line 2 would be if given the slope of line 1.

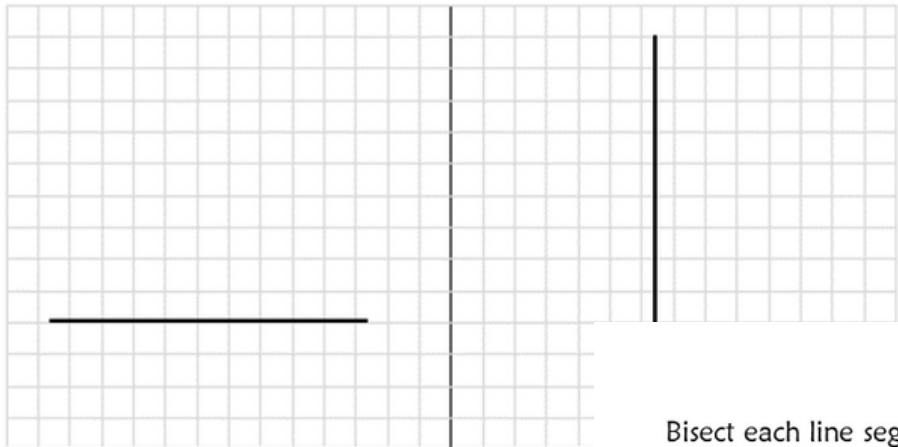
 Slope: Line 1= 4 Line 2=	 Slope: Line 1= ¼ Line 2=
 Slope: Line 1=-5 Line 2=	 Slope: Line 1= 6 Line 2=
 Slope: Line 1= 0 Line 2=	 Slope: Line 1= -½ Line 2=
 Slope: Line 1= -4 Line 2=	 Slope: Line 1= 6 Line 2=
 Slope: Line 1= ¾ Line 2=	 Slope: Line 1= -6 Line 2=

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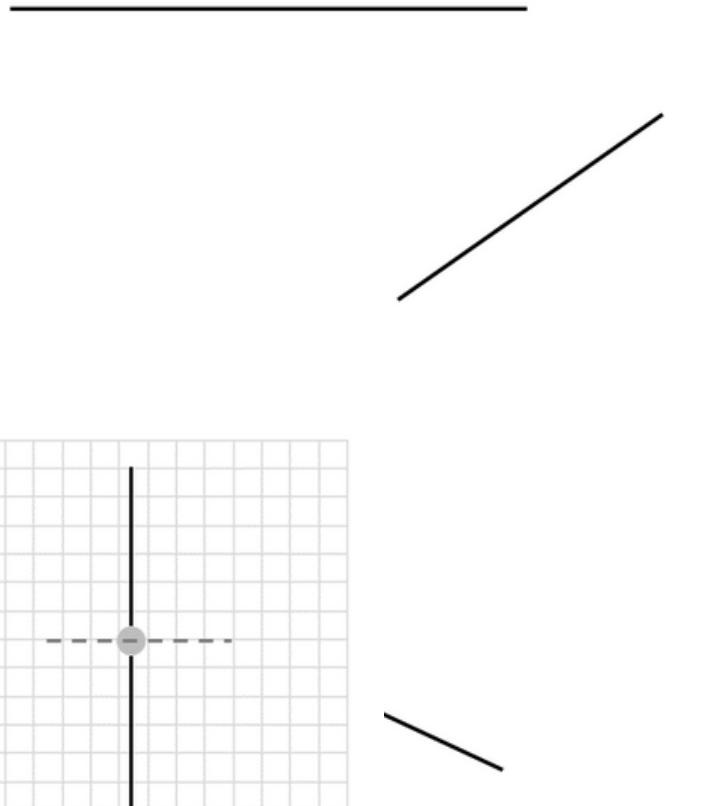
There are several worksheets where students will answer some questions about the slope of two parallel or perpendicular lines, including simple calculations.

Bisecting Lines

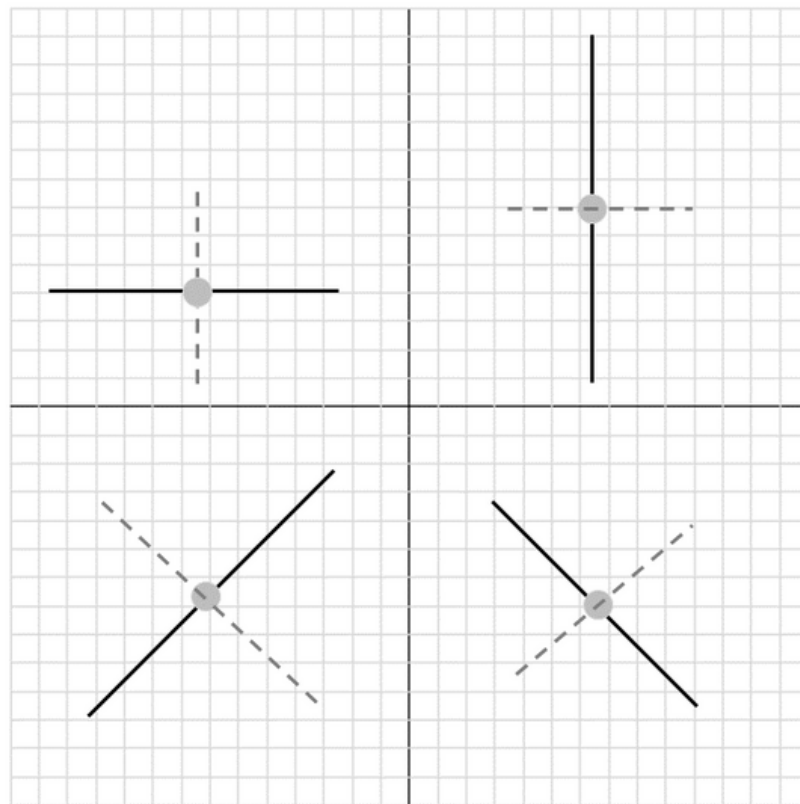
Bisect each line segment below.



Bisect each line below.



Bisect each line segment below.
























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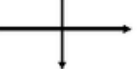






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Students will bisect lines either on a grid or blank paper where they will need to use a ruler. There are differentiated versions with dashed lines for students to trace.

Parallel and Perpendicular Lines

	 point	 Right angle		 perpendicular	 - reciprocal
 parallel	 - reciprocal	 perpendicular		 point	 Right angle
 perpendicular		 point	 - reciprocal	 parallel	
 - reciprocal		 Parallel		 Right angle	 point
		 slope			
 Right angle	 parallel				 - reciprocal





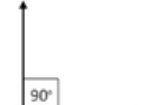


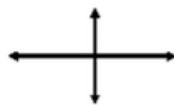


Place the following images in the empty squares on the previous page, completing the sudoku puzzle.

 point	 negative reciprocal	 parallel	 perpendicular	 perpendicular
 slope	 slope	 slope	 slope	 slope
 right angle				

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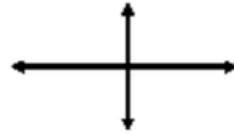
Parallel and Perpendicular Lines

 - reciprocal	 perpendicular	 parallel	 Right angle
 Right angle		 - reciprocal	
 parallel		 perpendicular	 - recip
			 parali

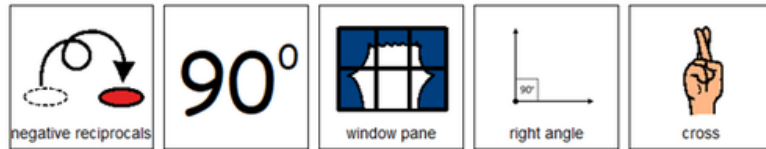
There is a Sudoku puzzle in this unit as well. This is a great way to work with the new vocabulary!!

There are 2 versions plus answer keys.

Perpendicular Lines



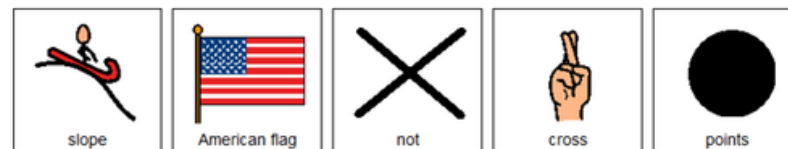
1. Perpendicular lines each other .
2. Perpendicular lines form a when they cross.
3. Perpendicular lines have slopes that are .
4. A right angle is square, or measures .
5. is an example of something that has perpendicular lines.



Parallel Lines



1. Parallel lines do cross.
2. Parallel lines will travel forever and never .
3. Parallel lines have the same .
4. Parallel lines have no in common.
5. is an example of something that has parallel lines.



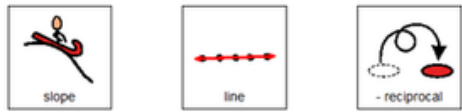
Quiz

Close worksheets are a great informal assessment. This unit has 2 worksheets that review facts from the book.

Answer key included.

Version 1

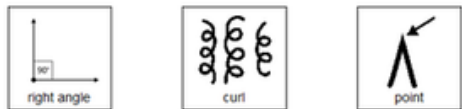
1. This is made up of a series of points that are connected:



2. How many points do parallel lines have in common?



3. What is formed when perpendicular lines cross?



4. Circle all the examples of parallel lines



5. What tool do you use to measure



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1. This is made up of a series of points that are connected:

- A. Slope
- B. Line
- C. Negative reciprocal

2. How many points do parallel lines have in common?

- A. All
- B. 10
- C. 0

3. What is formed when perpendicular lines cross?

- A. Right angle
- B. Curls
- C. point

4. Circle all the examples of parallel lines.



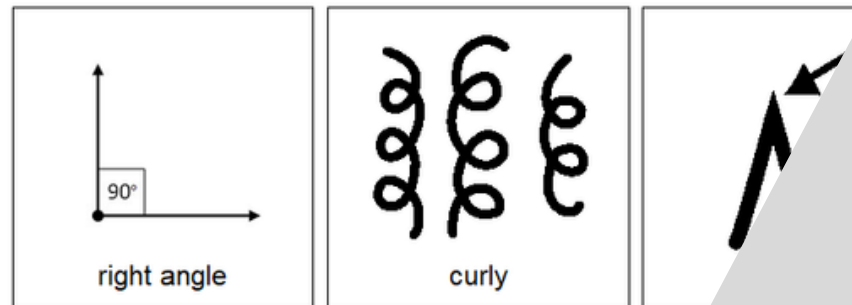
5. What tool do you use to measure an angle?

- A. Ruler
- B. Protractor
- C. pegboard

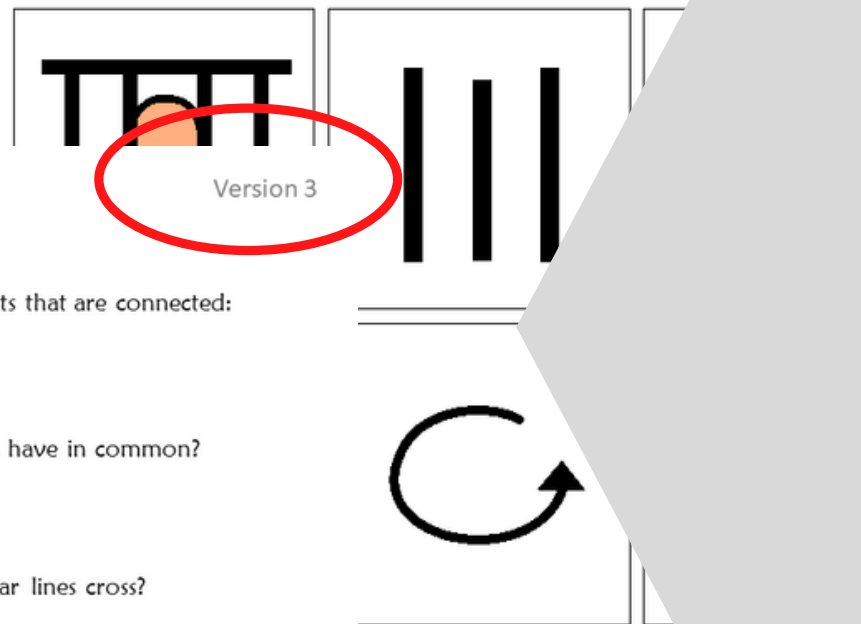
Version 2

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

Q 3



Q 4



Version 3

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Assessment

FINALLY the assessment!! There are 3 versions.

- 10 questions with 3 picture choices for each question
- cut out the answer choices and glue them on index cards
- traditional multiple choice

Answer key included.

Digital Activities











Watch the movie on lines.

A **line** is just a series of points joined together that extend in opposite directions forever. A line never ends. The equator is a good example of a line.



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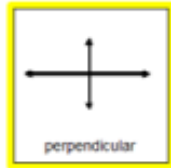
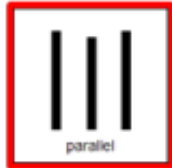
This unit also has digital activities. There is a movie version of the book students can listen to read aloud.

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	\neq		\neq
	\neq		\neq
	\neq		\neq
	\neq		\neq




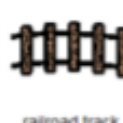


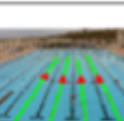













Look at the two lines in each example and determine if their slopes would be the same or different. Circle the correct answer.

<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
	<input type="radio"/>	

The digital activities have students mainly click and drag their answers. There is some typing involved in the set without differentiation.



Sort the pictures into the correct column depending on the line it describes. If you are not sure place it on one of the middle lines.

 don't cross	 negative reciprocal	 stripes	 railroad track	
		 stripes in flag	 right angle	
 parking spaces	 different slope	 3:00	 window	
 kite		 bars	 Norway's flag	 cross

The second set of slides is differentiated using color. There is no typing in this set of slides.

This resource comes in a zipped folder. You will need to unzip the folder to access all the contents which include:

- **14 days of lesson plans**
- **Lines activities in color**
- **Lines activities in black and white**
- **Voice-recorded PowerPoint show**
- **Parallel and Perpendicular Lines book (PowerPoint) to use with activities**
- **Links and directions to digital activities**

*Save money by getting this unit as part of the
Geometry Bundle*

[Geometry Bundle](#)

