AT YOUR FINGERTIPS

Access to Resources for the Alabama Alternate Achievement Standards

Introduction

The *At Your Fingertips – Access to Resources for the Alternate Achievement Standards* provides an instructional resource for each alternate achievement standard for English Language Arts (ELA) and mathematics for kindergarten through grade 12. The resource may be a lesson plan, activity, worksheet, or game aligned to the skills in the standards and includes a modification or adaption necessary to promote learning in multi-skill, multi grade classrooms of students with the most significant cognitive disabilities.

Purpose of the At Your Fingertips Resource

Students with significant cognitive disabilities may need to learn the necessary knowledge and skills differently, including their presentation at lower levels of complexity, in smaller segments, and at a slower pace. While the standards define the concepts, skills, and content that should be taught and learned by all students in each grade, this resource links instructional material to each standard with suggested modifications and adaptations that allows educators to teach standards-based skills on an individual level.

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Domain: Counting and Cardinality
Cluster: Know number names and the count sequence.

AAS and Resources

KINDERGARTEN

M.AAS.K.1 Count to twenty by ones.

- https://www.education.com/lesson-plan/cheerio-counting/

M.AAS.K.3 Distinguish numerals from other print (e.g., letters, symbols); recognize numerals 0 through 5 as written.

- https://www.education.com/activity/article/washing-line/
- https://www.education.com/worksheet/article/musical-numbers/

M.AAS.K.4 When counting objects, demonstrate one-to-one correspondence by saying the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object (limit numbers and objects to five).

- https://www.education.com/activity/article/clips/

M.AAS.K.5 Answer "how many" questions by counting objects arranged in a line and a rectangular array (limit objects to five).

- https://www.education.com/worksheet/article/count-n-darw/

Adaptations/Modifications

- Use manipulatives or ten frames. Also, use five frames (start with five frames).
- Build towers of 10 with Unifix cubes.
- Cut out letters, numbers, and symbols from magazines and glue them on a paper. Students can eye gaze, blink, point or mark with a colored disc when you point to each one on the page.
- Use magnets for one to one correspondence since they will stick together.
- Use touch points for numbers 1-9. Use bingo markers to dot the numbers from a die-cut machine where the touch points go on each number.
- Use a raised number line like a ruler for visually impaired with raised numbers at each interval.
- Make a number line with tape that will stick to their desk and can't move around.

Domain: Counting and Cardinality
Cluster: Compare Numbers

AAS and Resources
KINDERGARTEN
M.AAS.K.6 Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (limit objects per group to five). • https://www.education.com/worksheet/article/comparing-numbers-assessment/ M.AAS.K.7 Compare two numbers between 1 and 5 presented as written numerals. • https://www.education.com/worksheet/article/color-by-number-flower/
Adaptations/Modifications
• Use wooden tongs for greater than and less than. • Use a balancing scale to show a better visual. Then lay the tongs down facing the right way at the middle of the scale. • Use an alligator's mouth and draw in teeth to show his hunger for MORE (greater than) food so his open mouth chomps the side with more food.

Domain: Operations and Algebraic Thinking
Cluster: Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from.

AAS and Resources

KINDERGARTEN

M.AAS.K.8 Represent addition as "add to/put together" and subtraction as "take from/take apart" with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, or verbal explanations (limited to five).

- https://www.education.com/guided-lesson/addition-and-subtraction/

M.AAS.K.9 Solve addition and subtraction word problems, and add and subtract within 5, e.g., by using objects or drawings to represent the problem.

- https://www.education.com/worksheet/article/beginning-word-problems/
- https://www.education.com/lesson-plan/el-support-lesson-making-story-problems/

M.AAS.K.10 Demonstrate, using a model with objects, composing and decomposing numbers (limited to ten and less).

- https://www.education.com/worksheet/article/draw-add/

M.AAS.K.12 Represent addition and subtraction of 1 more or 1 less from a number 1 to 5.

- https://www.education.com/worksheet/article/one-more-vegetable/
- https://www.education.com/lesson-plan/math-if-you-give-a-student-a-cookie/

Adaptations/Modifications

- Use food items, money or blocks to show putting together or taking from.
- Give visually or hearing-impaired students a tray or divided plate to put items on or to show addition and subtraction concepts. They can feel 2 parts making a whole.
- Use touch point math with tactile dots to add or subtract.
- Sing songs that use counting forward and backward.

Domain: Measurement and Data
Cluster: Describe and Compare Measurable Attributes

AAS and Resources
KINDERGARTEN
M.AAS.K.14 Describe common objects according to size (big/small) and weight (heavy/light) and length (long/short). • https://www.education.com/worksheet/article/compare-sizes-of-objects/ • https://www.education.com/worksheet/article/big-or-small/ M.AAS.K.15 Compare two objects with regard to size (bigger/smaller) and weight (heavier/ lighter) and height (taller/shorter). • https://www.education.com/worksheet/article/compare-sizes-of-objects/
Adaptations/Modifications
• Use bulky items like shoes (adult/infant) or balls (exercise/tennis) or clothes (adult/ infant) that they can feel and visually see the difference. • Classify in tubs that are also big and small. • Let students eye gaze, point, or blink to indicate which tub they should go into.

Domain: Measurement and Data
Cluster: Classify objects and count the number of objects in each category.

AAS and Resources
KINDERGARTEN
M.AAS.K.16 Explore a simple pictograph (limited to two categories and limit a combined quantity of 5 for both categories). • https://www.education.com/worksheet/article/veggie-vote/
Adaptations/Modifications
• Picture graphs to show ratio of boys to girls, adults to students, lunch menu choices (if you only have 2 or 3), etc. are simple and involve all of them. • Use cubes to stack on top of each other to build a tower for the answers that is easy to see and feel for more or less. Even visually impaired students can feel each block and count them with assistance.

Domain: Geometry
Cluster: Identify and Describe Shapes (circle, triangle, square, rectangle, hexagon, cube, sphere).

AAS and Resources
KINDERGARTEN
M.AAS.K.17 Match shapes of the same size and orientation and describe the relative positions using in front of and behind (limited to circle, square, rectangle, and triangle). • https://www.education.com/lesson-plan/quizzical-shapes/ M.AAS.K.18 Recognize a circle, square, rectangle, and triangle. • https://www.education.com/worksheet/article/shape-jumble/ M.AAS.K.19 Match a real-life two-dimensional or three-dimensional object with a drawing of the object. • https://www.education.com/worksheet/article/2d-3d-shapes/
Adaptations/Modifications
• Start by using directional words related to their desk. Put your hand on top of your desk, under your desk, behind your desk to reinforce their knowledge of direction. • Have students cut out shapes, find shapes in the room, make the shapes with their hands, eye gaze, blink, or point to the shape. • Have a classroom field trip to find 3D shapes in the room to match the 2D ones.

Domain: Geometry
Cluster: Analyze, compare, create and compose shapes.

AAS and Resources
KINDERGARTEN
M.AAS.K.21 Match a shape to common objects (real or picture; limited to circle, square, rectangle, and triangle). • https://www.education.com/worksheet/article/3d-shapes-to-life-2018/ • https://www.education.com/worksheet/article/shape-coloring/

Adaptations/Modifications
• Show a magazine picture to match the shape. Glue a large shape on a poster board and add the magazine photos to the correct poster. • Make your own 3D shapes out of paper.

Domain: Operations and Algebraic Thinking
Cluster: Represent and solve problems involving addition and subtraction.

AAS and Resources
FIRST GRADE
M.AAS.1.1 Represent addition as "add to/put together" and subtraction as "take from/take apart" with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, or verbal explanations (limited to 15). • https://www.education.com/worksheet/article/addition-ocean-kindergarten/ • https://www.education.com/worksheet/article/bird-subtraction/ M.AAS.1.2 Solve problems with two given sets using "putting together" and objects and drawings (each set limited to ten). • https://www.education.com/game/rolys-hats-addition/
Adaptations/Modifications
• Use an app with nature sounds to count the number of bird chirps or tiger growls, etc. • Fill a rubber glove with sand and tie it off to represent "fingers". • Roll dice to create your number to add or subtract. Use blank dice to make higher numbers especially when subtracting. • Tie in science where you can count seeds or whatever you are studying. Plant the seeds and use that as your subtraction. (I have 5 seeds, I plant 3, now I have 2 seeds left.)

Domain: Operations and Algebraic Thinking
Cluster: Add and Subtract within 20.

AAS and Resources
FIRST GRADE
M.AAS.1.5 Represent addition and subtraction of 1 more or 1 less from a number 1 to 15. • https://www.education.com/workbook/picture-it-greater-workbook/ M.AAS.1.6 Add and subtract numbers 1 to 15 using objects, pictures, and fingers. • https://www.education.com/worksheet/article/adding-up-to-20/
Adaptations/Modifications
• Use a number line. Put a colored, transparent disc on top of the number so they can see what is before and after it. • Give 2 answer choices for addition or subtraction problems on a 2-sided paddle. Work through the problem by adding or subtracting objects and let the student hold up the correct answer on the correct side of the paddle.

Domain: Numbers and Operations in Base Ten
Cluster: Extend the counting sequence.

AAS and Resources
FIRST GRADE
M.AAS.1.9 Count to 30 by ones. Distinguish numerals from other print (letters, symbols); recognize numerals 0-15 as written. When given a numeral 0-15, represent the numeral with objects. • https://www.education.com/game/counting-pizza-party-2/ • https://www.education.com/worksheet/article/practice-counting-numbers/ • https://www.education.com/worksheet/article/superstar-addition-first/
Adaptations/Modifications
• Use an abacus to slide the cubes as you count. • "Write" numbers in sand, with a chunky paint marker, in the air, with a cooked spaghetti noodle, Wikki Stix, glue with glitter or yarn, etc. • Write the number in highlighter and have the student copy over it with pencil.

Domain: Numbers and Operations in Base Ten
Cluster: Understand Place Value

AAS and Resources
FIRST GRADE
M.AAS.1.10 Recognize and create sets of ten (limit to three sets). • https://www.education.com/game/ten-frame-11-20/ • https://www.education.com/lesson-plan/place-value-practice/ M.AAS.1.11 Compare two sets of items using greater than, less than or same (sets limited to 1 to 19 items; each set differs by less than 4). • https://www.education.com/worksheet/article/comparing-flowers-greater/ M.AAS.1.11a Identify whether the number of objects in one group is greater than, less than, or same/equal to the number of objects in another group, e.g., by using matching and counting strategies. (Include groups with up to 15 objects.) M.AAS.1.11b Compare two numbers between 1 and 15 presented as written numerals.
Adaptations/Modifications
• Use large 10 frames to place objects on to make 10. • Use the clapping hands that you can buy at the dollar store to represent 10. • Use large wooden tongs to show greater than or less than. • Use a balance scale to show greater than or less than.

Domain: Numbers and Operations in Base Ten
Cluster: Use place value understanding and properties of operations to add and subtract.

AAS and Resources
FIRST GRADE
M.AAS.1.12 Compose and decompose numbers from 1 through 15 into one ten and ones using objects, drawings, or pictures. • https://www.education.com/worksheet/article/number-maze-monkey-kindergarten/ • https://www.education.com/worksheet/article/super-numbers/
Adaptations/Modifications
• Use hidden objects pictures to find a certain number of items to represent numbers 1-20. • Use an abacus to slide cubes to represent a specific number.

Domain: Measurement and Data
Cluster: Measure lengths indirectly and by iterating length units.

AAS and Resources
FIRST GRADE
M.AAS.1.15 Compare lengths of objects (real or pictures) in terms of longer/shorter and taller/shorter. • https://www.education.com/worksheet/article/worms-measurement-first/ • https://www.education.com/worksheet/article/shark-lengths/
Adaptations/Modifications
• Use students' height to show taller/shorter. • Use items that students can manipulate to show shorter/longer. Ex. give students a skein of yarn and have each one cut a piece. Give directions to find someone with a piece shorter or longer than theirs.

Domain: Measurement and Data
Cluster: Tell and write time.

AAS and Resources
FIRST GRADE
M.AAS.1.17 Demonstrate an understanding of the concept of time using words such as yesterday, today, tomorrow, morning, afternoon, day, and night; identify activities that come before, next, and after on a daily schedule using a clock limited to time in hours. • https://www.education.com/lesson-plan/am-or-pm/ • https://www.education.com/worksheet/article/days-of-the-week/ • https://www.education.com/worksheet/article/crazy-clocks-telling-time-first/ • https://www.education.com/lesson-plan/tick-tick-tock/
Adaptations/Modifications
• Use this as part of daily calendar with the days of the week in order so they can mark which day was yesterday, today or tomorrow. • Use 2 clocks - make one white for a.m. to represent day and one black for p.m. to represent night. • Make a schedule board for how their day goes.

Domain: Measurement and Data
Cluster: Represent and interpret data.

AAS and Resources
FIRST GRADE
M.AAS.1.18 Sort objects or pictures into common categories (e.g., shapes, pets, fruits; limited to two categories and a combined total of 15 objects/pictures for the category). • https://www.education.com/worksheet/article/graph-it-pets/ • https://www.education.com/worksheet/article/tally-time-farm/
Adaptations/Modifications
• Start with simple colors or shapes to sort. • Sort in colored tubs. • Have student eye gaze, blink, point, etc. to indicate where the object should go or if the object was put in the right category.

Domain: Geometry
Cluster: Reason with shapes and their attributes.

AAS and Resources
FIRST GRADE
M.AAS.1.19 Determine similarities and differences among shapes (limited to circle, square, rectangle, and triangle). • https://www.education.com/game/shapes-ski-race/ • https://www.education.com/worksheet/article/color-by-shape-spring-2018/ • https://www.education.com/worksheet/article/position-front-or-back/ M.AAS.1.20 Sort shapes of the same size and orientation (limited to circle, square, rectangle, and triangle). • https://www.education.com/worksheet/article/castle-shapes/ M.AAS.1.21 Put together two equal size pieces to make a shape that relates to a whole (limited to triangle, circle, square, rectangle). • https://www.education.com/worksheet/article/make-a-shape-picture/
Adaptations/Modifications
• Use common objects with definite differences in size. • Use concrete shapes that are easy to pick up for sorting. • Use foam square pieces to make a rectangle. • Use paper circles and fold them in half to form the semicircle.

Domain: Operations and Algebraic Thinking
Cluster: Represent and solve problems involving addition and subtraction.

AAS and Resources
SECOND GRADE
M.AAS.2.1 Represent addition and subtraction by using objects, pictures, fingers, or sounds (within 30). • https://www.education.com/worksheet/article/count-add-blocks/
Adaptations/Modifications
• Use touch point math to add and subtract problems with higher numbers. • Use base 10 blocks. • Start out with single digit numbers until student shows mastery.

Domain: Operations and Algebraic Thinking
Cluster: Work with equal groups of objects to gain foundations for multiplication.

AAS and Resources
SECOND GRADE
M.AAS.2.3 Separate even numbers of objects into two groups (limited to twenty total objects). • https://www.education.com/worksheet/article/make-it-fair-with-equal-groups/ M.AAS.2.4 Find the total number of objects in two equal groups (limit of twenty total objects). • https://www.education.com/lesson-plan/10-again/
Adaptations/Modifications
• Identify even numbers by looking at things that come in pairs like socks, shoes, gloves, etc. Use the childhood rhyme, "Eeny Meeny Miny Moe" to show the back and forth division between two people. • Use items that are easy to pick up and divide.

Domain: Number and Operations in Base Ten
Cluster: Understand place value.

AAS and Resources

SECOND GRADE

M.AAS.2.5 Recognize and represent numbers up to 30 with sets of tens and ones (objects, columns, arrays).

- https://www.education.com/worksheet/article/place-value/
- https://www.education.com/game/place-value-blocks/

M.AAS.2.6 Count to 50 by ones. When given a numeral 0-25, name the next number in a three-item sequence.

- https://www.education.com/game/place-value-machine/
- https://www.education.com/worksheet/article/missing-numbers-5-10/
- https://www.education.com/worksheet/article/missing-numbers-11-15/

M.AAS.2.7 Recognize numerals 0 through 30 as written. When given a numeral 0 to 30, represent the numeral with objects. Match a numeral 1 to 30 to a quantity.

- https://www.education.com/worksheet/article/practice-counting-numbers/
- https://www.education.com/worksheet/article/count-color-11-20/

M.AAS.2.8 Compare sets of objects and numbers using appropriate vocabulary (greater than, less than, equal to; limited to thirty objects in a group).

- https://www.education.com/worksheet/article/greater-than-equal-to/

Adaptations/Modifications

- Use ten frames or base 10 blocks.
- When counting, use motions or a sing song rhyme to help remember the numbers.
- Use a ruler or number line to identify numbers before or after a certain number. Identify the original number with a colored transparent disc.
- Make groups of objects. Give only 2 choices for each as to how many there are in each group.
- Use large wooden tongs for the kitchen to make a large greater than and less than sign.
- Identify numerals 1-9 through touch point math using bingo dot markers.
- Use some teaching of place value so they can see the progression of 0-9 in the ones column and then how it starts all over again and transfers over to the tens column and repeats 0-9 and so on. This flow of 0-9 over and over again will help students with bigger numbers when they see the pattern. Use a paint roller to see the flow.

Domain: Numbers and Operations in Base Ten
Cluster: Use Place Value understanding and properties of operations to add and subtract.

AAS and Resources
SECOND GRADE
M.AAS.2.9 Identify the meaning of the + sign (add, plus, put together) and the – sign (subtract, take away, take from) and the = sign (equal, the same as); compose and decompose numbers up to 30 using objects, pictures, drawings, or numbers. • https://www.education.com/worksheet/article/winter-addition/ • https://www.education.com/worksheet/article/ordering-numbers-to-10/ • https://www.education.com/game/numbers-1120-space-photo-shoot/ M.AAS.2.10 Add and subtract numbers 0 to 30 using objects, pictures, and numbers. • https://www.education.com/worksheet/article/addition-coloring-page-5/ • https://www.education.com/lesson-plan/show-me-the-money-two-digit-subtraction/
Adaptations/Modifications
• Use 2 die and a blank dice that you can draw + and - signs on. Put in a clear container and shake. Write out a problem with the 2 numbers and the sign shown on the dice. Practice adding and subtracting with these single digit numbers until mastery is reached.

Domain: Measurement and Data
Cluster: Measure and estimate lengths in standard units.

AAS and Resources
SECOND GRADE
M.AAS.2.14 Identify standard tools associated with measurement (clock, ruler, scale, measuring cup); measure the lengths of objects using nonstandard units (e.g., hands, paper clips). • https://www.education.com/lesson-plan/el-support-lesson-measurement-tools/ • https://www.education.com/worksheet/article/ice-cream-scoop-measurement/ M.AAS.2.16 Order three objects by length (long/longer/longest; short/shorter/shortest). • https://www.education.com/worksheet/article/shortest-to-longest/

Adaptations/Modifications
• Gather tools we commonly use to measure in all areas of life and how we use them. Ask questions and let students respond in their own way to which tools we use to measure and why. • Use items for nonstandard measure that are bulky and easy for students to pick up and manipulate. • Measure items in the classroom with nonstandard unit to see that there will be different answers and a need for a standard measurement. • Use a skein of yarn to order cut pieces by length.

Domain: Measurement and Data
Cluster: Relate addition and subtraction to length.

AAS and Resources
SECOND GRADE
M.AAS.2.18 Increase or decrease length by adding or subtracting nonstandard unit(s). • https://www.education.com/worksheet/article/measuring-with-paper-clips/ M.AAS.2.19 Represent whole-number sums within 20 using a number line. • https://www.education.com/worksheet/article/learning-measuring-leaves-numbers/
Adaptations/Modifications
• Use a number line on the floor where students can walk up to add on and walk back to subtract. • Use a ruler or yard stick as a number line to add and subtract.

Domain: Measurement and Data
Cluster: Work with time and money.

AAS and Resources
SECOND GRADE
M.AAS.2.20 Identify the time that matches a routine activity using a clock (limited to hour). • https://www.education.com/worksheet/article/my-day/ • https://www.education.com/worksheet/article/telling-time-morning-activities/ M.AAS.2.21 Demonstrate knowledge that money has value; identify coins (penny, nickel, dime). • https://www.education.com/worksheet/article/learn-coins-penny/ • https://www.education.com/worksheet/article/learn-coins-nickel/ • https://www.education.com/worksheet/article/learn-coins-dime/ • https://www.education.com/worksheet/article/learn-coins-coin-matching/
Adaptations/Modifications
• Make a class schedule with pictures and clocks showing times. • Use a Judy clock to set times to the hour and match with digital time. • Create a class store for rewards to teach the value of money using a ticket system and each of the rewards will cost anywhere from 1-10 tickets. • Use a grocery store ad to show costs of products. Match items with a money amount. • Use songs about coins to learn about them. Make baggies with mixed coins. Call out details and students will identify coins by eye gaze, pointing, blinks, or picking up the correct coin.

Domain: Measurement and Data
Cluster: Represent and interpret data.

AAS and Resources
SECOND GRADE
M.AAS.2.23 Use a pictograph, limited to 2 categories, to answer more/less, most/least, or equal to questions (limited to two categories and a combined total of no more than 30 objects/pictures shown for the 2 categories). • https://www.education.com/worksheet/article/garden-graphing/
Adaptations/Modifications
• Create a picture graph using your class data. (Ex. How many students wear glasses?) • Use Unifix cubes to show data in a concrete way.

Domain: Geometry
Cluster: Reason with shapes and attributes.

AAS and Resources
SECOND GRADE
M.AAS.2.24 Identify two-dimensional shapes (limited to square, circle, triangle, and rectangle). • https://www.education.com/game/2d-3d-shape-sort-car/ • https://www.education.com/worksheet/article/shape-matchup-3d-2d/ M.AAS.2.26 Identify half as being two equal parts of a shape (limited to circle, square, rectangle and triangle). • https://www.education.com/worksheet/article/divide-the-shapes-in-half/ • https://www.education.com/worksheet/article/fraction-frenzy/
Adaptations/Modifications
• Eye gaze, point, blink to identify a 2D shape. • Fold paper shapes in half, open, and draw a line on the fold to show the half.

Domain: Operations and Algebraic Thinking
Cluster: Represent and solve problems involving multiplication and division.

AAS and Resources
THIRD GRADE
M.AAS.3.1 Find the sum of equal groups of objects using repeated addition (sums up to 30). • https://www.education.com/worksheet/article/repeated-addition-farm/ M.AAS.3.2 Divide a group of items into smaller equal groups (limit given group to fifteen items or less; limit equal groups to two, three, four, five, ten). • https://www.education.com/worksheet/article/learning-with-equal-groups/
Adaptations/Modifications
• Practice counting by counting objects using eye gaze, touch or yes/no response as the teacher counts the student answers yes/no or makes sound to represent counting. • Pair number and symbol cards with objects, using verbal cues, to demonstrate simple addition expressions use assistive technology to state number expression. • Demonstrate representing numbers up to 30 as sets of ten and some ones using base ten blocks or other manipulatives. Use this during morning meeting to count days in school. • Practice the concept of division by equally sharing a candy bar or pizza.

Domain: Operations and Algebraic Thinking
Cluster: Multiply and divide within 100.

AAS and Resources
THIRD GRADE
M.AAS.3.7 Multiply and divide one-digit numbers using repeated addition or repeated subtraction where the products are within twenty and the factors are one, two, three, four, five, or ten using multiplication and division tools. • https://youvegotthismath.com/2019/02/07/multiplication-as-repeated-addition-worksheet/
Adaptations/Modifications
Use real-world opportunities to demonstrate the recognition and use of multiplication and division, within the limits of the Achievement Elements: • Sharing: “Do you have enough for everyone?” • Planning a party: "Do you have enough chairs and food for everyone?” • Asking: “Do you have enough money to buy ?” • Cooking: “How do you double the recipe? How do you divide the recipe?”

Domain: Operations and Algebraic Thinking
Cluster: Solve problems involving the four operations, and identify and explain patterns in arithmetic.

AAS and Resources
THIRD GRADE
M.AAS.3.8 Solve one-step real-world problems using addition or subtraction without regrouping. • https://www.education.com/game/addition-pizza-1-10/ M.AAS.3.9 Extend numeric and non-numeric patterns of two terms. • https://www.education.com/worksheet/article/color-pattern-2/
Adaptations/Modifications
• Ask a student questions related to topics in the class such as, “How much money can one earn during the summer for a specific job?” • Continue the pattern of numbers, objects, and manipulatives to complete a sequence or next term in a pattern by using eye gaze, yes/no response.

Domain: Numbers and Operations in Base Ten
Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic. (A range of algorithms may be used.)

AAS and Resources
THIRD GRADE
M.AAS.3.10 Use decade numbers (0, 10, 20, 30) as benchmarks to demonstrate understanding of place value for rounding numbers 0 to 34 using rounding tools (charts, number lines). • https://www.education.com/game/place-value-blocks/ M.AAS.3.11 Add and subtract one- and two-digit numbers up to 30 (no regrouping). • https://www.education.com/game/ski-race-addition-30/ M.AAS.3.12 Relate groups of ten to multiplying by ten up to 100, using objects, skip counting by tens. • https://youvegotthismath.com/2017/05/01/multiplication-using-arrays/
Adaptations/Modifications
• Ask the student how much money they think they will need to buy something on a CBI. • Plan a party, using counting (addition) and sharing (cutting) to determine number of specific items needed for the party or a cooking activity.

Domain: Number and Operations — Fractions
Cluster: Develop understanding of fractions as numbers.

AAS and Resources
THIRD GRADE
M.AAS.3.13 Use models to represent unit fractions as parts of a whole (halves and fourths). • https://www.education.com/worksheet/article/color-the-shapes/ M.AAS.3.14 Use a number line to represent halves and fourths. • https://www.education.com/game/jungle-fractions/ M.AAS.3.15 Compare fractions. • https://www.education.com/worksheet/article/fun-fractions-third/ M.AAS.3.15a Use models to identify two equivalent fractions (limit to fourths and halves). • https://www.education.com/game/worm-sandwich-fractions/ M.AAS.3.15b Recognize two equivalent fractions (limit to fourths and halves). • https://www.education.com/worksheet/article/equivalent-fractions-third/ M.AAS.3.15c Use models of fourths and halves to make a whole. • https://www.education.com/guided-lesson/fractions-1/

Adaptations/Modifications
• Use pizza, cracker squares, cookie to practice fractions. • Model breaking or cutting the different pieces of food into equal parts. Show the student the denominator and numerator through the use of the foods; and the total number of parts each example (denominator) and the number of parts remaining, eaten, or shared (numerator). • Color or cut paper plates into fractions. • Compare groups of boys or girls to the whole group (e.g., at recess, at lunch).Ask who is at school or home for daily attendance.

Domain: Measurement and Data
Cluster: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.

AAS and Resources
THIRD GRADE
M.AAS.3.16 Tell time to the nearest half hour on a clock**.** • https://www.education.com/game/clock-match/ M.AAS.3.17 Identify the appropriate measurement tool to measure liquid; identify the appropriate standard unit of measurement (grams, kilograms, and liters). • https://www.education.com/worksheet/article/measurement-mania-3-juice-jug/
Adaptations/Modifications
• Ask students what activity happens at specific times to discuss the time. • Discuss the different types of measurement through cooking activities or science activities.

Domain: Measurement and Data
Cluster: Represent and interpret data.

AAS and Resources
THIRD GRADE
M.AAS.3.18 Use a pictograph or bar graph to answer questions about data (limit to three categories). • https://www.education.com/worksheet/article/pictograph-hard-taxis/ M.AAS.3.19 Measure lengths of objects using standard tools (rulers, yardsticks, meter sticks). Limit to whole numbers. • https://youvegotthismath.com/2018/01/30/measurement-tools-worksheet/
Adaptations/Modifications
• Use bar graphs from newspapers and magazine articles to demonstrate how to interpret the graph data by asking questions through a variety of techniques. • Students can measure objects using an inch ruler; for example, the students can measure the length and width of a picture to see whether it can fit in a certain frame size. • Ask students which object is longer or taller in a group of 2.

Domain: Measurement and Data
Cluster: Geometric measurement: understand concepts of area and relate area to multiplication and to addition.

AAS and Resources
THIRD GRADE
M.AAS.3.20 Identify a model that demonstrates area and/or recognize one square unit of area as a "unit square" to use when measuring area. • https://www.education.com/game/make-a-city/ M.AAS.3.22 Find the area of a rectangle with side lengths of no more than one, two, three, four, or five. • https://www.education.com/lesson-plan/finding-the-area-of-a-rectangle/
Adaptations/Modifications
• Use classroom objects to measure lengths. • Represent classroom objects using counting squares to measure area.

Domain: Measurement and Data
Cluster: Geometric measurement: recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.

AAS and Resources
THIRD GRADE
M.AAS.3.23 Find the perimeter of a rectangle with lengths limited to one to ten units. • https://youvegotthismath.com/2018/10/09/area-and-perimeter-problems/
Adaptations/Modifications
• Use classroom objects to measure sides. • Use a ruler or object to measure the perimeter of sheets of paper.

Domain: Geometry
Cluster: Reason with shapes and their attributes.

AAS and Resources
THIRD GRADE
M.AAS.3.24 Identify two-dimensional shapes by their attributes (triangle, rectangle, square, circle). • https://www.education.com/worksheet/article/sort-shapes/
Adaptations/Modifications
• Use different textures or objects to create different shapes. • Find real world shapes in pictures from magazines or newspapers. • Create shapes using building blocks.

Domain: Operations and Algebraic Thinking
Cluster: Use the four operations with whole numbers to solve problems.

AAS and Resources
FOURTH GRADE
M.AAS.4.3 Solve one-step real-world problems using addition, multiplication, or subtraction (within forty; no regrouping); select the appropriate method of computation (limited to addition or subtraction) when problem solving. • https://www.education.com/worksheet/article/christmas-subtraction-4/
Adaptations/Modifications
• Use objects familiar to students and ask the students questions to help create a word problem that shows addition, subtraction, and multiplication. • Model objects to students using addition, subtraction, and multiplication facts they know within forty.

Domain: Operations and Algebraic Thinking
Cluster: Gain familiarity with factors and multiples.

AAS and Resources
FOURTH GRADE
M.AAS.4.4 Arrange, match, and/or recognize factor pairs limited to ones, twos, threes, fours, fives, and tens to their products using models or tools. • https://www.education.com/worksheet/article/matching-factor-tree-cards/
Adaptations/Modifications
• Use a rug or other familiar object with a pattern and have the student identify the pattern. • Use objects familiar to students and ask the students questions to help create a word problem that shows multiplication for numbers 1-5 and 10.

Domain: Numbers and Operations in Base Ten
Cluster: Generalize place value understanding for multi-digit whole numbers.

AAS and Resources
FOURTH GRADE
M.AAS.4.6 Compose and decompose numbers from 11 to 50 into a number of tens and a number of ones. • https://www.education.com/game/place-value-baking/ M.AAS.4.7 Compare the value of two numbers up to 100 and read a whole number up to 100. • https://www.education.com/game/two-digit-number-hop/ M.AAS.4.8 Round a whole number from 1 to 99 to the nearest ten. • https://www.education.com/worksheet/article/rounding-to-the-nearest-10/
Adaptations/Modifications
• Show students how to recognize rounding numbers up using games or objects as a demonstration. • Ask students which group shows more when presented with 2 various groups of objects.

Domain: Numbers and Operations in Base Ten
Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic.

AAS and Resources
FOURTH GRADE
M.AAS.4.9 Add and subtract one- and two-digit numbers with regrouping. • https://www.education.com/worksheet/article/addition-ice-skating-third/ M.AAS.4.10 Multiply a two-digit number by a one-digit number with no regrouping. • https://www.education.com/worksheet/article/multiplication-movie-third/ M.AAS.4.11 Divide a two-digit number by a one-digit number with no remainder. • https://www.education.com/worksheet/article/snail-division-third/
Adaptations/Modifications
• Use objects and separate them into smaller groups to demonstrate division. • Practice menu math to buy two entrees. • Plan a pizza party (e.g., count toppings to demonstrate addition/multiplication, cut/share to demonstrate division).

Domain: Number and Operations — Fractions
Cluster: Extend understanding of fraction equivalence and ordering.

AAS and Resources
FOURTH GRADE
M.AAS.4.13 Using models, identify a fraction that is greater than, less than, or equal to a given fraction (limited to halves, thirds, and fourths). • https://www.teacherspayteachers.com/Product/Comparing-Fractions-Using-Pictorial-Models-31376
Adaptations/Modifications
• Use fraction models of various shapes (circles, strips, squares, rectangles) to demonstrate fractional parts through various techniques.

Domain: Number and Operations — Fractions
Cluster: Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

AAS and Resources
FOURTH GRADE
M.AAS.4.15 Multiply a one-digit whole number by a unit fraction (limited to whole numbers to 1 to 5 and fractions of halves, fourths, and thirds). • https://www.teacherspayteachers.com/Product/Christmas-Cookies-Fifth-Grade-Fraction-Performance-Assessment-435194
Adaptations/Modifications
• Use objects to show how multiplication is just repeated addition through a cooking activity or science experiment. • Plan a pizza party (e.g., given a number of children, if each child receives one piece of pizza, how many pieces are needed all together?). • Using addition of fractions of various colors of paper, plan and construct streamers for the classroom and desks.

Domain: Number and Operations — Fractions
Cluster: Understand decimal notation for fractions, and compare decimal fractions.

AAS and Resources
FOURTH GRADE
• M.AAS.4.17 Use decimal notation for a fraction with a denominator of 10.
Adaptations/Modifications
• Use decimal/fraction tiles to demonstrate equivalency between a fraction and its decimal representation. • Use decimal notation to show the relationship between dimes and a one-dollar bill.

Domain: Measurement and Data
Cluster: Solve problems involving measurement and conversion of measurements from a larger unit to a smaller unit.

AAS and Resources
FOURTH GRADE
M.AAS.4.19 Identify the smaller measurement unit that comprises a larger unit within a measurement system (inches/feet, minutes/hours, feet/yards). • https://www.teacherspayteachers.com/Product/Interactive-Valentine-Volume-Bulletin-Board-22564 M.AAS.4.20 Tell time to the half-hour; identify the hour before or after a given time; measure weight using standard units; recognize the value of coins in cents. • https://www.education.com/game/what-time-game/ M.AAS.4.21 Given a drawing of a square or rectangle on a grid, determine the area or perimeter (sum or product limited to 40). • https://www.education.com/game/alfalfas-out-of-the-box-perimeter-and-area/
Adaptations/Modifications
• Use classroom objects to measure length and width. • Use classroom objects and counting squares to determine perimeter and area. • Using advertisements and sales flyers, have students select the appropriate coins needed to purchase items under one dollar.

Domain: Measurement and Data
Cluster: Represent and interpret data.

AAS and Resources
FOURTH GRADE
M.AAS.4.22 Interpret data on a pictograph or bar graph to solve a problem. • https://www.education.com/worksheet/article/pick-a-flower-pictograph/
Adaptations/Modifications
• Create pictographs and bar graphs using student-generated data (e.g., class preferences for pets, colors, snacks, cars). Have students use assistive technology to ask questions based on a classroom topic and create the graph based on the information gathered. • Demonstrate the use of data by asking questions about pictographs and bar graphs and modeling by interpreting the data.

Domain: Measurement and Data
Cluster: Geometric measurement: understand concepts of angle and measure angles.

AAS and Resources
FOURTH GRADE
M.AAS.4.23 Identify an angle in a given shape (square, rectangle, triangle). • https://www.education.com/worksheet/article/shapes-with-right-angles/
Adaptations/Modifications
• Using objects, textures, and drawings, identify free-standing angles. • Identify angles in the classroom (e.g., corners of paper, book, cupboard, door). • Use squares, rectangles, and triangles of different sizes and in different orientations when identifying angles in a shape.

Domain: Geometry
Cluster: Draw and identify lines and angles, and classify shapes by properties of their lines and angles.

AAS and Resources
FOURTH GRADE
M.AAS.4.26 Recognize angles, parallel and perpendicular lines, and intersecting lines. • https://www.education.com/worksheet/article/line-logic-parallel-perpendicular-2/ M.AAS.4.28 Given a drawing of a shape with a line drawn across the shape, identify if it is divided symmetrically. • https://www.education.com/worksheet/article/draw-line-symmetry/
Adaptations/Modifications
• Use textures to identify parallel lines and perpendicular lines by touch or assistive technology • Create lines of symmetry by folding paper cutouts of other shapes. • Incorporate art projects with drawings made only of angles, parallel lines and perpendicular lines.

Domain: Operations and Algebraic Thinking
Cluster: Write and interpret numerical expressions.

AAS and Resources
FIFTH GRADE
M.AAS.5.2 Select the expression that represents a given calculation (include parentheses). • https://www.education.com/lesson-plan/el-support-lesson-explaining-expressions/
Adaptations/Modifications
• Using number and symbol cards, create various basic expressions. • Model simple real-world situations with basic expressions with and without parentheses by using objects, assistive technology.

Domain: Operations and Algebraic Thinking
Cluster: Analyze patterns and relationships.

AAS and Resources
FIFTH GRADE
M.AAS.5.3 Extend an addition or subtraction number pattern given one rule and the starting point of less than 10. • https://www.education.com/worksheet/article/adding-up/
Adaptations/Modifications
• Demonstrate a variety of patterns from a simple shape pattern to a simple number/object pattern to simple addition or subtraction patterns using objects and assistive technology. • Have students create a pattern in the classroom using objects by giving one student the first item then having another student have one. Continue this process for all the students.

Domain: Numbers and Operations in Base Ten
Cluster: Understand the place value system.

AAS and Resources
FIFTH GRADE
M.AAS.5.6 Compare numbers, including decimals up to hundredths. • https://www.education.com/lesson-plan/comparing-decimals/ M.AAS.5.7 Round three-digit whole numbers from 100 to 949 to the nearest 10 or 100 and round decimals to the nearest hundredths using dollars and cents. • https://www.education.com/game/football-rounding/
Adaptations/Modifications
• Use sales adds to compare prices using decimals. Have students answer yes/no to what is more or less. • Use number lines and place value charts to round numbers. • Have students use coins to compare money using decimals.

Domain: Numbers and Operations in Base Ten
Cluster: Perform operations with multi-digit whole numbers and with decimals to hundredths.

AAS and Resources
FIFTH GRADE
M.AAS.5.8 Multiply a two-digit number by a one-digit number with regrouping. • https://www.teacherspayteachers.com/Product/Operation-Christmas-Multiplying-and-Dividing-Whole-Numbers-with-QR-Codes-980210 M.AAS.5.9 Divide a three-digit number by a one-digit number with no remainder. • https://www.teacherspayteachers.com/Product/FREE-Long-Division-Task-Cards-4th-Grade-Math-Review-No-Remainders-1415597 M.AAS.5.10 Add and subtract two-digit numbers with regrouping (include numbers with decimals of tenths). • https://www.teacherspayteachers.com/Product/Snowball-Scoot-2-Digit-Addition-and-Subtraction-FREEBIE-1008242

Adaptations/Modifications
• Have students make groups of objects to represent multiplication using eye gaze or answering questions based off of counting the groupings. • Have students sort objects into different groups to show division through eye gaze or answering yes/no questions.

Domain: Number and Operations — Fractions
Cluster: Use equivalent fractions as a strategy to add and subtract fractions.

AAS and Resources
FIFTH GRADE
M.AAS.5.11 Use a model to add and subtract fractional parts with like denominators. • https://youvegotthismath.com/2018/10/02/subtracting-fractions-with-common-denominators/ M.AAS.5.12 Solve word problems involving addition and subtraction of fractions with like denominators. • https://www.teacherspayteachers.com/Product/Math-Jeopardy-Review-Geometry-Mult-Division-Place-Value-Fractions-Measure-1155488
Adaptations/Modifications
• Use a recipe and double it using measuring cups. • Cut food in fractional pieces to show addition as a concrete model.

Domain: Number and Operations — Fractions
Cluster: Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

AAS and Resources
FIFTH GRADE
M.AAS.5.14 Find the product of unit fractions (with denominators of 2, 3, 4, 5, 10). • https://youvegotthismath.com/2018/01/16/multiplying-fractions-practice/ M.AAS.5.16 Use a model to solve one-step real-world problems involving multiplying a whole number by a unit fraction. • https://youvegotthismath.com/2018/02/21/multiplying-fractions-word-problems/ M.AAS.5.17 Divide a whole number by a unit fraction. • https://www.teacherspayteachers.com/Product/Video-Tutorial-5NF7c-Real-World-Problems-Dividing-Fractions-Wholes-410131
Adaptations/Modifications
• Use manipulatives to show fractional pieces to be grouped together through repeated addition to make a whole. • Separate various foods into fractional parts and ask students how many pieces make a whole?

Domain: Measurement and Data
Cluster: Convert like measurement units within a given measurement system.

AAS and Resources
FIFTH GRADE
M.AAS.5.18a Given a smaller unit of measurement, determine how many smaller units it would take to make the larger unit. • https://youvegotthismath.com/2018/01/17/length-comparison/
Adaptations/Modifications
• Have students measure distance within the classroom as measured by their length or to see how far it is to another place within the school.

Domain: Measurement and Data
Cluster: Represent and interpret data.

AAS and Resources
FIFTH GRADE
M.AAS.5.19 Interpret data on a bar graph, pictograph, or line plot to display a data set of measurements in fractions of a unit (limited to halves). • https://www.teacherspayteachers.com/Product/Dividing-Whole-Numbers-by-Fractions-Song-with-Available-Math-Centers-FREEBIE-2905396
Adaptations/Modifications
• Have students use assistive technology to ask questions to peers throughout the school and create a class graph with the information.

Domain: Measurement and Data
Cluster: Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.

AAS and Resources
FIFTH GRADE
M.AAS.5.21 Determine the volume of a three-dimensional figure by counting unit cubes (where at least the width or height or depth is 1). • https://www.teacherspayteachers.com/Product/Fill-in-Formula-Sheet-for-3D-Shapes-1689138
Adaptations/Modifications
• Pour liquids into measuring cups to show the students what volume means.

Domain: Geometry
Cluster: Graph points on the coordinate plane to solve real-world and mathematical problems.

AAS and Resources
FIFTH GRADE
M.AAS.5.23 Identify quadrant 1 and the origin on a coordinate system grid. • https://www.teacherspayteachers.com/Product/COORDINATE-GRAPH-INTERACTIVE-ACTIVITY-264039 M.AAS.5.24 Identify the coordinate values of a point with whole number coordinates in quadrant 1 (*x* and *y* values limited to 5 or less). • https://www.teacherspayteachers.com/Product/HaPpY-HoLiDay-GrApHiNg-In-A-CoOrDiNaTe-PlAnE-435044
Adaptations/Modifications
• Have students roll a die to make a horizontal move and then vertical move on a grid created on the floor. Let them be the positions on the grid.

Domain: Geometry
Cluster: Classify two-dimensional figures into categories based on their properties.

AAS and Resources
FIFTH GRADE
M.AAS.5.25 Classify two-dimensional figures and identify the attributes (angles, number of sides, corners) they have in common. • https://youvegotthismath.com/2019/04/16/3d-shape-sort/ • https://www.teacherspayteachers.com/Product/The-Polygon-Song-Classifying-Polygons-479075
Adaptations/Modifications
• Using shape manipulatives, have students describe the various shapes through questions, eye gaze or assistive technology. • Have students to compare different shapes of what they have in common or what is different.

Domain: Ratios and Proportional Relationships
Cluster: Understand ratio concepts and use ratio reasoning to solve problems.

AAS and Resources

SIXTH GRADE

M.AAS.6.1 Select a ratio to match a given statement and representation
- Introduction to ratios WS with examples https://www.superteacherworksheets.com/ratio/ratio-basic-2_DOGCT.pdf?up=1466611200

M.AAS.6.2 Recognize rate vocabulary in a real-world situation (e.g., miles per hour, dollars per pound).
- Math Antics Ratio/Rates Video https://www.youtube.com/watch?v=RQ2nYUBVvqI

M.AAS.6.3 Solve simple real-world problems using ratio/rate reasoning.
- Finding Unit Rates WS https://www.teacherspayteachers.com/Product/Unit-Rates-Worksheet-1981522

M.AAS.6.3a Answer simple questions about a table of equivalent ratios with whole-number measurements.
- Ratio Table WS with Pictures https://www.teacherspayteachers.com/Product/Ratio-Table-Quick-Check-4389310

M.AAS.6.3b Calculate unit-rate problems, including those involving unit pricing.
- Calculating Unit Pricing with Coupons https://www.teacherspayteachers.com/Product/Unit-Price-Savings-Activity-913333

M.AAS.6.3c Identify a percentage equivalent to a fraction (e.g., 1/2, 1/4, 1).
- Fraction and Percent Picture Matching https://www.teacherspayteachers.com/Product/Fraction-and-Percent-Matching-with-Pictures-4651292

M.AAS.6.3d Identify the decimal equivalent of a percentage (limited to 10%, 20%, 25%, 40%, and 50%).
- Decimal and Percent Picture Matching https://www.teacherspayteachers.com/Product/Decimal-and-Percent-Matching-with-Pictures-4651317

Adaptations/Modifications

- Read newspaper and magazine articles with tables and identify the rate of change in the table.
- Teach the concept of ratios with pictures of objects compared to other pictures of objects.
- Practice parts to a whole with circle graphs.
- Using labels of meat and vegetable (items bought by the pound), identify the number of pounds, price per pound, and unit price. Ask your friendly local grocer to print sample labels for you to use.

Domain: The Number System
Cluster: Apply and extend previous understandings of multiplication and division to divide by fractions.

AAS and Resources
SIXTH GRADE
M.AAS.6.4 Divide fractions using visual fraction models. • Dividing Fractions Lesson with Video https://thinktv.pbslearningmedia.org/resource/mgbh.math.ns.keepchange/keep-change-flip/
Adaptations/Modifications
• Use arrays or models for division and multiplying and factors. • Determine the price of produce based on weight. • Divide a single piece of fruit (e.g., apple, watermelon, cantaloupe) in one-half and then by 2 or more to compare numbers.

Domain: The Number System
Cluster: Compute fluently with multi-digit numbers and find common factors and multiples.

AAS and Resources
SIXTH GRADE
M.AAS.6.5 Divide a multi-digit whole number by a single digit with a remainder. Divide a multi-digit whole number by a two-digit number with no remainders. • Division Worksheets (use calculator) http://www.math-aids.com/Division/Division_Worksheets_SD.html M.AAS.6.6 Calculate addition, subtraction, and multiplication problems solving two-digit addition, subtraction, and multiplication problems with decimals up to hundredths (e.g., money problems). • Adding and Subtracting Decimals Step Cards https://www.teacherspayteachers.com/Product/Steps-to-Adding-and-Subtracting-Decimals-4653033
Adaptations/Modifications
• Buy items in the school store to practice adding prices of items and subtracting the amount of money a student has to spend and what the student wants to buy. • Practice banking, making hypothetical deposits and withdrawals.

Domain: The Number System
Cluster: Apply and extend previous understandings of numbers to the system of rational numbers.

AAS and Resources
SIXTH GRADE
M.AAS.6.8 Identify positive and negative numbers in real-world situations (e.g., using visual representations related to credits/debits, temperatures above/below zero). • Identifying Integers WS http://www.math-aids.com/cgi/pdf_viewer_5.cgi?script_name=integer_represent.pl&fnums=0&language=0&memo=&answer=1&x=53&y=36 M.AAS.6.9a Identify positive and negative numbers on a number line. • Identifying Negative Numbers on a Number Line https://stemsheets.com/math/number-line-integers-worksheet M.AAS.6.9b Locate or plot positive and negative numbers on a number line. • Identifying Negative Numbers on a Number Line https://stemsheets.com/math/number-line-integers-worksheet M.AAS.6.9c. Find given points between -10 and 10 on both axes of a coordinate plane. • Blank Four-Quadrant Printable http://www.math-aids.com/cgi/pdf_viewer_4.cgi?script_name=graphing_coordinate_plane.pl&size=2&numbered=1&memo=&x=79&y=23 • Identifying Ordered Pairs WS http://www.math-aids.com/cgi/pdf_viewer_4.cgi?script_name=geometry_four_ordered_pairs.pl&language=0&memo=&answer=1&x=89&y=21 • Ordered Pairs WS https://www.superteacherworksheets.com/geometry/coordinate-grid2_TZDWB.pdf?up=1466611200 M.AAS.6.11 Graph or identify points in all four quadrants of the coordinate plane, given a coordinate plane on graph paper between -10 and 10. • Blank Four-Quadrant Printable http://www.math-aids.com/cgi/pdf_viewer_4.cgi?script_name=graphing_coordinate_plane.pl&size=2&numbered=1&memo=&x=79&y=23 • Identifying Quadrants https://www.mathworksheets4kids.com/ordered-pairs/quadrants-basic1.pdf • Graphing on a Coordinate Plane • https://www.mathworksheets4kids.com/ordered-pairs/moving-around1.pdf

Adaptations/Modifications
• Play Battleship on a coordinate plane. • Use maps during a classroom or school scavenger hunt. • Use a thermometer to find the temperature inside and outside the school. • Use an elevator or stairs to understand positive, negative, and zero.

Domain: Expressions and Equations
Cluster: Apply and extend previous understandings of arithmetic to algebraic expressions.

AAS and Resources
SIXTH GRADE
M.AAS.6.13 Describe a given mathematical or real-world problem with an expression including one unknown. • Missing Subtrahend WS https://www.teacherspayteachers.com/Product/Missing-Subtrahends-2917039 • Missing Addend up to 10 WS http://cdn.worksheetfun.com/wp-content/uploads/2016/02/wfun15_making_numbers_1.pdf M.AAS.6.13a Evaluate expressions at specific values of their variables (e.g., $m + x = ?$, where $x = 3$ and $m = 2$). • Solving Basic Addition and Subtraction Expressions https://www.teacherspayteachers.com/Product/Solving-Basic-Expressions-4653387 M.AAS.6.13b Identify parts of an expression using mathematical terms (e.g., *sum, product, difference, quotient*). • Parts of an Expression Vocabulary GO https://www.teacherspayteachers.com/Product/Identifying-Parts-of-an-Expression-Notes-4261611
Adaptations/Modifications
• Play a game using addition, subtraction, multiplication, and division to get to a given number; use whole numbers only. • Use an outside activity such as running to determine distance ran in a time or time to run a distance, and then graph the results. • Play hopscotch to practice using the Order of Operations. (ex. https://www.teachertube.com/video/order-of-operations-hopscotch-121176) • Play hiring students for jobs and determining pay.

Domain: Expressions and Equations
Cluster: Reason about and solve one-variable equations and inequalities.

AAS and Resources
SIXTH GRADE
M.AAS.6.17 Match a phrase to the corresponding one-step one-variable expression (e.g., "a number plus 3" matches "*x* + 3"). • Word Problem Math http://www.math-aids.com/cgi/pdf_viewer_10.cgi?script_name=word_sub_1digit.pl&fnums=1&xinfo=0&language=0&memo=&answer=1&x=86&y=30 M.AAS.6.18 Solve real-world, single-step linear equations involving positive rational numbers. • Solving One Step Equations WS https://www.mathworksheets4kids.com/equations/one-step/integer-add-sub-level1-1.pdf
Adaptations/Modifications
• Read articles with graphs and interpret graphs. • Identify linear equations that represent real-world situations. For example, Peter is paid $5 for walking one dog, $10 for walking two dogs, and $15 for walking three dogs. Which line shows how much Peter gets paid for walking dogs?

Domain: Geometry
Cluster: Solve real-world and mathematical problems involving area, surface area, and volume.

AAS and Resources
SIXTH GRADE
M.AAS.6.21 Calculate problems about perimeter of squares, triangles, rectangles, and other polygons with sides up to ten units; calculate problems involving finding the area of rectangles and squares with sides up to ten units. • Finding Perimeter by Counting Squares https://www.mathworksheets4kids.com/area/counting-squares/customary/rectangle-level1-1.pdf • Perimeter of a Rectangle WS http://kindergartenprintables.com/wp-content/uploads/2016/03/work-out-the-perimeter-of-rectangles-worksheet.pdf M.AAS.6.22 Solve simple problems about volume using unit cubes. • Finding the Volume Teaching Unit https://www.thecurriculumcorner.com/thecurriculumcorner456/finding-volume-using-unit-cubes/ M.AAS.6.24 Identify a three-dimensional shape (cube, cone, cylinder) and match it to its nets. • Free Geometry Posters http://www.teacherstakeout.com/2013/01/geometry-posters.html • 2D and 3D Real World Matching https://www.teacherspayteachers.com/Product/2D-and-3D-Real-World-Matching-4655922
Adaptations/Modifications
• Have students determine where a rug can fit in a room by calculating area. • Have students determine the amount of fencing needed for a vegetable garden by calculating perimeter.

Domain: Statistics and Probability
Cluster: Develop understanding of statistical variability.

AAS and Resources
SIXTH GRADE
M.AAS.6.25 Interpret a simple graph representing statistical data. • Line Plot WS http://www.math-aids.com/cgi/pdf_viewer_4.cgi?script_name=graphing_linePlotInterp.pl&diff=0&language=0&memo=&answer=1&x=94&y=24
Adaptations/Modifications
• Demonstrate pictographs, line plots, histograms, and the information that is available on the graphs (e.g., total number of data points, how many in a given category, if and how many more or less are in one category). • Create pictographs, line plots, and histograms from classroom data.

Domain: Statistics and Probability
Cluster: Summarize and describe distributions.

AAS and Resources
SIXTH GRADE
M.AAS.6.28 Interpret numerical data on a dot plot or histogram. • Reading a Dot Plot WS https://www.teacherspayteachers.com/Product/FREEBIE-Dot-Plot-Activity-Sheet-49A-49B-59A-59C-2494074 • Reading a Histogram WS https://www.easyteacherworksheets.com/pages/pdf/math/graphing/histograms/2.html M.AAS.6.29 Using a data display, describe the data trend (increasing/going up, decreasing/going down). • Types of Slopes (increasing/decreasing) WS https://www.mathworksheets4kids.com/slope/type-of-slope1.pdf
Adaptations/Modifications
• Have students put numerical data into a dot plot or histogram manually or using computer simulations. • Have students identify the numbers of objects in given groups and create a bar/stack representing that data using blocks. • Determine or plan classroom situations where students can demonstrate increasing and decreasing data trend on a data display.

Domain: Ratios and Proportional Relationships
Cluster: Understand ratio concepts and use ratio reasoning to solve problems.

AAS and Resources

SEVENTH GRADE

M.AAS.7.1 Calculate a unit rate (numbers limited to whole numbers under 100).

- Calculating Ratios and Unit Rates WS-1 https://www.commoncoresheets.com/Math/Ratios/Ratios%20and%20Unit%20Rates/English/1.pdf

M.AAS.7.2 Use a ratio to model or describe a real-world relationship (ratio or rate).

- Calculating Ratios and Unit Rates WS-2 https://www.commoncoresheets.com/Math/Ratios/Ratios%20and%20Unit%20Rates/English/Create.php?fontSize=&fontFamily=times&CSS=6rp3b&cNumberofProblems=&cInstructions=&cTitle=&marginBottom=&

M.AAS.7.3 Calculate 10%, 20%, 25%, 50% of a number up to 100, to identify a proportional relationship.

- Finding the Percent GO (steps included) https://www.teacherspayteachers.com/Product/Finding-Percentages-Graphic-Organizer-4651194

Adaptations/Modifications

- Use classroom data collection to discuss ratios and proportions (e.g., number of girls to the total number of students, number of boys to the total number of students).
- Use sets of chips in two colors to create ratios and proportions.

Domain: The Number System
Cluster: Apply and extend previous understandings of multiplication and division to divide by fractions.

AAS and Resources
SEVENTH GRADE
M.AAS.7.4 Given a number line divided by increments of 1/4, visual representations, or manipulatives, add and subtract fractions with like and unlike denominators of 2 and 4. • Adding Fractions with Common Denominators https://www.mathworksheets4kids.com/number-lines/fractions/addition/hops-proper-1.pdf • Subtracting Fractions with Common Denominators https://www.mathworksheets4kids.com/number-lines/fractions/subtraction/hops-proper-1.pdf M.AAS.7.5a Multiply proper fractions to include 1/2, 1/4, 1/8, and 1/10. • Multiplying Fractions WS (Simple) https://www.dadsworksheets.com/worksheets/fraction-multiplication/fraction-multiplication-easy-v1.html • Multiplying Fractions Video https://www.youtube.com/watch?v=LU3R2JE5c_U M.AAS.7.5b Simplify proper fractions. • Simplifying Fractions Partner Activity (Higher Functioning) https://www.teacherspayteachers.com/Product/Simplify-Fractions-Partner-Game-237697 • Simplifying Fractions Lesson Rainbows (must scroll down for lesson) http://teacherblogspot.com/?s=fractions M.AAS.7.5c Solve division problems with divisors up to five and also with a divisor of 10 without remainders. • Basic Division Worksheets https://www.k5learning.com/free-math-worksheets/third-grade-3/division M.AAS.7.6 Solve real-world and mathematical problems involving addition, subtraction, and multiplication with rational numbers (fractions to include 1/2, 1/4, 1/8, and 1/10). • Adding Fractions with Number Lines https://www.mathworksheets4kids.com/fraction-addition-number-line.php • Subtracting Fractions with Number Lines https://www.mathworksheets4kids.com/fraction-subtraction-number-line.php • Multiplying Fractions WS http://www.math-aids.com/cgi/pdf_viewer_3.cgi?script_name=fractions_multiply.pl&difficult=0&probs=10&language=0&memo=&answer=1&x=54&y=23

Adaptations/Modifications
• Use fraction manipulatives to create equivalent fractions and introduce simplifying fractions. • Use measuring cups and daily tasks such as watering plants to calculate total water needed. • Plan a party involving multiple individual servings of whole units (e.g., cake, pizza).

Domain: Expressions and Equations
Cluster: Apply and extend previous understandings of arithmetic to algebraic expressions.

AAS and Resources
SEVENTH GRADE
M.AAS.7.9 Solve addition and subtraction of positive and negative numbers in real-world situations (e.g., credits and debits, temperatures, elevations). • Adding Integers on a Number Line WS https://www.mathworksheets4kids.com/integers/number-line/addition1.pdf • Subtracting Integers on a Number Line WS https://www.mathworksheets4kids.com/integers/number-line/subtraction1.pdf M.AAS.7.10 Solve one-step addition, subtraction, or multiplication problems with one variable. • Inverse Operation (Subtraction) https://www.education.com/worksheet/article/inverse-subtraction-practice/ • Inverse Operation (Addition) https://www.education.com/worksheet/article/inverse-addition-practice/ • Inverse Operation (Multiplication) https://www.education.com/worksheet/article/inverse-operations-3/
Adaptations/Modifications
• Using a weather app or website, have students record positive and negative outdoor temperatures over time. • Have students move up and down on stairs or in an elevator to demonstrate positive and negative. • Use classroom situations to model equations with one variable.

Domain: Geometry
Cluster: Draw, construct, and describe geometrical figures and describe the relationships between them.

AAS and Resources
SEVENTH GRADE
M.AAS.7.11 Given a geometric figure, recognize a similar scaled figure with the same orientation. • Matching Similar 2D Shapes https://www.teacherspayteachers.com/Product/Matching-Similar-Shapes-2D-4655986 M.AAS.7.13 Match a two-dimensional shape with a three-dimensional shape that shares an attribute (rectangle with a rectangular prism, square with a cube, circle with a sphere). • 2D and 3D Matching WS https://www.math-salamanders.com/image-files/3d-shapes-worksheets-match-2d-3d-shapes-1.gif
Adaptations/Modifications
• Use real objects, drawings of those objects, and line drawings of the basic shapes that share attributes with the objects to explore those attributes and recognize them in other objects. • Compare real objects of various sizes (e.g., balls, cubes, chairs) to demonstrate characteristics that are the same and different. • Find examples of the same shape in various sizes and orientations in the classroom and other environments.

Domain: Geometry
Cluster: Solve real-world and mathematical problems involving area, surface area, and volume.

AAS and Resources
SEVENTH GRADE
M.AAS.7.14 Identify the radius, diameter, and circumference of a circle. M.AAS.7.15 Categorize angles as acute, obtuse, or right (freestanding or within a triangle). M.AAS.7.16 Solve real-world and mathematical problems involving volumes of cubes or rectangular prisms.

Adaptations/Modifications
• Have students create circles using various mathematical attributes, including the radius and diameter. • Have students use body movements to create acute, right, and obtuse angles. • Have students measure real objects in the classroom (e.g., shoeboxes, tissue boxes) and calculate the volume of each object.

Domain: Statistics and Probability
Cluster: Use random sampling to draw inferences about a population.

AAS and Resources
SEVENTH GRADE
M.AAS.7.17 Given a statistical display (line graph, dot plot, histogram), in everyday language, identify what the display measures. • Line Plot WS https://www.superteacherworksheets.com/graphing/line-plot-1_TWNMZ.pdf?up=1532346384
Adaptations/Modifications
• Construct various displays of classroom-gathered data, including a line graph, dot plot, and histogram. • Gather and discuss different data displays and describe what they measure.

Domain: Statistics and Probability
Cluster: Draw informal comparative inferences about two populations.

AAS and Resources
SEVENTH GRADE
M.AAS.7.19 Compare two sets of data within a single data display such as a pictograph or bar graph. • Double Bar Graph IXL https://www.ixl.com/math/grade-6/interpret-double-bar-graphs

Adaptations/Modifications
• Create a bar graph using classroom data (e.g., shoe size) and demonstrate calculating more/less between categories. • Have students represent data with real objects and compare quantities to determine more/less of the groups. • Use paper strips that can be removed and overlapped to represent quantities on a bar graph to determine more/less.

Domain: Statistics and Probability
Cluster: Investigate chance processes and develop, use, and evaluate probability models.

AAS and Resources
SEVENTH GRADE
M.AAS.7.21 Describe the probability of events occurring as possible or impossible. • Identifying Possible/Impossible Events WS https://www.biglearners.com/?blKey=showWSPDFOnPage&wsCatCode=e94ddae7ee8f2556ed002fb383f01c63 M.AAS.7.22 Given a data set that represents a series of events, identify most likely event. • Determining Likelihood Spinner WS https://www.biglearners.com/?blKey=showWSPDFOnPage&wsCatCode=93824d250a0bbfd87de86bff7f535a66 M.AAS.7.23 Model an event with two outcomes by flipping a coin. • Coin Toss Probability Packet https://www.teacherspayteachers.com/Product/Coin-Toss-Probability-Activity-569961
Adaptations/Modifications
• With students, identify a real-world situation that has only two outcomes, such as having students flip a coin to model the probability of the two outcomes of a coin flip. • Put various numbers of three different objects in a bag and have students pull them out. Record the results on a chart that contains an additional object. Discuss the likelihood of obtaining data for the fourth object. • Throw a bean bag toward a circle target and record the results. Identify the most likely result. **Probability Definition Posters:** • https://www.teacherspayteachers.com/Product/PROBABILITY-POSTERS-3593581

Domain: The Number System
Cluster: Know that there are numbers that are not rational, and approximate them by rational numbers.

AAS and Resources

EIGHTH GRADE

M.AAS.8.1 Identify the decimal equivalents of common fractions as repeating or non-repeating (i.e., halves, thirds, fourths, fifths).

- Converting Fractions and Decimals Lesson
  https://www.mathsisfun.com/decimal-fraction-percentage.html
- Converting Fractions to Decimals WS
  https://www.k5learning.com/free-math-worksheets/third-grade-3/fractions-and-decimals/fractions-to-decimals

M.AAS.8.2 Given the decimal approximation of irrational numbers located on a number line; compare the sizes of the irrational numbers.

- Comparing Irrational Numbers on a Number Line WS
  https://www.teacherspayteachers.com/Product/Comparing-Irrational-Numbers-on-a-Number-Line-4653330

Fractions, Decimals, and Percents Bookmarks
https://www.freehomeschooldeals.com/free-fractions-decimals-percents-bookmarks/

Adaptations/Modifications

- Use transparency overlays to compare decimal equivalents of rational and irrational numbers.
- Use fraction/decimal manipulatives to identify common fraction equivalents. The manipulatives can be purchased, teacher-made, or student-made.
- Use painter's tape on the floor to create a number line to practice locating rational and irrational number equivalents.

Domain: Expressions and Equations
Cluster: Work with radicals and integer exponents.

AAS and Resources
EIGHTH GRADE
M.AAS.8.3 Calculate the square of numbers 1 to 10. • Finding the Square of a Number (recommend using graph paper) https://www.teacherspayteachers.com/Product/Finding-the-Square-of-a-Number-4653546 M.AAS.8.4 Find the square root of the perfect squares up to 100. *Students will use the method above to find the square of numbers 1-10 and use it as a reference to find the square root. • Finding the Square of a Number (recommend using graph paper) https://www.teacherspayteachers.com/Product/Finding-the-Square-of-a-Number-4653546 • Square Root Chart http://www.math.com/school/subject1/lessons/S1U1L9DP.html
Adaptations/Modifications
• Use muffin tins to understand repeated multiplication (put the same number of objects into each space and then calculate the total number of objects). • Reverse the muffin tin activity to determine the square root (given a perfect square number of objects, divide them out into the same number in each cup as the number of cups). (Realize there is a certain amount of guess and check here.)

Domain: Expressions and Equations
Cluster: Understand the connections among proportional relationships, lines, and linear equations.

AAS and Resources
EIGHTH GRADE
M.AAS.8.7 Determine slopes of 1/2, 1, and 2 from the graphs of proportional relationships. • Finding the slope of a given line (from two points) http://www.coolmath.com/algebra/08-lines/06-finding-slope-line-given-two-points-01 • Slope WS http://www.math-aids.com/cgi/pdf_viewer_12.cgi?script_name=algebra1_func_slope_graph.pl&language=0&memo=&answer=1&x=100&y=13 M.AAS.8.8 Identify the slope of a line using the rise and run from the associated triangle on the coordinate plane to determine the slope of the line. • Rise over Run Coloring Sheet https://www.teacherspayteachers.com/Product/Comparing-Slope-Steepness-Free-1973291
Adaptations/Modifications
• Use a painter's tape grid on the floor to have students determine the rise and run of a given line. • Have students use geoboards to create lines with various slopes. • Using grid paper, have students use two different-colored pencils to draw the vertical and horizontal lines from the ends of a line segment to create a reference triangle.

Domain: Expressions and Equations
Cluster: Analyze and solve linear equations and pairs of simultaneous linear equations.

AAS and Resources
EIGHTH GRADE
M.AAS.8.10 Identify the labeled point of intersection on graphs of two linear equations as a solution for both equations. • Finding the Midpoint WS (*walk students through the equation, possibly highlighting the numbers that go in each spot*) https://www.commoncoresheets.com/Math/Grids/Finding%20Midpoint/English/1.pdf

Adaptations/Modifications
• Model real-world situations with algebraic equations to demonstrate constants and variables. • Calculate amounts in a savings account given a starting amount. • Use manipulatives and operation symbols to model problem solving.

Domain: Functions
Cluster: Define, evaluate, and compare functions.

AAS and Resources
EIGHTH GRADE
M.AAS.8.11 Identify a missing number in a function table that contains at least two complete ordered pairs by determining and applying the rule for the function (limited to linear functions; values limited to 10 or less). • Number Patterns and Function Tables https://www.helpingwithmath.com/printables/worksheets/algebra/4oa5patterns01.htm M.AAS.8.13 Given a set of graphs, identify which graph is linear. • Identifying Functions/Linear Graphs WS https://www.mathworksheets4kids.com/function/identifying-function-1.pdf
Adaptations/Modifications
• Create real-world context functions and determine the meaning of each part of the function. • Model functions in a real-world context and demonstrate solutions. (e.g., Have two students divide up a given number of objects in various ways: There are 10 red counting bears and Kia has 3 and Jay has 7, or Kia has 5 and Jay has 5, or Kia has 6 and Jay has 4.) • Create tables of ordered pairs with data from a real-world context and have students discover the rule.

Domain: Functions
Cluster: Use functions to model relationships between quantities.

AAS and Resources

EIGHTH GRADE

M.AAS.8.14 Given a graph of a function, determine if it is linear and identify the *y*-intercept.

- Identifying Functions/Linear Graphs WS
  https://www.mathworksheets4kids.com/function/identifying-function-1.pdf

M.AAS.8.14a Count out the rise over the run of a line on a graph to show the change from point to point on a line.

- Identifying Rise Over Run WS
  https://www.mathworksheets4kids.com/slope/rise-run-level1-1.pdf

M.AAS.8.15 Given the graph of a linear function, determine whether it is increasing or decreasing.

- Slope Man Poster
  https://www.pinterest.com/pin/268738302751480183/
- Examples of an increasing, decreasing, and constant function (with pictures)
  https://courses.lumenlearning.com/collegealgebra1/chapter/determine-whether-a-linear-function-is-increasing-decreasing-or-constant/

Adaptations/Modifications

- Have students compare graphs of various functions (e.g., linear, quadratic) on a coordinate grid.
- Use a picture bingo game to identify parts of a coordinate grid such as origin, x-axis, y-axis, point, line, curve, and quadrant 1.
- Create a floor grid and have students use material such as string, streamers, or yarn to illustrate linear and nonlinear graphs.

Domain: Geometry
Cluster: Understand congruence and similarity using physical models, transparencies, or geometry software.

AAS and Resources

EIGHTH GRADE

M.AAS.8.16 Recognize translations and reflections of a non-equilateral rectangle or triangle.

- Shape Reflections Packet
  https://www.teacherspayteachers.com/Product/Transformations-Reflections-worksheet-3883214

M.AAS.8.17 Given a geometric figure and a vertical or horizontal translation and reflection across a vertical or horizontal line, identify the components (lines/sides, angles) of the two figures that are congruent (limited to non-equilateral rectangles and triangles).

- Identifying Types of Translated Shapes
  https://www.commoncoresheets.com/Math/Shapes/Shape%20Transformations/English/1.pdf
- Defining Translation, Reflections, and Rotation
  https://www.turtlediary.com/lesson/reflection-rotation-translation.html

M.AAS.8.18 Recognize the reflection (across the *x*- or *y*-axis) and translation (across quadrants) of a two-dimensional figure on a coordinate plane (limited to non-equilateral rectangles and triangles).

- Defining Translation, Reflections, and Rotation
  https://www.turtlediary.com/lesson/reflection-rotation-translation.html
- Identifying Transformations WS
  https://www.mathworksheetsland.com/8/grade8-19-3-5pack.pdf

M.AAS.8.20 Compare any angle to a right angle using greater than, less than, or congruent to the right angle.

- Greater Than/Less Than a Right Angle WS
  https://www.mathinenglish.com/worksheetview.php?id=626&stid=190050

Adaptations/Modifications

- Give students multiple opportunities to manipulate triangles and rectangles by placing the shapes in different orientations to demonstrate translation and reflection.
- Have students create artwork using translations and reflections of non-equilateral triangles and rectangles.

Domain: Geometry
Cluster: Understand and apply the Pythagorean Theorem.

AAS and Resources
EIGHTH GRADE
M.AAS.8.22 Use a diagram of two similar right triangles with a simple multiple to find the measure of a missing side length. • Perimeter of a Triangle with Congruent Sides WS https://www.mathworksheets4kids.com/triangles/perimeter/customary/congruent-1.pdf
Adaptations/Modifications
• Mark off a floor grid using painter's tape. Have students select points for the vertices of a right triangle, count the measurement of the sides, and calculate the perimeter of the triangle they have formed to compare congruence. • Use geoboards to have students construct right triangles, determine the measure of each side, and calculate each triangle's perimeter.

Domain: Statistics and Probability
Cluster: Investigate patterns of association in bivariate data.

AAS and Resources
EIGHTH GRADE
M.AAS.8.25 Given a simple scatter plot of points in a straight line, identify a pattern. • Positive and Negative Scatter Plot Interactive https://www.explorelearning.com/index.cfm?method=cResource.dspView&ResourceID=308 M.AAS.8.28a Recognize a display or table constructed from given categorized data; given a two-column table of data, recognize a display or table constructed from that data. • Reading Data Tables WS https://www.mathworksheetsland.com/topics/graphing/readingdatatables/lesson.pdf • Reading a Data Table EASY https://www.mathworksheetsland.com/topics/graphing/readingdatatables/snackdata.pdf
Adaptations/Modifications
• Demonstrate creating a scatter plot using student-collected data. • Have students display data they have collected in a scatter plot by using large grid paper and stickers. Then have students describe the data as increasing, decreasing, or staying the same. • Using scatter plots from newspapers or magazines, have students explore what the graphs communicate and the trends of the data.

Conceptual Category: Number and Quantity
Domain: The Real Number System
Cluster: Extend the properties of exponents to rational exponents.

AAS and Resources
NINTH GRADE
M.AAS.NS.HS.1 Recognize that a number raised to the ½ power is the square root of that number; similarly, a number raised to the 1/3 power is the cube root of that number. Identify the root of a number when given the fractional notation. Limit base values for square roots to 9, 16, 25. Limit base values for cube roots to 8, 27. • https://www.education.com/worksheet/article/introducing-exponents-1/ • https://www.education.com/worksheet/article/power-play-multiplying-exponents-1/ • https://www.education.com/worksheet/article/introducing-exponents-2/ • https://www.education.com/worksheet/article/what-is-an-exponent/ • https://www.education.com/worksheet/article/theres-more-than-one-way-to-write-a-number/ • https://www.education.com/worksheet/article/exponents-make-numbers-more-powerful/ • https://www.education.com/worksheet/article/exponents-as-cubes/ • https://www.education.com/worksheet/article/exponents-as-squares/ • https://www.education.com/worksheet/article/exponents-understanding-key-terms/ • https://www.education.com/worksheet/article/growing-by-powers-of-ten-chart/ • https://www.education.com/worksheet/article/vocabulary-cards-powers-of-ten-patterns/ • https://www.education.com/worksheet/article/glossary-powers-of-ten-patterns/ • https://www.education.com/worksheet/article/building-exponents-squares-cubes-roots/ M.AAS.NS.HS.2 Determine the value of an expression squared (base values 1-15) or cubed (base values1-10). • https://www.teacherspayteachers.com/Product/Square-and-cube-roots-lesson-2808053 • https://www.teacherspayteachers.com/Product/Math-Vocab-Card-Squared-and-Cubed-Numbers-2780936 • https://www.teacherspayteachers.com/Product/Square-and-Cube-Root-Partner-Problems-145161 • https://www.teacherspayteachers.com/Product/Square-Cube-Root-Fluency-Square-Cube-Puzzle-2790944 • https://www.teacherspayteachers.com/Product/Squares-Cubes-Square-Roots-and-Cube-Roots-1415592 • https://www.teacherspayteachers.com/Product/Perfect-Squares-and-Cube-Notes-with-Key-2420322 • https://www.teacherspayteachers.com/Product/Skip-Counting-13-14-15-squares-and-cubes-800364

- https://www.teacherspayteachers.com/Product/Math-Binder-Perfect-Squares-Cubes-Exponent-Rules-Scientific-Notation-3157820
- https://www.teacherspayteachers.com/Product/Perfect-Square-and-Cube-Root-Flash-Cards-2950394
- https://www.teacherspayteachers.com/Product/8th-Grade-Math-Number-System-Exponents-Square-Cube-Roots-Review-Bingo-4271634
- https://www.teacherspayteachers.com/Product/Common-Core-Math-Estimating-Square-and-Cube-Roots-Tutorial-and-Practice-1216188

Adaptations/Modifications

- Teach vocabulary such as square, cube.
- Post charts and keys for easy viewing.
- Make cheat sheets for each student.
- Teach how to do calculations on the calculator.
- Demonstrate steps through practice and games.
- Play games such as bingo to practice.
- Divide students into groups based on abilities after teaching vocabulary and concepts. Some students can work on adding and multiplying, others can work on calculator skills and finding square roots and cubed roots.
- Have students use mathematical tools such as a calculator to calculate squares and cubes of numbers up to 15.
- Teach students how to use a calculator and all of the keys to determine squares.
- Create arrays to demonstrate squaring and cubing numbers.
- Use a multiplication table to locate numbers multiplied by themselves and connect to squaring and square roots.

Conceptual Category: Number and Quantity
Domain: The Real Number System
Cluster: Use properties of rational and irrational numbers.

AAS and Resources

NINTH GRADE

M.AAS.NS.HS.3 Identify rational and irrational numbers within 1 to 20 (irrational numbers limited to pi, √2, √3, √5).

- https://www.teacherspayteachers.com/Product/8NS1-Identifying-Rational-and-Irrational-Numbers-Round-and-Round-2107697
- https://www.teacherspayteachers.com/Product/Identifying-Rational-and-Irrational-Numbers-Color-by-Number-4070402
- https://www.teacherspayteachers.com/Product/Identifying-Rational-and-Irrational-Numbers-3-DIGITAL-Activities-4057256
- https://www.teacherspayteachers.com/Product/Identifying-Rational-and-Irrational-Numbers-4-Activities-3504351
- https://www.teacherspayteachers.com/Product/QR-Scavenger-Hunt-2780980
- https://www.teacherspayteachers.com/Product/Real-Numbers-and-Subsets-Short-Version-1391322
- https://www.teacherspayteachers.com/Product/Classifying-Real-Numbers-Color-by-Number-Emoji-3660752
- https://www.teacherspayteachers.com/Product/Identifying-Real-Numbers-Coloring-Activity-2710420
- https://www.education.com/worksheet/article/rational-and-irrational-numbers/

Adaptations/Modifications

- Teach vocabulary such as rational, irrational, pi.
- Give examples of what it is a rational number and what is an irrational number.
- Practice as a group.
- Break into ability groups and practice based upon where each student is functioning in math.
- Use a bingo game to practice rational and irrational numbers.
- Use a number line to order numbers up to 20 including whole numbers, fractions, square roots, and pi.
- Have students compare fractions and decimals.

Conceptual Category: Number and Quantity
Domain: Quantities
Cluster: Reason quantitatively and use unity to solve problems.

AAS and Resources
NINTH GRADE
M.AAS.Q.HS.4 Using real world models, express quantities of measurement to the given precision. (limited to measurements of length (inch, 1/2 inch, 1/4 inch), weight (pounds, kilograms (tenth of a unit), volume (cup, 1/2 cup, 1/4 cup, 1/3 cup, liter), temperature (degree), velocity (mph, kmph). • https://www.education.com/exercise/measurement-and-weight/ • https://www.education.com/worksheet/article/measuring-slides/ • https://www.education.com/worksheet/article/measuring-swings/ • https://www.education.com/worksheet/article/bobbys-blueprints-10/ • https://www.education.com/worksheet/article/measuring-height/ • https://www.education.com/game/world-tour-measurement/ • https://www.education.com/worksheet/article/measure-length-width-3/ • https://www.education.com/worksheet/article/measure-the-length/ • https://www.education.com/worksheet/article/measure-length-width-2/ • https://www.education.com/worksheet/article/heavy-or-light/ • https://www.education.com/worksheet/article/measurement-mania-11-scale/ • https://www.education.com/science-fair/article/mass-volume-density/ • https://www.education.com/worksheet/article/measure-temperature-1/ • https://www.education.com/worksheet/article/measure-temperature-1/ Length • https://www.teacherspayteachers.com/Product/Measuring-Lengths-Math-Tasks-and-Exit-Tickets-1117942 • https://www.teacherspayteachers.com/Product/Measures-Length-Capacity-Weight-375071 • https://www.teacherspayteachers.com/Product/Measuring-Length-Project-198709 • https://www.teacherspayteachers.com/Product/Measurement-Length-1180553 • https://www.teacherspayteachers.com/Product/Measuring-Length-to-Problem-Solve-1229610 • https://www.teacherspayteachers.com/Product/Measuring-Length-with-Classroom-Items-Centimeters-and-Inches-2298007 Weight • https://www.teacherspayteachers.com/Product/Weigh-to-go-Measuring-Weight-Station-569155 • https://www.teacherspayteachers.com/Product/FREE-DOWNLOAD-Measurement-Weight-Balance-Scales-recording-sheets-FREEBIE-1055294

- https://www.teacherspayteachers.com/Product/FREE-DOWNLOAD-Measurement-Weight-Balance-Scales-recording-sheets-FREEBIE-1055294
- https://www.teacherspayteachers.com/Product/Measuring-Weight-More-and-Less-Activity-3067443
- https://www.teacherspayteachers.com/Product/The-Littlest-Leprechaun-A-Math-Reader-measuring-weight-3683568
- https://www.teacherspayteachers.com/Product/Measuring-Weight-1780960
- https://www.teacherspayteachers.com/Product/Measuring-Weight-Practical-Activity-3258091
- https://www.teacherspayteachers.com/Product/Measurement-Measuring-Weight-NOTEBOOK-Gr-PK-2-4255248
- https://www.teacherspayteachers.com/Product/Standard-Measurement-Weight-Conversions-1847875
- https://www.teacherspayteachers.com/Product/Comparing-Weight-128240

Volume

- https://www.teacherspayteachers.com/Product/FREE-Measuring-Volume-with-McDonalds-Cups-197035
- https://www.teacherspayteachers.com/Product/Graduated-Cylinders-Measuring-the-Volume-of-a-Liquid-FREEBIE-1453495
- https://www.teacherspayteachers.com/Product/Measurement-Volume-Graduated-CylinderTemperature-Mass-Triple-Beam-Balance-1258550
- https://www.teacherspayteachers.com/Product/Measuring-Volume-of-Unit-Cubes-St-Patricks-Day-Coloring-Activity-1-3033493
- https://www.teacherspayteachers.com/Product/Measuring-Volume-Mass-Volume-of-Cubes-and-Boxes-1-3165356
- https://www.teacherspayteachers.com/Product/Minecraft-Math-teaching-measurement-and-volume-3247988

Temperature

- https://www.teacherspayteachers.com/Product/Measuring-Temperature-1119971
- https://www.teacherspayteachers.com/Product/Measurement-Temperature-Reviews-1940812
- https://www.teacherspayteachers.com/Product/Measuring-Temperature-Weather-Unit-3330279
- https://www.teacherspayteachers.com/Product/Measurement-Temperature-Mystery-Picture-4077335
- https://www.teacherspayteachers.com/Product/Eureka-Measuring-Temperature-4393173

Velocity

- https://www.teacherspayteachers.com/Product/Kinematics-Velocity-Challenge-Video-1668503
- https://www.teacherspayteachers.com/Product/Measuring-Velocity-Balloon-Drop-Lab-477611
- https://www.teacherspayteachers.com/Product/Review-Activities-Metric-System-Units-Speed-Velocity-and-Acceleration-2082451

M.AAS.Q.HS.5 Recognize units of weight (ounces, pounds, grams, kilograms), length (inch, foot, mile, centimeter, meter, kilometer), area (square inches in^2, square feet ft^2, square centimeters cm^2, square meters m^2) and capacity (cubic inches in^3, cubic feet ft^3, cubic centimeters cm^3, cubic meters m^3).

- https://www.teacherspayteachers.com/Product/Math-Doodle-Converting-Customary-Units-of-Measurement-So-EASY-to-Use-4056825
- https://www.teacherspayteachers.com/Product/Math-Doodle-Converting-Metric-Units-of-Measurement-So-EASY-to-Use-4056828
- https://www.teacherspayteachers.com/Product/FREEBIE-Units-of-Measurement-Benchmark-Units-of-Customary-Measurement-3086427
- https://www.teacherspayteachers.com/Product/Math-Jeopardy-Review-Geometry-Mult-Division-Place-Value-Fractions-Measure-1155488
- https://www.teacherspayteachers.com/Product/FREE-5th-Grade-Math-STAAR-Practice-Geometry-and-Measurement-Test-Prep-Sample-2799315
- https://www.teacherspayteachers.com/Product/High-Sky-Measurement-Art-Project-3MDC5-and-4MDA3-2193027
- https://www.teacherspayteachers.com/Product/FREEBIE-Full-Lesson-plan-with-worksheet-Estimating-and-Measuring-3073778
- https://www.teacherspayteachers.com/Product/FREEBIE-Full-Lesson-plan-with-worksheet-Estimating-and-Measuring-3073778
- https://www.teacherspayteachers.com/Product/Measurement-Drill-Sheets-Gr-PK-2-BONUS-WORKSHEETS-4297459
- https://www.teacherspayteachers.com/Product/Non-Standard-Units-of-Measurement-Task-Cards-FREEBIE-691117
- https://www.teacherspayteachers.com/Product/Measurement-FREEBIE-Non-Standard-Units-of-Measure-1567176
- https://www.teacherspayteachers.com/Product/Converting-Units-of-Measure-Math-Tasks-and-Exit-Tickets-1031701
- https://www.teacherspayteachers.com/Product/Converting-Units-of-Measure-4th-Grade-498217
- https://www.teacherspayteachers.com/Product/Fun-Tools-for-Nonstandard-Units-of-Measurement-1132819
- https://www.teacherspayteachers.com/Product/Converting-Units-of-Measurement-Length-Worksheet-Spring-Math-Art-3578097
- https://www.teacherspayteachers.com/Product/Units-of-Measurement-Roll-and-Cover-FREEBIE-977461

M.AAS.Q.HS.6 Estimate to the nearest 1, 10, and 100 when adding, subtracting, multiplying, or dividing; include units with estimates.

- https://www.teacherspayteachers.com/Product/Rounding-and-Estimating-Task-Cards-Game-627151
- https://www.teacherspayteachers.com/Product/Estimating-Measurements-Signs-118726

- https://www.teacherspayteachers.com/Product/Rounding-Numbers-and-Estimating-Sums-345403
- https://www.teacherspayteachers.com/Product/Rounding-Numbers-and-Estimating-Sums-345403
- https://www.teacherspayteachers.com/Product/Rounding-and-Estimation-Worksheets-208751
- https://www.teacherspayteachers.com/Product/3rd-Grade-Go-Math-18-Rounding-to-Estimate-Differences-Color-By-Numbers-FREEBIE-3358208
- https://www.teacherspayteachers.com/Product/Rounding-and-Estimation-Extra-Practice-Freebie-1394004
- https://www.teacherspayteachers.com/Product/MATH-ROUNDING-ESTIMATION-AND-SIGNIFICANT-FIGURES-1531263
- https://www.teacherspayteachers.com/Product/Daily-Math-Warm-Ups-Wk-3-Rounding-for-Estimation-1527271
- https://www.teacherspayteachers.com/Product/Rounding-and-Estimating-3043941

Adaptations/Modifications

- Teach vocabulary such as round, rounding, weight, pound, ounce, length, inch, foot, yard, capacity, cup, liter, quart, gallon
- Use cooking activities to measure volume, weight, etc.
- Use objects in the classroom.
- Set up centers or groups to do weight, length, volume, etc.
- Use calculator to add, subtract, multiply and divide.
- Use tens bars to estimate values between 1 and 100 to the nearest 10.
- Use fraction/decimal bars to estimate values to the nearest 1, including mixed numbers.
- Demonstrate measurement to the appropriate precision using real-world objects in the classroom.

Conceptual Category: Algebra
Domain: Seeing Structure in Expressions
Cluster: Interpret the structure of expressions.

AAS and Resources

NINTH GRADE

M.AAS.A.HS.7 Identify an algebraic expression involving one arithmetic operation to represent a real-world problem.

- https://www.education.com/worksheet/article/algebra-for-beginners/
- https://www.teacherspayteachers.com/Product/Algebraic-Expressions-Color-by-Number-1763156
- https://www.teacherspayteachers.com/Product/ALGEBRAIC-EXPRESSIONS-Mazes-Riddles-Color-by-Number-Fun-Activities-2573758
- https://www.teacherspayteachers.com/Product/Algebraic-Expressions-Task-Cards-and-Recording-Sheets-CCS-6EE2-476714
- https://www.teacherspayteachers.com/Product/Identify-Parts-of-an-Expressions-6EE2-2248766
- https://www.teacherspayteachers.com/Product/Worksheet-Identifying-and-Evaluating-Algebraic-Expression-in-a-Coffee-House-363607
- https://www.teacherspayteachers.com/Product/Algebraic-Expressions-Vocabulary-Foldable-3701534
- https://www.teacherspayteachers.com/Product/Algebraic-Expressions-Key-Terms-3072818
- https://www.teacherspayteachers.com/Product/Expressions-and-Equations-Math-Maze-Freebie-4131089
- https://www.education.com/game/solving-equations/
- https://www.education.com/worksheet/article/easy-algebra/
- https://www.education.com/worksheet/article/algebra-for-beginners/

Adaptations/Modifications

- Teach vocabulary, such as expression, accompanied with examples.
- Practice as a group.
- Divide into ability groups and practice at individual levels (add, subtract, multiply, divide using a calculator).
- Create a real-world context and expression and determine the meaning of each part of the expression.
- Calculate amounts using savings accounts given a starting amount as constant.
- Model real-life situations (e.g., job earnings).

Conceptual Category: Algebra
Domain: Seeing Structure in Expressions
Cluster: Write expressions in equivalent forms to solve problems.

AAS and Resources

NINTH GRADE

M.AAS.A.HS.9 Identify the expression that is the same as the one shown. (limit to two operations e.g. *x*^2 + 3*x* is the same as *x*(*x*+3).

- https://www.education.com/worksheet/article/pre-algebra-fun/
- https://www.teacherspayteachers.com/Product/Steps-to-solve-basic-algebra-problems-1111113
- https://www.teacherspayteachers.com/Product/Solving-One-and-Two-Step-Equations-Basic-Guided-Notes-645377
- https://www.education.com/worksheet/article/easy-algebra/
- https://www.education.com/worksheet/article/algebra-for-beginners/
- https://www.education.com/worksheet/article/combining-like-terms/
- https://www.education.com/worksheet/article/pre-algebra-equations/
- https://www.education.com/worksheet/article/pre-algebra-fun/
- https://www.education.com/worksheet/article/solving-one-and-two-step-equations/
- https://www.education.com/worksheet/article/math-coloring-page-6/
- https://www.education.com/worksheet/article/math-coloring-page-7/
- https://www.education.com/worksheet/article/math-coloring-page-8/
- https://www.education.com/worksheet/article/math-coloring-page-17/
- https://www.education.com/worksheet/article/math-coloring-page-10/
- https://www.education.com/worksheet/article/math-coloring-page-13/
- https://www.education.com/activity/article/Tic_Tac_Toe_fifth/
- https://www.teacherspayteachers.com/Product/Basic-Algebra-1-Skills-Task-Cards-2082126
- https://www.teacherspayteachers.com/Product/Three-Basic-Algebra-Practice-Worksheets-3420412
- https://www.teacherspayteachers.com/Product/FREE-Word-Problem-Game-for-Operations-and-Algebraic-Thinking-733575

Adaptations/Modifications

- Teach vocabulary, such as equation, variable, multiply, divide, accompanied with examples.
- Teach opposite operations (subtraction is opposite of addition and will undo addition; division is opposite of multiplications and will undo multiplication.
- Divide into groups to practice.
- Create a real-world context and equation and determine the meaning of each part of the equation.
- Use manipulatives and symbols to represent simple equations and solve those equations.
- Demonstrate real-world contextual equations and how to solve them using items and context of interest of the student.

Conceptual Category: Algebra
Domain: Arithmetic With Polynomials and Rational Expressions
Cluster: Rewrite rational expressions.

AAS and Resources

NINTH GRADE

M.AAS.A.HS.11 Add or subtract two polynomial expressions (limit to 2 terms each) with one variable.

- https://www.teacherspayteachers.com/Product/MAASAHS11-Add-Sub-Polynomials-Alabama-Alternate-Achievement-Standards-AAS-4452756
- https://www.education.com/guided-lesson/expressions-and-equations/
- https://www.education.com/workbook/patterns-pairs-variables-workbook/
- https://www.education.com/worksheet/article/solving-one-and-two-step-equations/
- https://www.education.com/worksheet/article/algebra-practice-problems-1/
- https://www.teacherspayteachers.com/Product/Writing-and-Graphing-Linear-Equations-Point-Slope-Form-Team-Relay-2362493
- https://www.teacherspayteachers.com/Product/Solving-balancing-simple-equations-and-inequalities-860261
- https://www.teacherspayteachers.com/Product/Graph-Linear-Equations-in-Slope-Intercept-Form-Problem-Pass-Activity-3821913
- https://www.teacherspayteachers.com/Product/FREE-Graphing-Linear-Equations-Picture-Activity-1196927
- https://www.teacherspayteachers.com/Product/Linear-Equation-Graphs-Download-Open-Notebook-to-build-your-own-docs-like-this-2210609

Adaptations/Modifications

- Teach vocabulary, such as coordinates, point, line, grid, accompanied with examples.
- Practice together as a group.
- Divide into groups by ability and practice using worksheets, games, etc.
- Create a coordinate grid and a line on the floor with painter's tape to demonstrate finding various points on a line.
- Have students create a grid map of the area around their school or home and locate various landmarks.
- Have students use colored pencils to draw the rise and run associated with a given point on a line on the coordinate grid.

Conceptual Category: Algebra
Domain: Reasoning with Equations and Inequalities
Cluster: Solve equations and inequalities in one variable.

AAS and Resources
NINTH GRADE
M.AAS.A.HS.17 Solve an equation of the form *ax* + *b* = *c* where *a, b,* and *c* are positive whole numbers and the solution, *x*, is a positive whole number to represent a real-world problem. • https://www.teacherspayteachers.com/Product/Solving-Linear-Equations-Pair-Up-Activity-853984 • https://www.teacherspayteachers.com/Product/Solving-2-step-1-variable-equations-A-Power-Point-Lesson-983408 • https://www.teacherspayteachers.com/Product/Algebra-Solving-Linear-Inequalities-65623 • https://www.teacherspayteachers.com/Browse/Search:solving%20ax%20+%20b%20=%20c/Price-Range/Free • https://www.education.com/activity/article/Tic_Tac_Toe_fifth/ M.AAS.A.HS.18 Solve an equation of the form $x^2 = p$, where *p* is a perfect square less than or equal to225. • https://www.teacherspayteachers.com/Product/Perfect-Squares-Chart-through-30-487511 • https://www.teacherspayteachers.com/Product/Perfect-Square-Bingo-325920 • https://www.teacherspayteachers.com/Product/Perfect-Squares-and-Square-Roots-Exploration-Kit-370975 • https://www.teacherspayteachers.com/Product/Square-Roots-of-Perfect-Squares-Maze-Worksheet-1687604 • https://www.teacherspayteachers.com/Product/Square-Roots-of-Perfect-Squares-Interactive-Notes-Daily-Quizzes-2013299 • https://www.teacherspayteachers.com/Product/Square-Roots-and-Perfect-Squares-Making-Connections-Discovery-190610 • https://www.teacherspayteachers.com/Product/Thanksgiving-Math-Free-Square-Root-Perfect-Squares-Color-by-Number-Activity-2181385 • https://www.teacherspayteachers.com/Product/Perfect-Square-and-Square-Root-Flashcards-2784552 • https://www.teacherspayteachers.com/Product/Square-Roots-Squares-and-Perfect-Squares-SmartBoard-Lesson-585850 • https://www.teacherspayteachers.com/Product/Perfect-Squares-Cheat-Sheet-Bookmark-1862629 • https://www.teacherspayteachers.com/Product/A-Perfect-Square-Activities-FREE-1531074 • https://www.teacherspayteachers.com/Product/Perfect-Squares-and-Perfect-Cubes-Flipchart-8th-Grade-Common-Core-Math-Unit-2-340037

Adaptations/Modifications

- Teach vocabulary such as solve, equation, perfect square.
- Provide students with cheat sheet and calculator
- Practice together and in small ability groups.
- Use a variety of transparency/computer program overlays to show how to solve an equation.
- Have students use a variety of resources, including a calculator, to multiply a number times itself.
- Have students use a variety of resources, including a calculator, to divide a number by two.

Conceptual Category: Algebra
Domain: Reasoning with Equations and Inequalities
Cluster: Solve systems of equations.

AAS and Resources

NINTH GRADE

M.AAS.A.HS.19 Given a pair of equations, identify a coordinate pair that is the solution of both equations. (Limit to one-step equations: ($x + y = 8$, $y = x + 1$, or $x + y = 15$, $y = 3$.)

- https://www.teacherspayteachers.com/Product/MAASAHS19-Coordinate-Pairs-Alabama-Alternate-Achievement-Standards-AAS-4467475
- https://www.teacherspayteachers.com/Product/Coordinate-Pairs-Battleship-95081
- https://www.teacherspayteachers.com/Product/Coordinate-Pair-Graphing-Task-Card-Match-Up-409139
- https://www.teacherspayteachers.com/Product/Week-10-Coordinate-Pairs-5th-Grade-Common-Core-Math-EDI-Lesson-Plans-936342
- https://www.teacherspayteachers.com/Product/Ordered-Pairs-Candy-Coordinates-Pairs-Battleship-Game-404084
- https://www.teacherspayteachers.com/Product/COORDINATE-PAIRS-Coordinate-Point-TASK-CARDS-28-cards-w-QR-Codes-1751902
- https://www.teacherspayteachers.com/Product/Winter-Wonderland-coordinate-pairs-2592757
- https://www.teacherspayteachers.com/Product/Coordinate-Pair-Flip-Using-Catchbook-2628803
- https://www.teacherspayteachers.com/Product/Adapted-Coordinate-Pair-Graphing-SPED-4195415
- https://www.teacherspayteachers.com/Product/Graphing-Letters-on-the-Coordinate-Grid-Your-Name-In-Coordinates-406622

M.AAS.A.HS.20 Name the coordinate pair of the intersection of two lines in a coordinate plane.

- https://www.teacherspayteachers.com/Browse/Search:m.aas.a.hs.20

- https://www.teacherspayteachers.com/Product/Graphing-Linear-Equations-on-the-Coordinate-Plane-Map-Treasure-Hunt-1563943
- https://www.teacherspayteachers.com/Product/Using-Input-output-Tables-to-Graph-Equations-on-a-Coordinate-Grid-2606532
- https://www.teacherspayteachers.com/Product/Simultaneous-Equations-and-Coordinate-Graphing-4405950
- https://www.teacherspayteachers.com/Product/Pre-Algebra-Spider-Web-Equations-and-Coordinates-4064315
- https://www.teacherspayteachers.com/Product/Algebra-Performance-Task-Multistep-Equations-with-Tables-and-Graphs-154554
- https://www.teacherspayteachers.com/Product/Coordinate-Planes-and-Graphing-Math-Tasks-and-Exit-Tickets-1107845
- https://www.teacherspayteachers.com/Product/Write-Linear-Equations-Review-Sum-It-Up-Activity-2794655
- https://www.teacherspayteachers.com/Product/Write-Linear-Equations-Given-Points-Problem-Pass-Activity-2805779

M.AAS.A.HS.21 Identify the coordinate pairs of the solutions of the graph of an intersecting quadratic function and linear function in Quadrant 1.

- https://www.teacherspayteachers.com/Product/Is-the-coordinate-pair-a-solution-to-the-system-of-equations-557367
- https://www.teacherspayteachers.com/Product/FREE-Coordinate-Math-Center-Game-337932
- https://www.teacherspayteachers.com/Product/Fishing-for-Solutions-4305122

Adaptations/Modifications

- Teach vocabulary such as solve, equation, solution, intersection, coordinate pairs, quadratic function, linear function.
- Reteach/review coordinate planes, coordinate pairs, linear equations, and solving equations.
- Use a variety of transparency/computer program overlays to illustrate intersection of lines on a coordinate plane.
- Use classroom and real-world events to model equations and demonstrate solving those equations step by step.
- Use a variety of graphs to identify where two lines intersect on a coordinate plane.

Conceptual Category: Algebra
Domain: Reasoning with Equations and Inequalities
Cluster: Represent and solve equations and inequalities graphically.

AAS and Resources
NINTH GRADE
M.AAS.A.HS.22 Given the graph of a linear equation in quadrant 1, identify a point on the graph and its corresponding ordered pair that is a solution to the equation. • https://www.teacherspayteachers.com/Product/Finding-Zeros-and-Points-of-Intersection-on-a-Graphing-Calculator-856521 • https://www.teacherspayteachers.com/Product/Point-of-Intersection-Solution-of-System-of-Linear-Equations-2-3999895 • https://www.teacherspayteachers.com/Product/High-Like-It-A-LOT-Points-of-Intersection-2828038 • https://www.teacherspayteachers.com/Product/Math-Worksheet-001-How-many-points-of-intersection-1868818 • https://www.teacherspayteachers.com/Product/Math-Digital-Worksheet-001-How-many-points-of-intersection-1868831 • https://www.teacherspayteachers.com/Product/Systems-of-Equations-424679 • https://www.teacherspayteachers.com/Product/Introduction-to-Systems-of-Linear-Equations-free-Common-Core-1252710 • https://www.teacherspayteachers.com/Product/Protect-the-Kings-Land-Linear-equations-Tables-Graphs-systems-2890175 • https://www.teacherspayteachers.com/Product/Systems-of-Equations-Calculator-Directions-TI-83-58269 • https://www.teacherspayteachers.com/Product/Quadratic-Grapher-16654 • https://www.teacherspayteachers.com/Product/Linear-Grapher-16653 M.AAS.A.HS.23 Identify the point of intersection and its corresponding ordered pair for two lines graphed on a coordinate grid. • https://www.teacherspayteachers.com/Product/Intro-to-Simultaneous-Equations-1594433 • https://www.teacherspayteachers.com/Product/Systems-of-Equations-2860205 • https://www.teacherspayteachers.com/Product/POINTS-AND-LINES-Information-Sheet-1054241 • https://www.teacherspayteachers.com/Product/Algebra-Systems-of-Equations-2980235 • https://www.teacherspayteachers.com/Product/Points-Lines-Planes-and-Angles-Always-Sometimes-or-Never-FREE-1685014 • https://www.teacherspayteachers.com/Product/Coordinate-Grid-Riddles-Free-Sample-1657868

M.AAS.A.HS.24 Given the graph of a linear system of inequalities (limited to two inequalities), identify a point that represents a solution in the shaded region of the graph.

- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Notes-2841204
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Notes-with-Standard-Form-3444527
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Notes-2396635
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Notes-AND-Matching-Activity-3480018
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Notes-Freebie-3615266
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Notes-2909602
- https://www.teacherspayteachers.com/Product/Tic-MATH-Toe-Linear-Inequalities-1592707
- https://www.teacherspayteachers.com/Product/NOTES-Graphing-Solutions-of-Systems-of-Linear-Inequalities-3623918
- https://www.teacherspayteachers.com/Product/Graph-Linear-Inequalities-Coloring-Activity-2588257
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Multi-level-Practice-1839348_(differentiated)
- https://www.teacherspayteachers.com/Product/GRAPHING-LINEAR-INEQUALITIES-1694189
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Inequalities-Flow-Chart-2931953
- https://www.teacherspayteachers.com/Product/Math-Worksheet-00113-Determining-graphically-where-two-lines-meet-3003614
- https://www.teacherspayteachers.com/Product/Solving-Systems-by-Graphing-Investigation-Activity-1668816
- https://www.teacherspayteachers.com/Product/The-Coordinate-Grid-Bundle-Freebie-19-pages-2892421

Adaptations/Modifications

- Teach vocabulary such as graph, linear, equation, point, ordered pair, solution, equation, intersection, coordinate grid, inequalities.
- Reteach graphing, linear equations, ordered pairs, coordinate planes, graphing using a graphing calculator.
- Use a variety of transparency/computer program overlays to illustrate intersection of various functions, including < and>.
- Use classroom and real-world events to model equations and demonstrate solving those equations step by step.
- Use a variety of graphs and have students identify the point at which the lines intersect.

Conceptual Category: Functions
Domain: Interpreting Functions
Cluster: Understand the concept of a function and use function notation.

AAS and Resources
TENTH GRADE
M.AAS.F.HS.25 Identify graphs of functions. • https://www.teacherspayteachers.com/Product/Functions-Mathematical-Tasks-Input-Output-Tables-and-Graphing-Functions-675968 • https://www.teacherspayteachers.com/Product/Function-Packet-Write-Graph-Functions-and-Creating-Tables-190997 • https://www.teacherspayteachers.com/Product/Identifying-Relations-and-Functions-Interactive-Smart-Board-Lesson-104323 • https://www.teacherspayteachers.com/Product/Graphing-Functions-Worksheet-2657343 • https://www.teacherspayteachers.com/Product/Functions-Freebie-function-notation-function-machine-evaluate-functions-727636 • https://www.teacherspayteachers.com/Product/Editable-Functions-Warm-Ups-980313 • https://www.teacherspayteachers.com/Product/Cupcakes_From-Data-Table-to-Graph-Interactive-PowerPoint-Lesson-57410 • https://www.teacherspayteachers.com/Product/3rd-Grade-Data-Tables-and-Graphs-Enrichment-Projects-767025 • https://www.teacherspayteachers.com/Product/Graphs-Galore-Clip-Art-Line-Plot-Bar-Graph-Data-Table-Picture-Graph-696637 • https://www.teacherspayteachers.com/Product/Data-Tables-and-Graphing-Introduction-and-Practice-275258 • https://www.teacherspayteachers.com/Product/Find-a-Rule-Input-Output-Tables-Learning-Packet-456612 • https://www.teacherspayteachers.com/Product/Functions-Mathematical-Tasks-Input-Output-Tables-and-Graphing-Functions-675968 • https://www.teacherspayteachers.com/Product/Function-Table-Input-Output-Table-Activity-Pack-903926 • https://www.teacherspayteachers.com/Product/Math-TEK-45B-Input-Output-Tables-4th-Grade-Math-STAAR-Review-Task-Cards-3472971 • https://www.teacherspayteachers.com/Product/Whats-My-Rule-Input-and-Output-Tables-385520 • https://www.teacherspayteachers.com/Product/Whats-My-Number-Input-and-Output-Tables-779969 • https://www.teacherspayteachers.com/Product/FREEBIE-In-BotOut-Bot-Robot-Input-Output-Tables-1091432 • https://www.teacherspayteachers.com/Product/Input-Output-Table-Patterns-Notebook-4th-Grade-TEKS-by-Marvel-Math-4477581 • https://www.teacherspayteachers.com/Product/Beginning-Functions-Evaluating-Graphing-Input-Output-Tables-1094679

- https://www.teacherspayteachers.com/Product/Functions-Graphic-Organizer-439136
- https://www.teacherspayteachers.com/Product/The-Coordinate-Grid-Bundle-Freebie-19-pages-2892421
- https://www.teacherspayteachers.com/Product/Coordinate-Plane-Task-Cards-3703048
- https://www.teacherspayteachers.com/Product/Linear-Equations-Alternative-Vocabulary-No-Definitions-Required-3642172
- https://www.teacherspayteachers.com/Product/Linear-Equations-Alternative-Vocabulary-No-Definitions-Required-3642172

M.AAS.F.HS.26 Substitute *x*-values into one-step linear equations in two variables ($y = x + p$ or $y = px$) and solve for the *y*-values. (this could include the original information listed above and have students represent in data table) (see resources in M.AAS.F.HS.25)

- https://www.teacherspayteachers.com/Product/x-y-Variables-Graphic-Organizer-1885480
- https://www.teacherspayteachers.com/Product/Linear-Functions-LF1-8FA1-8FA2-8FA3-HSFBFA1A-2049469
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Equations-Solve-for-y-Error-Analysis-2776770
- https://www.teacherspayteachers.com/Product/Writing-Linear-Equations-in-Slope-Intercept-Form-Solving-for-Y-1516218
- https://www.teacherspayteachers.com/Product/Solving-for-y-scavenger-hunt-451902
- https://www.teacherspayteachers.com/Product/Slope-Intercept-Form-Solving-for-Y-1089205
- https://www.teacherspayteachers.com/Product/EMOJI-SLOPE-Solve-for-y-Change-Standard-Form-to-Slope-Intercept-Form-2988813
- https://www.teacherspayteachers.com/Product/Solve-For-Y-Slope-Intercept-Form-24852
- https://www.teacherspayteachers.com/Product/FREEBIE-Math-Literacy-Packet-Solving-for-y-Plotting-a-Line-Using-a-Table-1055872
- https://www.teacherspayteachers.com/Product/Solving-for-y-cutouts-2706692
- https://www.teacherspayteachers.com/Product/Solve-for-ymxb-988053
- https://www.teacherspayteachers.com/Product/Slope-Intercept-Stars-947413
- https://www.teacherspayteachers.com/Product/Graphing-Lines-Zombies-Graphing-in-Slope-Intercept-Form-Activity-1931981
- https://www.teacherspayteachers.com/Product/Graphing-Lines-Activity-in-Slope-Intercept-Form-Activity-Pack-2401526
- https://www.teacherspayteachers.com/Product/Slope-Intercept-Form-Activity-154985
- https://www.teacherspayteachers.com/Product/Graphing-Systems-of-Equations-in-Slope-Intercept-Form-Activity-2340256
- https://www.teacherspayteachers.com/Product/free-GRAPH-LINEAR-EQUATIONS-in-slope-intercept-form-review-quiz-or-IN-1074251
- https://www.teacherspayteachers.com/Product/Standard-Form-to-Slope-Intercept-Form-2472363
- https://www.teacherspayteachers.com/Product/Writing-linear-equations-in-slope-intercept-form-coloring-activity-3189034
- https://www.teacherspayteachers.com/Product/Slope-Intercept-Form-Stations-Activity-1123420
- https://www.teacherspayteachers.com/Product/slope-intercept-form-foldable-matching-slope-intercep-to-graph-QR-code-activityt-1514746

- https://www.teacherspayteachers.com/Product/Slope-Intercept-Form-Stations-2875437
- https://www.teacherspayteachers.com/Product/Slope-Intercept-Form-Word-Problem-WORD-SORT-3221550
- https://www.teacherspayteachers.com/Product/Linear-Functions-Find-slope-intercept-form-from-linear-graphs-foldable-notes-2224721
- https://www.teacherspayteachers.com/Product/Slope-Intercept-Form-when-given-two-points-2180278

M.AAS.F.HS.27 Given a sequence of numbers, identify the rule that will give you the next number in the sequence. (Limit to expressions with simple arithmetic (adding or subtracting) or geometric (multiplying or dividing) operations.

- https://www.teacherspayteachers.com/Product/Input-Output-Tables-Whats-My-Rule-Graph-Grid-Worksheets-48-Pages-EDITABLE-4158085
- https://www.teacherspayteachers.com/Product/Input-Output-Tables-Whats-My-Rule-EDITABLE-Pattern-Rules-40-Pages-4157858
- https://www.teacherspayteachers.com/Product/Find-a-Rule-Input-Output-Tables-Learning-Packet-456612
- https://www.teacherspayteachers.com/Product/Function-Tables-Multiplication-and-Division-Input-Output-Tables-539703
- https://www.teacherspayteachers.com/Product/Input-Output-Table-1454882
- https://www.teacherspayteachers.com/Product/Input-Output-Table-1454882
- https://www.teacherspayteachers.com/Product/Function-Tables-Addition-and-Subtraction-Input-Output-Tables-435088
- https://www.teacherspayteachers.com/Product/CSI-Elementary-Unit-8-Input-Output-Tables-1312740
- https://www.teacherspayteachers.com/Product/Whats-My-Rule-Input-and-Output-Tables-385520
- https://www.teacherspayteachers.com/Product/FREEBIE-In-BotOut-Bot-Robot-Input-Output-Tables-1091432
- https://www.teacherspayteachers.com/Product/Input-and-Output-Tables-task-cards-set-B-4179872
- https://www.teacherspayteachers.com/Product/Input-Output-Table-Patterns-Notebook-4th-Grade-TEKS-by-Marvel-Math-4477581
- https://www.teacherspayteachers.com/Product/Input-Output-Table-3129027
- https://www.teacherspayteachers.com/Product/Find-a-rule-input-output-word-problems-activity--168468
- https://www.teacherspayteachers.com/Product/Algebra-Task-Sheets-Gr-PK-2-BONUS-WORKSHEETS-3744728
- https://www.teacherspayteachers.com/Product/InputOutput-Tables-Matching-Game-4543344

Adaptations/Modifications

- Teach vocabulary such as data table, function, solve, substitute, arithmetic sequence, geometric sequence.
- Review and reteach input/output tables.
- Review patterns.
- Review add, subtract, multiply and divide rules.
- Have students draw a number chip from a bag and apply a simple addition or subtraction rule to create a data table.
- Have students generate a number pattern for *x*-values (e.g., odd numbers, even numbers, multiples of 2) on a data table and apply a simple addition or subtraction rule (up to 10) to identify the matching *y*-values.
- Have students measure their hand-span for the *x*-values on a data table and apply a simple addition or subtraction rule to identify the matching y-values.

Conceptual Category: Functions
Domain: Interpreting Functions
Cluster: Interpret functions that arise in applications in terms of the context.

AAS and Resources
TENTH GRADE
M.AAS.F.HS.28 Given a linear graph, identify characteristics of the line in the graph (limit to *y*-intercept, *x*-intercept, increasing, decreasing). • https://www.teacherspayteachers.com/Product/Teaching-Slope-of-a-Line-using-Graphic-Organizers-456107 • https://www.teacherspayteachers.com/Product/Slopeman-teaching-the-slope-of-a-line-486415 • https://www.teacherspayteachers.com/Product/How-I-Teach-Slope-Part-1-1249482 (there are several parts to this activity that can be purchased that gets harder with each additional part) • https://www.teacherspayteachers.com/Product/Slope-from-Graph-Dominos-1332690 • https://www.teacherspayteachers.com/Product/DEMO-In-Class-Presentation-of-the-SLOPE-SONG-677242 • https://www.teacherspayteachers.com/Product/FREEBIE-MR-SLOPE-GUY-1871063 • https://www.teacherspayteachers.com/Product/Slope-Formula-Introduction-Practice-and-Game-194132 • https://www.teacherspayteachers.com/Product/Slope-Race-Activity-2395809 • https://www.teacherspayteachers.com/Product/FREEBIE-Points-and-Slope-Match-Up-Point-Slope-Form-Equations-1267399 • https://www.teacherspayteachers.com/Product/Halloween-Calculating-Slope-from-Two-Points-Partner-Practice-2810354 M.AAS.F.HS.29 Given the graph of a linear function with a finite domain evident in the graph, identify the domain (limit to first quadrant values between 0 and10). • https://www.teacherspayteachers.com/Product/Relations-and-Functions-Identify-the-Domain-and-Range-Coloring-Activity-1-2067940 • https://www.teacherspayteachers.com/Product/Identifying-the-Domain-and-Range-from-Continuous-Graphs-2313367 • https://www.teacherspayteachers.com/Product/How-I-Teach-Identifying-the-Domain-and-Range-2885511 • https://www.teacherspayteachers.com/Product/CHARLOTTE-DANIELSON-2013-FLIP-BOOK-DOMAINS-SAMPLES-AND-RUBRICS-901957 • https://www.teacherspayteachers.com/Product/Identifying-the-Domain-and-Range-1814824 • https://www.teacherspayteachers.com/Product/RELATIONS-AND-FUNCTIONS-IDENTIFY-THE-DOMAIN-AND-RANGE-COLORING-ACTIVITY-2-3234418 • https://www.teacherspayteachers.com/Product/Identifying-the-Domain-and-Range-Discrete-Practice-Booklet-4014111

- https://www.teacherspayteachers.com/Product/Editable-Functions-Warm-Ups-980313
- https://www.teacherspayteachers.com/Product/Move-the-Monster-Exercises-in-Graph-Transformations-910191
- https://www.teacherspayteachers.com/Product/Algebra-Domain-and-Range-Doodle-Notes-with-PowerPoint-4452394

M.AAS.F.HS.30 Given two points on the graph of the line, describe how the *y*-values change compared to the *x*-values for a given rate of change.

- https://www.teacherspayteachers.com/Product/Linear-Functions-Activity-Table-Graph-Equation-Two-Points-Many-Uses-2827679
- https://www.teacherspayteachers.com/Product/Beginning-Graphing-a-Line-Given-a-point-and-the-slope-Walk-Around-Activity-990723
- https://www.teacherspayteachers.com/Product/Matching-Slopes-to-Equations-Graphs-Tables-and-2-Points-3678321
- https://www.teacherspayteachers.com/Product/Slope-Given-Two-Points-Dice-328793
- https://www.teacherspayteachers.com/Product/Graphing-Lines-Warm-Up-575647
- https://www.teacherspayteachers.com/Product/Graphing-Lines-Made-Easy-Free-One-4559891

Adaptations/Modifications

- Teach vocabulary such as linear function, rate of change, domain, interval, accompanied by examples and review activities.
- Review/reteach input/output tables and rules.
- Practice graphing a point.
- Divide into groups based on skills and review and practice.
- Play games such as battleship to review points on a grid.
- Color code the horizontal (*x*-values) and vertical (*y*-values) on a coordinate grid. Have students plot points to represent a rate of change of a linear function (representing a real-world situation with each student's data different) in a third color. Have students "meet and greet" and compare their graphs to identify faster/slower.
- Demonstrate real-world rate of change of a linear function and identify the domain.
- Using a painter's tape coordinate grid, demonstrate comparing the *x*- and *y*-values of two given points by having students move in the appropriate horizontal or vertical directions.

Conceptual Category: Functions
Domain: Interpreting Functions
Cluster: Analyze functions using different representations.

AAS and Resources
TENTH GRADE
M.AAS.F.HS.31 Given the graph of a quadratic function, identify characteristics of the parabola in the graph (limit to first quadrant, maximum, minimum, *x*-intercepts). • https://www.teacherspayteachers.com/Product/Conic-Sections-Circle-Ellipse-Hyperbola-Parabola-Wall-Posters-2262292 • https://www.teacherspayteachers.com/Product/Graphing-Parabolas-In-Vertex-Form-FREEBIE-2228134 • https://www.teacherspayteachers.com/Product/Desmos-Online-Graphing-Calculator-Investigation-of-Parabolas-1760630 • https://www.teacherspayteachers.com/Product/Parabola-Story-Nerdy-Norm-963656 • https://www.teacherspayteachers.com/Product/Firefighter-Parabolas-693379 • https://www.teacherspayteachers.com/Product/PowerPoint-Parabola-Min-or-Max-Algebra-Common-Core-HSF-IFC7a-703847 • https://www.teacherspayteachers.com/Product/Identifying-Points-Lines-and-Perpendicular-Parallel-Lines-4G1-2493195 • https://www.teacherspayteachers.com/Product/Drawing-with-Coordinates-2980002 • https://www.teacherspayteachers.com/Product/x-and-y-intercepts-Power-Point-363740 • https://www.teacherspayteachers.com/Product/Slope-and-Y-Intercept-Task-Cards-1807393 M.AAS.F.HS.32Identify the *y*-intercept of a linear equation in the form of $y=mx+b$ as $(0,b)$. • https://www.teacherspayteachers.com/Product/Slope-and-Y-Intercept-Task-Cards-1807393 • https://www.teacherspayteachers.com/Product/Finding-X-and-Y-Intercepts-Scavenger-Hunt-Activity-1694192 • https://www.teacherspayteachers.com/Product/Stations-for-Slope-Y-intercept-Point-SlopeParallel-Lines-Activity-125554 • https://www.teacherspayteachers.com/Product/X-and-Y-Intercepts-and-Graphing-Lines-Task-Cards-490885 • https://www.teacherspayteachers.com/Product/Linear-Equations-identify-slope-y-intercept-from-equation-30196 • https://www.teacherspayteachers.com/Product/Finding-the-Slope-and-y-Intercept-Scrambled-Answers-Activity-Free-3553464 • https://www.teacherspayteachers.com/Product/x-and-y-intercepts-Power-Point-363740

M.AAS.F.HS.33 Compare the *y*-intercept, slope (increasing/decreasing), or domain of two linear functions represented by a table or a graph.

- https://www.teacherspayteachers.com/Product/Finding-X-and-Y-Intercepts-Scavenger-Hunt-Activity-1694192
- https://www.teacherspayteachers.com/Product/Stations-for-Slope-Y-intercept-Point-SlopeParallel-Lines-Activity-125554
- https://www.teacherspayteachers.com/Product/X-and-Y-Intercepts-and-Graphing-Lines-Task-Cards-490885
- https://www.teacherspayteachers.com/Product/Identifying-Linear-Functions-Guided-Notes-and-Practice-3231939
- https://www.teacherspayteachers.com/Product/Identifying-Linear-Functions-3464842
- https://www.teacherspayteachers.com/Product/Linear-Functions-Matching-Game-Part-2-490942
- https://www.teacherspayteachers.com/Product/Comparing-Slope-Activity-2841792
- https://www.teacherspayteachers.com/Product/Compare-Slopes-Compare-Rates-of-Change-2224408
- https://www.teacherspayteachers.com/Product/Identifying-and-Comparing-Slope-Task-Cards-2806871
- https://www.teacherspayteachers.com/Product/Comparing-Slopes-and-Y-Intercepts-of-Linear-Functions-War-Game-3556088
- https://www.teacherspayteachers.com/Product/Comparing-Slope-Steepness-Free-1973291
- https://www.teacherspayteachers.com/Product/Comparing-Functions-Graphic-Organizer-1071381
- https://www.teacherspayteachers.com/Product/Slope-Formula-and-RiseRun-Foldable-479283
- https://www.teacherspayteachers.com/Product/Slope-Formula-vs-Rise-Run-Test-Bank-BNK-for-ExamView-2815240
- https://www.teacherspayteachers.com/Product/Algebra-Slope-and-Intercept-Real-World-Word-Problems-1001154
- https://www.teacherspayteachers.com/Product/Identifying-Slope-from-a-table-Partner-activity-3473941
- https://www.teacherspayteachers.com/Product/Collaborative-Math-Mosaics-Christmas-Bundle-now-12-Versions-2230150
- https://www.teacherspayteachers.com/Product/Thanksgiving-Coordinates-or-Plotting-Points-Activity-Turkey-404384
- https://www.teacherspayteachers.com/Product/End-of-Year-Activity-Plotting-Points-Mystery-Picture-2478668

Adaptations/Modifications

- Teach vocabulary such as graph, linear function, *y*-intercept, compare.
- Review slope, graphing, points, standard and slope intercept form.
- Provide each student a function and term cheat sheet for easy reference.
- Practice input/output tables, graphing points, slope (rise/run).
- Highlight and classify the slope of a line on graphs and inequations.
- Create a matching game using *y*-intercept cards and graphic representations of linear functions cards.
- A *y*-intercept search: present students with tables representing linear functions. As each student draws a card of the ordered pair representing the *y*-intercept of a line, have the student find the *y*-intercept in a table.

Conceptual Category: Functions
Domain: Building Functions
Cluster: Build a function that models a relationship between two quantities.

AAS and Resources

TENTH GRADE

M.AAS.F.HS.34 Select the appropriate graphical representation (first quadrant) given a situation involving a constant rate of change (slope).

- https://www.teacherspayteachers.com/Product/Graph-Points-on-the-Coordinate-Plane-Mini-Bundle-972230
- https://www.teacherspayteachers.com/Product/Graphing-Points-Ordered-Pairs-on-the-Coordinate-Plane-with-GOOGLE-Slides-2911163
- https://www.teacherspayteachers.com/Product/Find-a-Rule-Input-Output-Tables-Learning-Packet-456612
- https://www.teacherspayteachers.com/Product/Function-Tables-Multiplication-and-Division-Input-Output-Tables-539703
- https://www.teacherspayteachers.com/Product/FREEBIE-In-BotOut-Bot-Robot-Input-Output-Tables-1091432
- https://www.teacherspayteachers.com/Product/Input-and-Output-Tables-35E-2842964
- https://www.teacherspayteachers.com/Product/Beginning-Functions-Evaluating-Graphing-Input-Output-Tables-1094679
- https://www.teacherspayteachers.com/Product/Coordinate-Plane-Task-Cards-3703048
- https://www.teacherspayteachers.com/Product/Introduction-to-Frequency-Tables-Tally-and-Line-Plots-436054

M.AAS.F.HS.35 Determine an arithmetic sequence with whole numbers when provided a recursive rule. (limit rule to whole numbers involving addition/subtraction or multiplication or division - e.g., start with the number 4. Each term in the sequence is found by taking the previous term and adding 8. Find the next 3terms.)

- https://www.teacherspayteachers.com/Product/Whats-My-Rule-Input-and-Output-Tables-385520
- https://www.teacherspayteachers.com/Product/Whats-My-Number-Input-and-Output-Tables-779969
- https://www.teacherspayteachers.com/Product/FREEBIE-In-BotOut-Bot-Robot-Input-Output-Tables-1091432
- https://www.teacherspayteachers.com/Product/Beginning-Functions-Evaluating-Graphing-Input-Output-Tables-1094679
- https://www.teacherspayteachers.com/Product/Coordinate-Plane-Task-Cards-3703048
- https://www.teacherspayteachers.com/Product/Introduction-to-Frequency-Tables-Tally-and-Line-Plots-436054
- https://www.teacherspayteachers.com/Product/Sequences-and-Series-First-Three-Terms-in-a-Sequence-3113598
- https://www.teacherspayteachers.com/Product/St-Patricks-Day-March-Math-sequencing-missing-number-tens-frames-1111522
- https://www.teacherspayteachers.com/Product/Number-Sense-Math-Sequencing-Numbers-1-130-Printables-Aligned-with-CC-1616860
- https://www.teacherspayteachers.com/Product/Fox-Mystery-Picture-Winter-Math-Center-Activity-1622149
- https://www.teacherspayteachers.com/Product/Addition-and-Subtraction-Game-Math-Center-Activity-104756
- https://www.teacherspayteachers.com/Product/Arithmetic-Sequences-Task-Cards-804827
- https://www.teacherspayteachers.com/Product/Arithmetic-Sequences-Scavenger-Hunt-Game-675803
- https://www.teacherspayteachers.com/Product/Patterns-and-Arithmetic-Sequences-Foldable-and-Activity-560332
- https://www.teacherspayteachers.com/Product/Common-Core-Algebra-I-Unit-4Linear-Functions-and-Arithmetic-Sequences-1907051

Adaptations/Modifications

- Teach vocabulary such as sequence, rate of change, recursive rule, graph, function, accompanied by examples and review activities.
- Review graphing of points and rules.
- Review input/output tables, graphing points, slope, and *x*- and *y*-values.
- Describe and discuss real-world graphs showing rate of change from such sources as newspapers, magazines, or the Internet.
- Create arithmetic sequences and discuss nth terms in the sequence in relation to the starting point using objects (e.g., chips, counting blocks).
- Create tables of values for f(*x*) and then f(*x*) + 1, 2, or 3. Show what happens to the graph using transparency overlays.

Conceptual Category: Functions
Domain: Building Functions
Cluster: Build new functions from existing functions.

AAS and Resources

TENTH GRADE

M.AAS.F.HS.36 Given the graph of a linear function $f(x)$, identify $f(x) + k$.

- https://www.teacherspayteachers.com/Product/Common-Core-Algebra-I-Unit-4Linear-Functions-and-Arithmetic-Sequences-1907051
- https://www.teacherspayteachers.com/Product/Using-Input-output-Tables-to-Graph-Equations-on-a-Coordinate-Grid-2606532
- https://www.teacherspayteachers.com/Product/Freebie-5th-Grade-Coordinate-Grid-Quiz-1784349
- https://www.teacherspayteachers.com/Product/Map-Grid-Activity-Santas-Lost-Freebie-411302
- https://www.teacherspayteachers.com/Product/FREE-Shiver-Me-Plots-Coordinate-Graphing-With-Ordered-Pairs-4252817
- https://www.teacherspayteachers.com/Product/Graphs-of-Linear-Functions-Equations-Name-That-Function-2944516
- https://www.teacherspayteachers.com/Product/Identifying-Characteristics-of-Linear-Equations-Detective-Activity-2140567
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Equations-Video-Lesson-with-Guided-Notes-3494223
- https://www.teacherspayteachers.com/Product/Functions-Freebie-function-notation-function-machine-evaluate-functions-727636
- https://www.teacherspayteachers.com/Product/Scatter-Plots-and-Line-of-Best-Fit-Practice-Worksheet-2337686
- https://www.teacherspayteachers.com/Product/Hunger-games-Mockingjay-plotting-points-quadrant-I-281723
- https://www.teacherspayteachers.com/Product/Linear-Equation-Game-Given-Two-Points-1965304
- https://www.teacherspayteachers.com/Product/Coordinate-Plane-FREE-Math-Poster-Worksheet-Fun-Video-4th-5th-Grade-2474385

Adaptations/Modifications

- Teach vocabulary such as graph, linear, function.
- Review input/output tables as functions.
- Create tables of values for f(x) and then f(x) + 1, 2, or3.
- Show what happens to the graph using transparency overlays for the increased values of k.

Conceptual Category: Functions
Domain: Linear, Quadratic, and Exponential Models
Cluster: Construct and compare linear, quadratic, and exponential models and solve problems.

AAS and Resources
TENTH GRADE
M.AAS.F.HS.37 Recognize real-world situations that are modeled with linear functions. • https://www.teacherspayteachers.com/Product/Differentiated-Graphs-for-Differentiated-Learners-1173815 • https://www.teacherspayteachers.com/Product/Math-Notebooks-K-1-Data-Graphs-803730 • https://www.teacherspayteachers.com/Product/Matching-Graphs-to-Quadratic-Equations-Activity-Free-Version-192265 • https://www.teacherspayteachers.com/Product/Graphing-FREEBIE-797118 • https://www.teacherspayteachers.com/Product/Coordinate-Planes-and-Graphing-Math-Tasks-and-Exit-Tickets-1107845 • https://www.teacherspayteachers.com/Product/Google-Forms-Quiz-Solving-Real-World-Problems-by-Graphing-6NS8-3475382 • https://www.teacherspayteachers.com/Product/Coordinate-Graphing-Real-World-Problems-Worksheets-2039505 • https://www.teacherspayteachers.com/Product/Systems-of-Inequalities-Linear-Programming-Worksheet-Real-World-Problems-427118 • https://www.teacherspayteachers.com/Product/Real-World-Problems-using-Linear-Functions-Worksheet-513240 • https://www.teacherspayteachers.com/Product/Slope-Intercept-Real-World-Problem-Solving-WorksheetTest-975090 • https://www.teacherspayteachers.com/Product/Coordinate-Planes-and-Graphing-Math-Tasks-and-Exit-Tickets-1107845 • https://www.teacherspayteachers.com/Product/Interpreting-and-Using-Real-World-Graphs-Tables-Exam-407417 M.AAS.F.HS.38 Identify three points defined by a linear function from a table of values from 0 to 10. • https://www.teacherspayteachers.com/Product/Algebra-Power-Point-The-Coordinate-Plane-2750557 • https://www.teacherspayteachers.com/Product/Identify-the-Quadrant-Card-Sort-2857720 • https://www.teacherspayteachers.com/Product/Ordered-Pair-Relationships-Identifying-Quadrants-4128799 • https://www.teacherspayteachers.com/Product/Identify-Quadrants-Color-Activity-4400137 • https://www.teacherspayteachers.com/Product/Sorting-Ordered-Pairs-into-Quadrants-4195163

- https://www.teacherspayteachers.com/Product/MAP-Data-Analysis-Quadrant-Report-Reflection-4413274
- https://www.teacherspayteachers.com/Product/Common-Core-Math-Journal-4-Quadrant-Response-page-444175

Quadrant 1
- https://www.teacherspayteachers.com/Product/Quadrant-1-Coordinate-Graph-Mystery-Picture-Waldo-Dog-and-Food-2007412
- https://www.teacherspayteachers.com/Product/Ordered-Pairs-Mystery-Picture-Puzzles-Quadrant-1-783732
- https://www.teacherspayteachers.com/Product/Quadrant-1-Coordinate-Plane-Battleship-3042451
- https://www.teacherspayteachers.com/Product/Quadrant-1-Study-Guide-and-Quiz-1780039
- https://www.teacherspayteachers.com/Product/FREE-Graphing-Activities-Coordinate-Grid-Worksheets-8x8-Quadrant-1-4438774

Quadrant 2
- https://www.teacherspayteachers.com/Product/FREE-Coordinate-Math-Center-Game-337932
- https://www.teacherspayteachers.com/Product/FREE-Shiver-Me-Plots-Coordinate-Graphing-With-Ordered-Pairs-4252817
- https://www.teacherspayteachers.com/Product/Identifying-Quadrants-QR-CODE-Task-Cards-792790

Quadrant 3
- https://www.teacherspayteachers.com/Product/FREE-Coordinate-Math-Center-Game-337932
- https://www.teacherspayteachers.com/Product/FREE-Shiver-Me-Plots-Coordinate-Graphing-With-Ordered-Pairs-4252817
- https://www.teacherspayteachers.com/Product/Identifying-Quadrants-QR-CODE-Task-Cards-792790

Quadrant 4
- https://www.teacherspayteachers.com/Product/Coordinate-Grid-Doctor-Who-Mystery-Picture-1-and-4-Quadrant-3524750
- https://www.teacherspayteachers.com/Product/FREE-Shiver-Me-Plots-Coordinate-Graphing-With-Ordered-Pairs-4252817
- https://www.teacherspayteachers.com/Product/Identifying-Quadrants-QR-CODE-Task-Cards-792790

M.AAS.F.HS.39 Given the graph of two functions, identify which function has a greater *y*-value for a specific *x*-value.
- https://www.teacherspayteachers.com/Product/Graphing-Linear-Equations-Standard-Form-Slope-Intercept-Form-Point-Slope-Form-2217302

- https://www.teacherspayteachers.com/Product/Identifying-Slope-from-a-table-Partner-activity-3473941
- https://www.teacherspayteachers.com/Product/SLOPE-mini-bundle-1107059
- https://www.teacherspayteachers.com/Product/FREEEquations-of-Lines-Fluency-Check-Common-Core-No-Prep-Fluent-in-Math-Series-1343678
- https://www.teacherspayteachers.com/Product/Identifying-Parallel-Lines-and-Perpendicular-Lines-1711465
- https://www.teacherspayteachers.com/Product/Parallel-Lines-and-Perpendicular-Lines-Activity-1264408
- https://www.teacherspayteachers.com/Product/parallel-intersecting-perpendicular-lines-2478229
- https://www.teacherspayteachers.com/Product/Slopes-of-Parallel-and-Perpendicular-Lines-Inquiry-Activity-1302676
- https://www.teacherspayteachers.com/Product/Real-World-Parallel-and-Perpendicular-Lines-174755
- https://www.teacherspayteachers.com/Product/Drawing-Perpendicular-and-Parallel-Lines-with-Tools-Challenge-Project-1371710
- https://www.teacherspayteachers.com/Product/Introduction-to-Parallel-and-Perpendicular-Lines-Lesson-Plan-with-Homework-970869
- https://www.teacherspayteachers.com/Product/Parallel-and-Perpendicular-Lines-Bingo-2213132
- https://www.teacherspayteachers.com/Product/Parallel-and-Perpendicular-Line-Hunt-885145
- https://www.teacherspayteachers.com/Product/Parallel-and-Perpendicular-Lines-Scavenger-Hunt-2574435
- https://www.teacherspayteachers.com/Product/Linear-Functions-Parallel-and-perpendicular-lines-2253475

Adaptations/Modifications

- Teach vocabulary such as linear, exponential, table, function, accompanied by examples.
- Use maps to teach parallel and perpendicular lines.
- Create a map of your school using parallel lines, perpendicular lines and points.
- Draw attention to real-world situations that can be modeled with linear or exponential functions.
- Use real-world graphs, constructed graphs, or floor grids to locate lines and points on a line and discuss the meaning of the data.

Conceptual Category: Functions
Domain: Linear, Quadratic, and Exponential Models
Cluster: Interpret expressions for functions in terms of the situation they model.

AAS and Resources
TENTH GRADE
M.AAS.F.HS.40 Identify rate of change (slope) and starting value (*y*-intercept) in context. • https://www.teacherspayteachers.com/Product/Facebook-Twitter-the-Arab-Spring-Rate-of-Change-21st-Century-Math-Project-310590 • https://www.teacherspayteachers.com/Product/Rate-of-Change-Scavenger-Hunt-1797026 • https://www.teacherspayteachers.com/Product/Slope-Funny-Animated-Rate-of-Change-Real-World-Problem-585431 • https://www.teacherspayteachers.com/Product/Unit-Rate-Shopping-2137833 • https://www.teacherspayteachers.com/Product/Movement-Pulleys-in-Nepal-Mini-BUNDLE-FREEBIE-3601767 • https://www.teacherspayteachers.com/Product/The-Miles-Per-Gallon-Illusion-Who-saves-more-money-2162829 • https://www.teacherspayteachers.com/Product/Ratios-Comparing-Cars-by-Miles-Per-Gallon-1959398 • https://www.teacherspayteachers.com/Product/Product-Cost-for-store-items-512250 • https://www.teacherspayteachers.com/Product/Product-Cost-512248 • https://www.teacherspayteachers.com/Product/Grocery-Comparison-using-Division-with-Decimals-or-Unit-Rate-1270808 • https://www.teacherspayteachers.com/Product/Grocery-Store-Math-1048611 • https://www.teacherspayteachers.com/Product/Buying-A-Holiday-Dinner-431818 • https://www.teacherspayteachers.com/Product/Rate-Unit-Rate-Unit-Cost-drtTask-Cards-534304 • https://www.teacherspayteachers.com/Product/Bundle-2-Task-Cards-Working-with-Fractions-Ratios-and-Unit-Cost-2279994 • https://www.teacherspayteachers.com/Product/Unit-Costs-Task-Cards-2261928 • https://www.teacherspayteachers.com/Product/Unit-Cost-Maze-2963342 • https://www.teacherspayteachers.com/Product/Unit-Price-Unit-Cost-Comparison-Worksheet-977715 • https://www.teacherspayteachers.com/Product/Unit-Cost-Ice-Cream-Cones-1808869 • https://www.teacherspayteachers.com/Product/Finding-the-Unit-Cost-1757251

Adaptations/Modifications

- Teach vocabulary such as rate of change, slope, starting value, *y*-intercept.
- Use items in classroom to calculate rate of change and cost per unit.
- Create a variety of slopes using rulers and stacks of books (various heights/stacks) and compare the slopes.
- Using a painter's tape grid on the floor, have students create paper strip lines with various starting points and slopes.
- Identify real slopes and starting points in the environment (e.g., roof lines, leaning ladders).

Conceptual Category: Statistics and Probability
Domain: Interpreting Categorical and Quantitative Data
Cluster: Summarize, represent, and interpret data on a single count or measurement variable.

AAS and Resources
TENTH GRADE
M.AAS.SP.HS.41 Given data, construct a simple graph (line, pie, bar, picture) or table, and interpret the data in terms of range, mode, and median, mean. • https://www.teacherspayteachers.com/Product/Graphing-Task-Card-Freebie-993236 • https://www.teacherspayteachers.com/Product/FREEBIE-Candy-Corn-Graph-for-K-2-2163845 • https://www.teacherspayteachers.com/Product/Bar-Graph-Data-Sports-Balls-459952 • https://www.teacherspayteachers.com/Product/Happy-Birthday-Math-Graphing-Activity-for-the-first-week-of-school-844674 • https://www.teacherspayteachers.com/Product/Turkey-Graphs-Which-is-your-favorite-turkey-1576202 • https://www.teacherspayteachers.com/Product/Reading-Graphs-Charts-and-Schedules-2853661 • https://www.teacherspayteachers.com/Product/Reading-Graphs-Task-Cards-833796 • https://www.teacherspayteachers.com/Product/Christmas-Tree-Reading-and-Graphing-Activity-441819 • https://www.teacherspayteachers.com/Product/Practice-Reading-Graphs-USA-Today-Worksheet-333098 • https://www.teacherspayteachers.com/Product/Learning-to-Read-Graphs-1841334 • https://www.teacherspayteachers.com/Product/Data-Analysis-Differentiated-Graphing-Practice-3255455 • https://www.teacherspayteachers.com/Product/Data-Landmark-Unit-maximum-minimum-range-median-mode-mean-1682614 • https://www.teacherspayteachers.com/Product/Data-Sets-Mean-Median-Mode-Maximum-Minimum-Range-Worksheets-4119412 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-Bundle-Task-Cards-Posters-Activity-Mean-Median-Mode-327447 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-and-Range-Activity-Escape-Room-Math-Game-Central-Tendency-3684965 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-and-Range-Posters-663280 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-FREE-Quiz-and-Answer-Key-354335 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-FREEBIE-593996 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-Color-by-Number-1829107 • https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-Activity-for-Halloween-2842028

M.AAS.SP.HS.42 Given two dot plots representing two different data sets, identify which data set has the greater maximum, median, or range.

- https://www.teacherspayteachers.com/Product/Linear-Programming-Maximum-Minimum-Values-Foldable-A-CED1-3-A-REI3-1033246
- https://www.teacherspayteachers.com/Product/Data-Landmark-Unit-maximum-minimum-range-median-mode-mean-1682614
- https://www.teacherspayteachers.com/Product/Data-Sets-Mean-Median-Mode-Maximum-Minimum-Range-Worksheets-4119412
- https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-Bundle-Task-Cards-Posters-Activity-Mean-Median-Mode-327447
- https://www.teacherspayteachers.com/Product/Mean-Median-Mode-and-Range-Activity-Escape-Room-Math-Game-Central-Tendency-3684965
- https://www.teacherspayteachers.com/Product/Mean-Median-Mode-Range-Activity-for-Halloween-2842028
- https://www.teacherspayteachers.com/Product/Crack-the-Code-Mean-Median-Mode-and-Range-Activity-3711327

M.AAS.SP.HS.43 Interpret general trends on a graph or chart (increase/decrease).

- https://www.teacherspayteachers.com/Product/Data-Landmark-Unit-maximum-minimum-range-median-mode-mean-1682614
- https://www.teacherspayteachers.com/Product/MAAS629-Data-Trends-Graphs-Alabama-Alternate-Achievement-Standard-4038859
- https://www.teacherspayteachers.com/Product/Trend-Line-Activity-Knots-in-a-Rope-1727206
- https://www.teacherspayteachers.com/Product/Graph-Daily-High-and-Low-Temperatures-with-handout-1096381

Adaptations/Modifications

- Teach vocabulary such as line graph, pie chart, bar graph, dot plot, pictograph, data table, data maximum, data median, data range, increasing, decreasing, accompanied by examples.
- Graph daily observations (behavior, temperature, bathroom trips, etc.)
- Use interesting information to teach mean, medium and mode such as grades, football scores, baseball scores, baseball averages, etc.
- Have students determine the median, maximum, and range in various classroom situations (e.g., maximum height of students, median place in a line of students, or given length of string, range of shoesizes).
- Demonstrate the construction of a dot plot from a given set of data and discuss what the data tells.
- Using real-world graphs from, e.g., magazines, newspapers, or the Internet, discuss range and the maximum and median values of the data shown.

Conceptual Category: Statistics and Probability
Domain: Interpreting Categorical and Quantitative Data
Cluster: Summarize, represent, and interpret data on two categorical and quantitative variables.

AAS and Resources
TENTH GRADE
M.AAS.SP.HS.44 Calculate the mean of a given data set (number of data points limited to fewer than five, values of less than10). • https://www.teacherspayteachers.com/Product/Calculating-Mean-Maze-Worksheet-4406533 • https://www.teacherspayteachers.com/Product/Calculating-Mean-Worksheet-4266677 • https://www.teacherspayteachers.com/Product/Calculating-the-Mean-Average-Worksheet-3736464 • https://www.teacherspayteachers.com/Product/The-Mean-Calculating-Averages-3111565 M.AAS.SP.HS.45 Given a scatter plot with data with a line of best fit that can be represented by a linear function, describe what is happening to the *y*-values in reference to the *x*-values (x and y values limited positive numbers). • https://www.teacherspayteachers.com/Product/8th-Grade-Math-Scatter-Plots-and-Data-Unit-8SP1-8SP2-8SP3-8SP4-2967543 • https://www.teacherspayteachers.com/Product/Scatter-Plots-and-Line-of-Best-Fit-Task-Cards-with-QR-Codes-1703340 • https://www.teacherspayteachers.com/Product/Scatter-Plots-and-Line-of-Best-Fit-Practice-Worksheet-2337686 • https://www.teacherspayteachers.com/Product/FREE-Doodle-Sheet-Greatest-Common-Factor-So-EASY-to-Use-PPT-Included-FREE-4010134 • https://www.teacherspayteachers.com/Product/Adding-Three-Numbers-with-Near-Doubles-and-Number-Bonds-Sums-of-Ten-Task-Cards-3702776 • https://www.teacherspayteachers.com/Product/Grab-Sort-and-Add-Adding-Multiple-One-Digit-Numbers-4306006 • https://www.teacherspayteachers.com/Product/2nd-Grade-Math-Test-418320 • https://www.teacherspayteachers.com/Product/Freebie-Adding-10-Mentally-Worksheets-1NBT5-1033456 • https://www.teacherspayteachers.com/Product/Multiplication-2-Digit-by-1-Digit-Concrete-Representational-Abstract-191006 • https://www.teacherspayteachers.com/Product/Dividing-2-Digit-by-1-Digit-Numbers-With-Remainders-QR-Task-Cards-3199180 • https://www.teacherspayteachers.com/Product/Dividing-2-digit-by-1-digit-and-3-digit-by-1-digit-2908206

- https://www.teacherspayteachers.com/Product/Scaffold-Long-Division-2-digit-by-1-digit-2843749
- https://www.teacherspayteachers.com/Product/Division-Spinner-Game-2-Digit-by-1-Digit-3094876
- https://www.teacherspayteachers.com/Product/Long-Multiplication-2-Digit-by-2-Digit-Games-Bingo-and-Activities-in-Desc-3634759
- https://www.teacherspayteachers.com/Product/Calculating-Mean-Worksheet-4266677
- https://www.teacherspayteachers.com/Product/Football-Frenzy-Game-Cards-Measures-of-Data-Sets-4-5-6-1861880
- https://www.teacherspayteachers.com/Product/Baseball-Homerun-Derby-Game-Cards-Measures-of-Data-Sets-4-5-6-1850877
- https://www.teacherspayteachers.com/Product/M-and-M-Investigation-Mean-Mode-Median-and-Range-646129

Adaptations/Modifications

- Teach vocabulary such as *x*-values, *y*-values, increasing, decreasing, mean.
- Review multiplication and division skills.
- Review using a calculator.
- Have three to five students select up to ten items each (e.g., chips, pennies) and find the average number of items.
- Have students measure their hand span to the nearest whole number and find the mean hand span of a student in the class.
- Use real-world examples to demonstrate data where a dependent variable increases as the independent variable increases.

Conceptual Category: Statistics and Probability
Domain: Interpreting Categorical and Quantitative Data
Cluster: Interpret linear models.

AAS and Resources

TENTH GRADE

M.AAS.SP.HS.46 Given a graph that describes a set of linear data, identify the rate of change (slope) and constant term (*y*-intercept). (Use context of data—the total price of the stamps is calculated by increasing 50 cents for every stamp purchased or the cost if no stamps are purchased is $0.)

- https://www.teacherspayteachers.com/Product/Scatter-Plot-Graph-Worksheets-3871273
- https://www.teacherspayteachers.com/Product/Scatter-Plots-and-Trend-Lines-3820935
- https://www.teacherspayteachers.com/Product/Scatter-Plots-Line-of-Best-Fit-GOOGLE-Slides-4317583
- https://www.teacherspayteachers.com/Product/How-to-create-a-Scatter-Plot-164630
- https://www.teacherspayteachers.com/Product/FREEBIE-Creating-Scatter-Plots-Interactive-Notebook-Quick-Check-TEKS-59B-4240333
- https://www.teacherspayteachers.com/Product/Easter-Egg-Hunt-Scatter-Plot-Activity-1196237
- https://www.teacherspayteachers.com/Product/Graphing-Scatter-Plots-Activity-on-Movie-Ticket-Cost-1447775
- https://www.education.com/workbook/patterns-pairs-variables-workbook/
- https://www.khanacademy.org/math/ap-statistics/bivariate-data-ap/scatterplots-correlation/v/constructing-scatter-plot
- https://www.commonsense.org/education/lesson-plans/scatter-plots-correlation-lines-of-best-fit
- https://ideagalaxyteacher.com/scatter-plot-graphs-activities/
- https://www.mathsisfun.com/data/scatter-xy-plots.html

Adaptations/Modifications

- Teach vocabulary such as *x*-value, *y*-value, scatter plot, increasing, decreasing, staying the same.
- Practice making scatter plots.
- Reteach/review scatter plots.
- Collect real-world graphs and discuss the meaning and data of those graphs.
- Describe real-world situations where the independent variable increases, the dependent variable increases, and vice versa.

Conceptual Category: Geometry
Domain: Congruence
Cluster: Experiment with transformations in the plane.

AAS and Resources
ELEVENTH GRADE
M.G.AAS.HS.1 Compare properties of perpendicular lines, parallel lines, line segments, angles, and circles. • https://www.teacherspayteachers.com/Product/Real-World-Parallel-and-Perpendicular-Lines-174755 • https://www.teacherspayteachers.com/Product/Parallel-and-Perpendicular-Line-Hunt-885145 M.G.AAS.HS.2 Given a triangle on a coordinate grid, recognize the image of the triangle after a vertical or horizontal translation. • https://www.google.com/search?q=free+printable+matching+shapes+worksheets&tbm=isch&source=univ&sa=X&ved=2ahUKEwilpdCG_oPjAhXLUs0KHSf1BwkQsAR6BAgHEAE&biw=1584&bih=740 • https://www.google.com/search?biw=1584&bih=740&tbm=isch&sa=1&ei=tbwRXaT8CI_WtAat9JO4DQ&q=free+printable+coordinate+plane&oq=free+printable+coordinate+plane&gs_l=img.3..0l2j0i24l3.12108.13015..13173...0.0..0.145.586.0j5.....0....1..gws-wiz-img.....0i8i30.-ksfjk2FYA0 M.G.AAS.HS.3 Identify the reflection of a polygon. • https://www.google.com/search?q=free+printable+matching+shapes+worksheets&tbm=isch&source=univ&sa=X&ved=2ahUKEwilpdCG_oPjAhXLUs0KHSf1BwkQsAR6BAgHEAE&biw=1584&bih=740 • https://www.edplace.com/blog/what-are-regular-and-irregular-shapes M.G.AAS.HS.4 Given a geometric figure of a reflection or a translation of that figure, identify if the geometric figure is a reflection or translation. • https://www.edplace.com/blog/what-are-regular-and-irregular-shapes • https://www.google.com/search?tbm=isch&q=reflections+for+kids&chips=q:reflection+for+kids,g_1:water:V6Ge3b27TOE%3D&usg=AI4_-kSd4CNtgzxBdIRAo2oec29Dw_rcmA&sa=X&ved=0ahUKEwiNgMG-_4PjAhXFUs0KHZ3zAYMQ4lYILCgB&biw=1584&bih=740&dpr=1 • https://www.mathsisfun.com/geometry/congruent.html M.G.AAS.HS.5 Given a figure and that figure after a vertical or horizontal translation, identify the vertical or horizontal translation. • https://www.education.com/worksheet/article/reflection-rotation-translation/ • https://www.teacherspayteachers.com/Product/MODELING-MATH-FLUENCY-Geometry-Treasure-Hunt-845608

Adaptations/Modifications

- Have students look at a map of the school or their neighborhood to determine which streets/hallways will or will not intersect.
- Teach/show students a coordinate plane.
- Teach vocabulary such as intersect, parallel, perpendicular, triangle, left, right, horizontal, vertical, reflection.
- Identify shapes. Identify specific polygons.
- Have students look at an object in a mirror to see/understand reflection. Have students look pictures of landscapes reflected over water to understand reflection.
- Show students a coordinate plane. Have them connect numbered dots to create shapes.
- Have students predict what shapes on a coordinate plane would look like if the "X" axis were water.
- Have students identify transformed/translated shapes in the real world.

Conceptual Category: Geometry
Domain: Congruence
Cluster: Understand congruence in terms of rigid motions.

AAS and Resources

ELEVENTH GRADE

M.G.AAS.HS.6 Identify corresponding congruent parts of transformed shapes (squares, rectangles, triangles, pentagons).

- https://www.google.com/search?q=free+printable+matching+shapes+worksheets&tbm=isch&source=univ&sa=X&ved=2ahUKEwilpdCG_oPjAhXLUs0KHSf1BwkQsAR6BAgHEAE&biw=1584&bih=740
- https://www.education.com/worksheet/article/plane-and-solid-shapes/

M.G.AAS.HS.7 Given two congruent triangles and side lengths of one of the triangles, identify the side lengths of the other triangle.

- https://www.youtube.com/watch?v=JQUTVgT9RXY
- https://www.youtube.com/watch?v=r4rySgvfDQU
- https://www.education.com/worksheet/article/triangle-sort/

M.G.AAS.HS.8 Given two congruent triangles and angle measures of one of the triangles, identify the angle measures of the other triangle.

- https://www.teacherspayteachers.com/Product/Math-Expressions-Unit-4-Match-Up-Vocabulary-Cards-923867
- https://www.teacherspayteachers.com/Product/2-Dimensional-Shapes-Vocabulary-Game-3842039

Adaptations/Modifications

- Have students identify plane (flat) and solid shapes.
- Have students watch fun videos describing different types of triangles in real world as well as typical math lessons. Have students practice identifying various triangles.
- Have students measure sides of triangles to determine type and congruence.
- Have students identify various shapes.
- Teach vocabulary such as: triangle, angle, rectangle, pentagon, congruent, same, even, measure, similar, length.

Conceptual Category: Geometry
Domain: Congruence
Cluster: Prove geometric theorems.

AAS and Resources

ELEVENTH GRADE

M.G.AAS.HS.9 Given the intersection of two non-perpendicular lines and the measure of one angle, identify the measure of its vertical angle.

- https://www.teacherspayteachers.com/Product/Real-World-Parallel-and-Perpendicular-Lines-174755
- https://www.teacherspayteachers.com/Product/Parallel-and-Perpendicular-Line-Hunt-885145
- https://www.education.com/worksheet/article/glossary-composing-shapes/

M.G.AAS.HS.10 Given a measure of a leg or base angle of an isosceles triangle, identify the measure of the other leg or other base angle.

- https://www.youtube.com/watch?v=JQUTVgT9RXY
- https://www.youtube.com/watch?v=r4rySgvfDQU
- https://www.education.com/worksheet/article/triangle-sort/

M.G.AAS.HS.11 Given the measure of one side or one angle of a parallelogram, identify the measure of the opposite side or opposite angle.

- https://www.google.com/search?q=free+printable+matching+shapes+worksheets&tbm=isch&source=univ&sa=X&ved=2ahUKEwilpdCG_oPjAhXLUs0KHSf1BwkQsAR6BAgHEAE&biw=1584&bih=740
- https://www.education.com/worksheet/article/plane-and-solid-shapes/

Adaptations/Modifications

- Teach vocabulary such as: parallel, perpendicular, intersect, cross, angle, protractor, measure, same, triangle, opposite.
- Have students count number of square tiles on two parallel or perpendicular rows.
- Have students use a simple protractor to measure the angle of a floor tile.
- Have students identify a triangle from a group of other shapes.
- Have students use a ruler to measure sides and bases of triangles from teacher-made triangular shapes.
- Have students define “opposite.” Give examples of opposite sides of the room, school, pencil, etc.

Conceptual Category: Geometry
Domain: Congruence
Cluster: Make geometric constructions.

AAS and Resources

ELEVENTH GRADE

M.G.AAS.HS.12 Given a drawing with angles and a protractor overlay, determine which angles are congruent. Sample image below.

- https://www.teacherspayteachers.com/Product/Geometry-Bingo-Grade-3456-253703
- https://www.teacherspayteachers.com/Product/Free-School-Supplies-Clip-Art-3919316

M.G.AAS.HS.13 Identify an equilateral triangle from a set of triangles or identify a regular hexagon from a set of hexagons. Make sure sides/angles are marked so that students can identify congruence.

- https://www.google.com/search?sa=X&q=congruent+triangles+examples&tbm=isch&source=univ&ved=2ahUKEwi1opOwiITjAhUMXM0KHXveCL0QsAR6BAgEEAE&biw=1584&bih=740
- https://www.google.com/search?biw=1584&bih=740&tbm=isch&sa=1&ei=QccRXYPgDZK5tAaLx6WYBA&q=types+of+triangles&oq=types+of+triangles&gs_l=img.3..0l2j0i67l2j0l6.44592.48077..49209...0.0..0.124.2007.0j18.....0....1..gws-wiz-img.....35i39.4b6kWsar30U
- https://www.education.com/worksheet/article/plane-and-solid-shapes/
- https://www.pinterest.com/pin/8233211799106091/?lp=true

Adaptations/Modifications

- Teach vocabulary such as: line, triangle, protractor, same, congruent, side.
- Have students identify a protractor through a fun bingo game.
- Have students cut out a protractor to use.
- Have students determine congruence through tic marks.
- Have students learn the names of various types of triangles. Have students identify matching shapes.
- Teach students the difference between plane (flat) and solid shapes. Have students make models of each.

Conceptual Category: Geometry
Domain: Expressing Geometric Properties With Equations
Cluster: Translate between the geometric description and the equation for a conic section.

AAS and Resources
TWELVETH GRADE
M.G.AAS.HS.29 Given a circle graphed on the coordinate plane and a point on the edge of the circle, determine the length of the radius of the circle. • https://study.com/academy/lesson/circle-graphs-lesson-for-kids.html • http://www.amathsdictionaryforkids.com/qr/r/radius.html • https://www.ducksters.com/kidsmath/circle.php • https://www.pinterest.com/pin/215821007113999115/?lp=true • https://www.google.com/search?q=graphing+circles+on+a+coordinate+plane+site:pinterest.com&tbm=isch&source=univ&sa=X&ved=2ahUKEwiUw67k-YTjAhXjQd8KHfLoCGcQsAR6BAgJEAE&biw=1584&bih=740
Adaptations/Modifications
• Teach vocabulary such as: circle, radius, length, point, center, edge, axis, graph, line. • Have students practice tracing circles. • Have students connect dots on a grid. • Have students trace and identify shapes on a coordinate plane.

Conceptual Category: Geometry
Domain: Expressing Geometric Properties With Equations
Cluster: Use coordinates to prove simple geometric theorems algebraically.

AAS and Resources
TWELVETH GRADE
M.G.AAS.HS.30 Given a rectangle plotted on a coordinate grid with sides parallel to the x- and y-axis, determine the lengths of the sides to verify that opposite sides have the same length. • https://www.youtube.com/watch?v=P3AOoLbA3us • https://www.teacherspayteachers.com/Product/Geometry-Bingo-Grade-3456-253703 • https://www.teacherspayteachers.com/Product/Free-School-Supplies-Clip-Art-3919316 • https://www.google.com/search?biw=1584&bih=740&tbm=isch&sa=1&ei=hEESXa-jA8XOtQaIkI3QCg&q=parallelogram+examples&oq=parallelogram+examples&gs_l=img.3..0l2j0i7i30l5j0i8i7i30l2j0i5i30.30031.36547..38773...0.0..0.138.2163.13j9.....0....1..gws-wiz-img.....0i67j0i7i5i30.QphSHvRwp-E M.G.AAS.HS.31 Given a set of parallel lines in a coordinate plane and the slope of one of the lines, identify the slope of the other line. • https://www.youtube.com/watch?v=A09rmiT89MA • https://www.youtube.com/watch?v=ZcSrJPiQvHQ M.G.AAS.HS.32 Identify the midpoint between two points on a vertical or horizontal line. • http://www.amathsdictionaryforkids.com/qr/m/midpoint.html • https://www.education.com/worksheet-generator/math/number-line/ M.G.AAS.HS.33 Given a graph of a square, a rectangle, or a right triangle in the first quadrant, find the area and perimeter of the figure. (limit to squares/rectangles with sides parallel to axes and right triangles with legs parallel to axes) • https://www.google.com/search?biw=1584&bih=740&tbm=isch&sa=1&ei=rEESXeDyMsK2tAb0waKYAw&q=graphing+parallelogram+s&oq=graphing+parallelogram+s&gs_l=img.3...38345.48141..48780...0.0..0.148.2423.0j18.....0....1..gws-wiz-img.....0i67j0j0i5i30j0i8i30j35i39j0i7i30j0i8i7i30.dLc2qgWS-eo M.G.AAS.HS.34 Find the perimeter of an equilateral triangle, square, or regular pentagon given the length of one side. • https://www.youtube.com/watch?v=MTSlKifo4js • https://www.youtube.com/watch?v=JAy_CETEyUM

Adaptations/Modifications

- Teach vocabulary such as: circle, radius, length, point, center, edge, axis, graph, line, intersect, parallel, perpendicular, triangle, rectangle, left, right, horizontal, vertical, slope, middle (or midpoint), grid.
- Have students practice tracing rectangles.
- Have students connect dots on a grid.
- Have students practice using a ruler to connect lines on a grid.
- Have students trace and identify shapes on a grid (coordinate plane).
- Show students examples of parallel and perpendicular lines in everyday life. Have students draw examples from their lives. Have students cut out or paste pictures of parallel/intersecting lines to show what slope affects.
- Using a ruler, have students measure the sides of a square or rectangle to determine perimeter. Floor tiles make easy measuring because they are usually 12" X 12".

Conceptual Category: Geometry
Domain: Geometric Measurement and Dimension
Cluster: Explain volume formulas and use them to solve problems.

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M.G.AAS.HS.35 Make a prediction about the volume of a container, the area of a figure, or the perimeter of a figure. Ex: how many cubes will go in one figure vs. another. Limit to cylinder, circle.

- https://www.youtube.com/watch?v=LZxXUb9iAZc (for actual volume)
- https://www.education.com/worksheet/article/estimating-volume/
- https://www.education.com/worksheet/article/what-is-volume/?source=related_materials&order=1
- https://www.education.com/worksheet/article/shape-study-guide/
- https://www.teacherspayteachers.com/Product/2D-3D-Shapes-Interactive-Emergent-Reader-Color-BW-FREEBIE-831382
- https://www.google.com/search?q=free+foldables+for+3-d+shapes&tbm=isch&source=univ&sa=X&ved=2ahUKEwiu0ufgoo3jAhUVV80KHVixCwcQsAR6BAgEEAE&biw=1584&bih=740

M.G.AAS.HS.36 Given a cylinder and a cone with the same height and radius, identify that the volume of the cone will be one-third the volume of the cylinder.

- https://www.google.com/search?q=free+foldables+for+3-d+shapes&tbm=isch&source=univ&sa=X&ved=2ahUKEwiu0ufgoo3jAhUVV80KHVixCwcQsAR6BAgEEAE&biw=1584&bih=740
- https://www.teacherspayteachers.com/Product/Guided-Math-Lesson-Plan-Year-Long-2nd-Grade-Free-Sample-3295709

M.G.AAS.HS.37 Identify that a rectangle with sides that are two times as large as another rectangle will have an area that is four times as large by using models.

- https://www.google.com/search?q=free+foldables+for+3-d+shapes&tbm=isch&source=univ&sa=X&ved=2ahUKEwiu0ufgoo3jAhUVV80KHVixCwcQsAR6BAgEEAE&biw=1584&bih=740
- https://www.education.com/worksheet/article/3-d-shapes-in-the-world/
- https://www.superteacherworksheets.com/solid-shapes-very-basic.html

Adaptations/Modifications

- Teach/review vocabulary associated with shapes.
- Have students name shapes including circle, rectangle, and square.
- Make foldable 3-D models of solid figures. Have students identify a cylinder, rectangle, cube. Have students identify cylinders in real life (i.e. soup can, soda can [cylinder] box of tissues [rectangle], dice [cube]).
- Fill a cylinder (can approximately 10 oz) with dice/ice. Count the cubes. Have students guess how many cubes fill a teacher-made cylinder of the same height. Count the cubes to determine difference in a cube vs a cylinder.
- Have students determine which container is heavier than the other.
- Have students identify rectangular shapes in the classroom. Using a ruler, measure the sides and bases of the rectangular shape with a ruler.
- Placing two rectangles of different sizes side by side; have students determine which is larger, which would hold more.

Conceptual Category: Geometry
Domain: Geometric Measurement and Dimension
Cluster: Visualize relationships between two-dimensional and three-dimensional objects.

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M.G.AAS.HS.38 Identify the shapes of two-dimensional cross-sections of three-dimensional objects (limited to sphere, rectangular prism, triangular prism).

Conceptual Category: Geometry
Domain: Modeling With Geometry
Cluster: Apply geometric concepts in modeling situations.

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M.G.AAS.HS.39 Identify objects that have a similar shape to a cylinder, rectangular prism, and cone.

- https://www.google.com/search?q=free+foldables+for+3-d+shapes&tbm=isch&source=univ&sa=X&ved=2ahUKEwiu0ufgoo3jAhUVV80KHVixCwcQsAR6BAgEEAE&biw=1584&bih=740
- https://www.education.com/worksheet/article/3-d-shapes-in-the-world/

M.G.AAS.HS.40 Perform computation operations (addition, subtraction, multiplication, division) in context-based problems about weight, length, or capacity using units.

- https://www.google.com/search?q=free+length+worksheets+for+kids&tbm=isch&source=univ&sa=X&ved=2ahUKEwiyzp2CqI3jAhVaHc0KHWQXClwQsAR6BAgJEAE&biw=1584&bih=740
- https://www.superteacherworksheets.com/full-math.html

M.G.AAS.HS.41 Solve a context-based problem involving area of rectangles.

- https://www.superteacherworksheets.com/solid-shapes-very-basic.html
- https://0.tqn.com/z/g/math/library/1a.pdf
- https://www.google.com/search?rlz=1CAIXET_enUS831&q=simple+word+problems+using+rectangles&tbm=isch&source=univ&sa=X&ved=2ahUKEwjs7-iftY3jAhVZWs0KHbz3BykQsAR6BAgCEAE&biw=1366&bih=609&safe=active&ssui=on

Adaptations/Modifications

- Teach/review vocabulary associated with 2-D and 3-D shapes.
- Have students measure a tissue box to determine side lengths. Add all lengths of a base to determine its perimeter.
- Using a calculator, have students add side lengths of a rectangle.
- Search for rectangular items in the classroom. Help students identify real life examples of rectangles. Allow students to use a calculator to add each side of two different sized rectangles. Determine which is larger according to measurement.
- Fill two rectangular shapes with rice, water, tissue, depending on container. Have students determine which is heavier.