Integrated Math II

Unit Title: Unit 1: Measurement/Money/Time

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standards

A.CED.A.1 – create equations and inequalities in one variable and use them to solve problems
A.REI.5 Solve system of equations.
A.REI.A.1 – explain each step in solving a simple equation as following from the equality of numbers asserted at the previous step, starting from the assumption that the original equation has a solution. Construct a viable argument to justify a solution method.
A.SSE.A.1 – interpret expressions that represent a quantity in terms of its context such as terms, factors and coefficients
N.RN.A.3 Simplify radicals, including algebraic radicals
S.ID.C.9 –distinguish between correlation and causation
S.ID.A.1 - represent data with plots on the real number line (dot plots, histograms and box plots)

Dynamic Learning Maps- Essential Elements

EE.N-Q.1–3. Express quantities to the appropriate precision of measurement.
EE.F-IF.1–3. Use the concept of function to solve problems
EE.N-CN.2.c. Solve real-world problems involving multiplication of decimals and whole numbers, using models when needed.

Integration of Climate Change

- A.CED.A.1 Create equations and inequalities in one variable and use them to solve problems. Include equations arising from linear and quadratic functions, and simple rational and exponential functions. Climate Change Example: Students may create equations and/or inequalities to represent the economic impact of climate change.

Career Readiness, Life Literacies and Key Skills

Standard	Performance Expectations	Core Ideas
9.1.12.FP.1:	Create a clear long-term financial plan to ensure its alignment with your values.	To be fiscally responsible, an individual's finances should align with his or her values and goals.

Central Idea/Enduring Understanding:

Real-world scenarios require money to be a productive employee and consumer.
Situations in your professional and personal life involve the understanding and telling of time.
Measurement is critical to our daily lives.

Essential/Guiding Question:

- How does money impact your daily life?
- How can reading a clock affect your daily living?
- How can understanding time affect your daily living?
- What can we measure?
- How does what we measure influence our lives?
- How do temperatures influence daily decisions?

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Content:	**Skills(Objectives):**
Value of coins and paper money ● Calculate change ● Reading a clock ● Interpret time ● Interpret calendar ● Measurement ● Length ● Temperature	Identify coins and dollar bills and know their value. ● Read, count and write amounts of money correctly. ● Make change. ● Purchase items using cash. ● Calculate the sale price of an item when given the list price and rate of discount. ● Calculate sales tax, simple interest and tips. ● Tell time. ● Determine relationships between time and daily activities. ● Add, subtract, and calculate elapsed time. ● Read and interpret a calendar. ● Compare units of time. ● Read and interpret a thermometer. ● Math temperature and weather with appropriate clothing. ● Locate projected temperature online. ● Identify increments on the ruler. ● Measure with a ruler and tape measure. ● Compare measurements. ● Estimate lengths. ● Use vocabulary appropriately.

Interdisciplinary Connections:

Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Performance Task: Your cousin has decided to visit you in New Jersey. Since this is the first time your cousin will be visiting, you want to make it memorable. Select the best time (month) for your cousin to visit. Plan the itinerary for at least one day. Your itinerary must include: at least one activity and the cost of the activity, meals and the estimated cost of meals, schedule for the day including the length of each activity, distance traveled to get to each activity, type of clothing our cousin needs to	Teacher observation do now daily problem pair work completed class work quizzes/tests Rubric for project

pack (temperature/season), estimate the total cost of day. Present the itinerary to the class and teacher.	

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Measurement: ● Students will watch short clips online about measurement. Students will be shown different manipulatives used to measure: ruler, yardstick, measuring tape. ● Students will be able to use a ruler, yardstick and tape measure to help them in their daily lives ● Students will be given objects to measure with different manipulatives. ● Students will compare objects with each other. ● Students will work in pairs and complete a scavenger hunt to measure items around the classroom/ and in the school. ● What is 12 inches? One student will be chosen to sit in front of the class. This student is the caller. S/he calls out measurement and the other players have two minutes to find an object that fits the measurement. Temperature: ● Read a thermometer and identify what clothing to wear for different temperature readings. ● Create a thermometer: http://www.energyquest.ca.gov/projects/thermometer.html Elapsed Time: ● Students will review time videos on the web : brainpop.com ● Students will complete various handouts on time to the hour, ½ hr, quarter of and quarter after. ● Brainstorm different things that only take a second. ● Predict how many times we could do a task in one minute, and then test it out. ● Complete a sort, they have to sort whether the activity should take seconds	● Teacher created materials, quizzes, tests and activities. Materials used increase in difficulty with a goal of independent mastery at the level indicated on IEP. ● teachrspayteachers.com ● edhelper.com ● nearpod.com ● kahoot.com How Do We Make Math Class More Inclusive of Trans and Non-binary Identities

or minutes to complete. In another sort, they said whether an activity was done during A.M. or P.M. hours. ● Practice with the hour hand, determining what "a little after the hour" "a little to the hour" and "half past" looked like with the hour hand alone {i.e. when it is "half past" the hour, the hour hand is pointed directly between the two numbers} ● Create a number line out of 12 groups of 5 linking cubes until we had 60 total cubes in our line, and then we practiced counting by 5's, and then by 1's until we reached a certain cube. ● Match the word form of time to the analog clocks. ● Show digital time on an analog clock. ● Students will use the smartboard to view different analog clocks and read the time given within a certain time frame. ● Students will be given different time clip cards and they will need to decide how long each scenario will take. Students will choose between two different estimates. ● Students will complete activites on http://www.shodor.org/interatie/activities/ElapsedTime/ <u>Schedules:</u> ● Brainstorm with the students when they have seen/or used a schedule ● Students will be shown various examples of schedules. Students will watch the Attainment Series: Mary and schedules. Students will start by following a school schedule. Each student will have a copy of their roster to go over together as a whole group. Students will discuss the time and what class they have in order shown. Students will then have a chance to create their dream roster by including the time and class. ● Teachers and students will reflect on the video they had previously seen. Students will be given a real bus and train schedule used in their community. Teacher will display this schedule on the smartboard.	

Teacher will review how to locate the times and locations when reading a transportation schedule. After the students have mastered this concept, they must plan a trip to the mall and movies by reading a bus schedule and a movie schedule on their own and planning out their day. ● Plan a cbi trip to use public transportation and pick the best times by reading a bus schedule. ● Fill out mock schedules for a job. <u>Calendars:</u> ● Use a monthly calendar and have the child be responsible for crossing off the day as it passes. ● Begin using a daily tear away calendar. Talk about the day (Monday), date (12th), and month (March).”Today is Monday, the 12th of March, the year is 2012.” Save the tear off sheets for sequencing days and their dates. ● Write days of the week and months of the year on sentence strips or note cards. Have the student sequence the days/months in order. • Use the terms before/after, earlier/later, etc. to sequence events that occur throughout the day. Discuss the time of day we do certain things or when certain things occur: morning, afternoon, evening or night. ● Talk about the concepts of today, yesterday, tomorrow, next week, last month, and next month using the calendar. “Yesterday, we…. Today, you…. Tomorrow, you will … Last month, we… etc. Next month, you will.... Two months from today, you will..., etc. ● Note family appointments on the calendar. Ask the student, “How many more days/ weeks/months until you… see the doctor? …have your football game? … have your recital? ...visit the dentist?” Have the student point to and count the days.	

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- • Mark the first days of each season on the calendar. Talk about how many more days/ weeks/months until a certain season begins/ends.
- Teachers will have students watch videos on how Calendars were started and the importance of having one to make your daily life better. Teacher will give each student a blank calendar and will ask them to locate and identify the following: days of the week, the month the calendar is for, and how many days there are in the month. After students review this concept by answering questions using several calendars, they must complete an assessment by filling in a calendar with the correct items that are given by the teacher.

Lemonade Stand

- Class is opening a lemonade stand. Your goal is to make as much money as you can within a specific time period. Students will control how much to charge for items and how much needs to be ordered.
- http://www.coolmath-games.com/lemonade/

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course packet with enrichment materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student,	Course packet with individualized materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges.	Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course individualized packet. An adaptive assessment that gets easier or	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following::

designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other. A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments. Provide study guides. Weekly conference to set short term goal	Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries Use of calculator Extended time Small group instruction Use of manipulatives Repeated instruction Task broken down into smaller parts. Provide frequent reviews of current concepts and information taught. Assist with organizing classroom materials.

Unit Title: Unit 2: Spatial Relationships

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standards

G-CO.D. Make geometric constructions

G-GMD.B. Visualize relationships between two-dimensional and three-dimensional objects

Dynamic Learning Maps- Essential Elements

EE.G-MG.1–3. Use properties of geometric shapes to describe real-life objects.

EE.G-GMD.4. Identify the shapes of two dimensional cross-sections of three dimensional objects.

EE.G-CO.1. Know the attributes of perpendicular lines, parallel lines, and line segments; angles; and circles

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Career Readiness, Life Literacies and Key Skills		
Standard	**Performance Expectations**	**Core Ideas**
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g.1.1.12prof.CR3a).	With a growth mindset, failure is an important part of success.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea/Enduring Understanding:

- Geometry is a mathematical system built on accepted facts, basic terms, and definitions. Geometric relationships and definitions can be used to construct geometric figures and solve real world problems.
- Good decisions require logical reasoning based on known facts.
- Algebraic properties require logical reasoning based on known facts.

Essential/Guiding Question:

- Why is the use of proper notation necessary in the study of geometry?
- Why do we measure?
- How does what we measure influence how we measure?
- Why is it important to think logically?
- How do we use geometry to model and solve real-world situations?
- How can geometry be used to justify solutions to given problems?

Content:

Geometric relationships

- Sum of interior angles is 180
- Special angle pairs
- Creation of designs
- Plane shapes
- VIsual representation of concepts
- Inductive reasoning
- Conjecture
- Statement validity
- Segment
- Midpoint
- Angle relationships
- Formulas
- Midpoint
- Length
- Slope
- Coordinate plane

Skills(Objectives):

Identify and model points, lines, planes and their relationships.

- Identify and classify angles and polygons and their relationships.
- Create designs using plane shapes.
- Make formal geometric constructions using various methods.
- Make conjectures based on inductive reasoning.
- Determine necessary and sufficient conditions for a statement to be true.
- Determine the midpoint in a given diagram.
- Utilize angle relationships to solve problems.
- Apply the midpoint formula and the distance formula to calculate length and midpoint.
- Use vocabulary correctly.

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Interdisciplinary Connections:
Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.
1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
8. Look for and express regularity in repeated reasoning

Stage 2: Assessment Evidence

Performance Task(s):

Performance Task 1:
Students will find six real world objects that represent points, lines, planes, segments, rays, and angles. For each real-world example, students will write a description of the object and the corresponding geometric figure answering the following questions:
What is your real world object and what figure does it represent?
What are the properties of that figure?
How does your real-world object represent those properties?
Is there anything about your real-world object that doesn't fit those properties?

Performance Task 2:
You are seeking employment in the marketing field and will present your portfolio to a marketing director. Your portfolio will include a creative logo and slogan. The logo consists of segments only. The slogan needs to be written in an if-then statement format. The segments are to be constructed to form a variety of geometric figures that are related to your slogan and/or your product. Include an explanation of why you choose your product and how your logo is related to your product. Provide an oral/written/visual presentation of your finished product. Include the geometric shapes contained in your logo.

Other Evidence:

Teacher observation
do now daily problem
pair work
completed projects and activities
test/quizzes
rubrics for performance

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Stage 3: Learning Plan

Learning Opportunities/Strategies:

Lines

- Students will identify and model points and lines and their relationships.
- Students will draw the different types of lines
- Students will understand the attributes for each type of line.
- Students will identify lines in real life environments
- Using camera students will capture an image of the following in the world and label correctly:
  - A line
  - Parallel Lines
  - Intersecting Lines
  - Perpendicular Lines

Line Segments:

- Introduce students to new terms and definitions.
- Sketching different types of lines: perpendicular lines,parallel lines, line segments, angles.
- Use various manipulatives to recreate these types of lines.
- Watch videos on line segments.
- Find parallel lines in the classroom. Divide students into groups and assign them a section of the classroom, the outside hallway or even parts of the school, if you are allowed to walk the campus. Have them find parallel lines in floor tiles, ceilings, parking lots, walls, artwork, desk arrangements and even the patterns on clothing. When they return to their desk, have them journal or log their discoveries, or draw in colors the most interesting examples they found.
- Creating models of parallel lines with straight pasta. Two strands laid together represent parallel lines. Lay additional strands across them to represent intersecting lines and perpendicular line segments This activity can also be done with pipe cleaners or Twizzlers. In the

Resources:

- Teacher created materials, quizzes, tests and activities. Materials used increase in difficulty with a goal of independent mastery at the level indicated on IEP.
- teachrspayteachers.com
- edhelper.com
- nearpod.com
- kahoot.com

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latter, students work in teams with quick cues from the teacher to form parallels, intersections and perpendicular figures. Then they get to eat the Twizzlers.

Angles

- Students will classify angles based on attributes
- Students will utilize angle relationships to solve problems.
- Students will identify angles found in real life environments
- Angles Jeopardy Game http://www.math-play.com/Angles-Jeopardy/Angles-Jeopardy.html

Conjecture:

- Given a diagram, students will discuss what can or cannot be assumed.

Practice:

- Geometry and Measurement Activities on Study Island http://www.studyisland.com

Application:

- Student will identify and determine the routes they take throughout the school and community using Mapquest or Google Maps. Students will identify why the route is taken and plan alternate routes. Students will compare the various routes as a class to identify shorter, faster, main routes, toll roads.

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course packet with enrichment materials. An adaptive assessment that gets harder depending on	Course packet with individualized materials. An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around	Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several channels (auditory, visual, kinesthetic, model), and/or small

how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other. A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other	individualized packet. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goal	group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries use of calculator extended time small group instruction use of manipulatives repeated instruction task broken down into smaller parts Provide frequent reviews of current concepts and information taught Assist with organizing classroom materials.

Unit Title: Unit 3: Geometric Models

Stage 1: Desired Results

Standards & Indicators:

New Jersey Student Learning Standards

G-CO.C.Prove geometric theorems
G-CO.D. Make geometric constructions
G-C.A Understand and apply theorems about circles
G-GMD.A. Explain volume formulas and use them to solve problems
G-GMD.B. Visualize relationships between two-dimensional and three-dimensional objects

Dynamic Learning Maps- Essential Elements

EE.G-GPE.7. Find perimeters and areas of squares and rectangles to solve real world problems.
EE.G-MG.1–3. Use properties of geometric shapes to describe real-life objects.

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EE.G-GMD.1–3. Make a prediction about the volume of a container, the area of a figure, and the perimeter of a figure, and then test the prediction using formulas or models.
EE.G-GMD.4. Identify the shapes of two dimensional cross-sections of three dimensional objects.
EE.G-CO.1. Know the attributes of perpendicular lines, parallel lines, line segments; angles; and circles

Standard	Performance Expectations	Core Ideas
9.4.12.CI.1	Demonstrate the ability to reflect, analyze, and use creative skills and ideas (e.g.1.1.12prof.CR3a).	With a growth mindset, failure is an important part of success.
9.4.12.CT.1	Identify problem-solving strategies used in the development of an innovative product or practice (e.g., 1.1.12acc.C1b, 2.2.12.PF.3).	Collaboration with individuals with diverse experiences can aid in the problem-solving process, particularly for global issues where diverse solutions are needed.

Central Idea/Enduring Understanding:

- A circle is a unique geometric shape that appears in nature and in everyday objects.
- Classifying geometric objects helps to develop connections among mathematical ideas.
- Geometric relationships and definitions can be used to create geometric figures and solve real world problems.

Essential/Guiding Question:

- Why are circles special as a geometric shape?
- How are the relationships between the circumference, radius, diameter and area of a circle related?
- How can you use the Pythagorean Theorem to solve real-life problems?
- Why is it important to classify geometric objects?
- How are the measures for perimeter, area, and volume related to each other?
- How can one find the area and/or perimeter of a figure composed of various basic geometric shapes?

Content:

Circle
Circumference
Diameter
Pythagorean Theorem
Triangle Segment Length
Triangle Classification
Polygon Identification
Polygon Angle Sum
Units
Perimeter
Area
Volume

Skills(Objectives):

Solve problems involving segment lengths related to a circle.

- Determining the circumference and area using segment lengths related to a circle.
- Identify and classify triangles by sides and angle measures.
- Apply Pythagorean Theorem to solve right triangle problems.
- Identify a polygon based on the number of sides.
- Find the measures of missing angles of polygons.
- Use given information to determine the type of quadrilateral.
- Identify specific parts of a 3-dimensional figure.
- Label answers using correct units.

Interdisciplinary Connections:

Interdisciplinary connections are integrated in each unit with connections to the mathematical practices.

	● Use appropriate formulas to determine perimeter, area, and volume real-world problems. ● Use vocabulary correctly.

1. Make sense of problems and persevere in solving them
2. Reason abstractly and quantitatively
3. Construct viable arguments and critique the reasoning of others
4. Model with mathematics
5. Use appropriate tools strategically
6. Attend to precision
7. Look for and make use of structure
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Stage 2: Assessment Evidence

Performance Task(s):	**Other Evidence:**
Performance Task 1: The school improvement team at PTHS would like to redecorate the classroom. In order to determine if the redecoration is possible, they need to know who much it will cost. If carpet costs $3 per square foot and each can of color paint costs $30 and covers 300 square feet, how much will it cost to redecorate our classroom? Teams draw and label a diagram representing the classroom. Measure the dimensions and label them on your diagram. Find the area of the walls and that area of the floor. Use these numbers to find out how many square feet of carpet and how many canes of paint are needed. Finally, determine how much the entire project will cost. Performance Task 2: Design a dream house: You have been hired as an architect to build a dream home. The client wants the following to be included in the home: Triangles and trapezoids, maybe even circles. Make sure to use at least two shapes other than rectangles. Must have at least one kitchen, two bedrooms, one bathroom, and living room. Your drawing of the dream house needs to be to scale. The measurements need to be accurate and proportional. Label every wall and calculate the area and perimeter of each room in the house. Include the total area of the house. Project may be modified by providing a floor plan or limiting it to one to two rooms, based on student IEP.	Teacher observation do now daily problem pair work rubrics tests/quizzes final products/output

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Performance Task 3: Students will design their own cereal box through the Cereal Box Project.	

Stage 3: Learning Plan

Learning Opportunities/Strategies:	**Resources:**
Geometric Shapes ● When geometric shapes are first introduced to the class, students will have manipulatives to explore. ● Geo strips will be created and used for students to discover the properties of different shapes. ● The jigsaw method will be used to explore special types of quadrilaterals following these steps: 1. Divide the class into groups of three. Within each group assign a student to be a rectangle, square, rhombus, or trapezoid. 2. The “expert” from each group will leave their home group and meet together with the experts from the other teams. For example, all the rectangles will meet in one corner, the rhombi in another, and so on. 3. Provide each group with a guided activity that will allow members to explore their shape and learn its properties. The group members must come to a consensus on the properties and feel confident that they can teach these properties to their home teams. 4. The “ expert” group for each figure should prepare examples, diagrams, properties, and three quiz questions to share with their home teams. 5. After the allotted time, students return to their home teams to share their knowledge with their respective groups. ● Relate the various geometric shapes to objects found in real world situations by taking students on a tour of their classroom and school to find these different shapes. Students will sketch them and label them. Students will identify shapes when out in the community.	● Teacher created materials, quizzes, tests and activities. Materials used increase in difficulty with a goal of independent mastery at the level indicated on IEP. ● teachrspayteachers.com ● edhelper.com ● nearpod.com ● kahoot.com ● circles real life pdf Inclusive Math Class

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• Students will be given a set of tangrams and a worksheet with several shapes that can be made with the tangrams. Students must put together 3 different shapes of choice. • Students will create a booklet representing the most common shapes in the world: rectangles, squares, triangles, and circles. Each shape will have a separate page. Each page must include a title, example of shape from real world, diagram of shape marked dimensions that apply to figure, formula for area of shape. <u>Perimeter and Area</u> Provide students the following: • Definitions of perimeter and area • Rectangles and squares on dot paper that can be used to determine the perimeter and area • Triangles on dot paper to determine perimeter and area • Students will use linear units to label perimeter problems. • Students will measure outside of shapes with a ruler • Students will apply concepts to the classroom and school environment. • Students will use square units to label area problems. • Students will use area formulas to solve real world situations dealing with housing. • Practice activities for perimeter http://www.mathgoodies.com/lessons/vol1/perim_part3.html • Students will be given the floor plan of a room. They need to label every wall and calculate the area and perimeter of each room in the house. Include the total area of the house/or apartment. • Students will measure the classroom and calculate the amount of paint it would take to cover the walls and/or ceiling of the room. <u>Volume</u>	

• Students will understand that volume represents the amount of 3D space which the shape occupies by being shown examples. • Students will use cubic units to label volume problems. • Students will complete task cards where they find the volume of various shapes. • Students will use volume formulas to solve real world situations. • Students will research pools on the Internet. They will choose two pools to purchase and calculate the volume for each of these pools. One pool will be above ground and the other inground. Pythagorean Theorem • Big Tree: Have You Ever Seen a Tree Big Enough to Drive a Car Through? http://www.figurethis.org/challenges/c15/challenge.htm • Discovering the Area Formula for Triangles http://illuminations.nctm.org/LessonDetail.aspx?ID=L577 • Exploring the Pythagorean Theorem http://www.pbs.org/wgbh/nova/proof/puzzle/ Circles • Students will begin by doing a circle scavenger hunt around the room. They will identify as many circles that they find around the room. • Students will complete foldables/guided notes about the different parts of circles: diameter, radius, circumference, and area. • Students will pair up and use circles around the room. On the circles they will draw the radius and the diameter. • Students will follow a step by step flowchart about how to solve for the circumference and area of different circles. • After practice problems students will do some hands-on activities with circles. Students will use different pizza sizes and	

find the diameter, radius, circumference and area. Students will use different pancake sizes. Students will compare the area of the pizzas and the price of the pizza.
- Students will work in groups to complete 24 illustrated real life circle problems. 10 mixed questions with moderate challenge requiring pupils to choose the correct formula and use the correct number (sometimes radius given, sometimes diameter); 2 medium difficulty require pupils to reverse the formula to find radius/diameter. Students will be able to see the importance of circles used in their daily lives.

Congruent Vs. Similar
- Students will identify the attributes of congruent and similar figures
- Students will explain why two figures are congruent or similar.
- Students will be paired and look around the room for one shape. They will take that shape back to their desk. Next they will have to find another object that is the same shape as their first object. Students will then discuss similar and congruent.
- Students will complete guided notes on congruence and similarity. Students will work on a sort, where they are given pairs of shapes, and they must determine if the shapes are congruent or similar.
- Complete task cards to help practice congruence and similarity.

Differentiation *Please note: Teachers who have students with 504 plans that require curricular accommodations are to refer to Struggling and/or Special Needs Section for differentiation

High-Achieving Students	On Grade Level Students	Struggling Students	Special Needs/ELL
Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student). A personalized course packet with enrichment materials.	Course packet with individualized materials. An adaptive assessment that gets harder depending on how a student is performing.	Varying sets of reading social stories to focus on specific behaviors (either chosen by the teacher or student).	Any student requiring further accommodations and/or modifications will have them individually listed in their 504 Plan or IEP. These might include, but are not limited to: breaking assignments into smaller tasks, giving directions through several

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An adaptive assessment that gets harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other.	One-on-one coaching with a student, designed around his/her specific for higher thinking challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can assist and challenge each other. A personalized course packet with individualized remediation or enrichment materials. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other.	A personalized course individualized packet. An adaptive assessment that gets easier or harder depending on how a student is performing. One-on-one coaching with a student, designed around his/her specific challenges. Students grouped into small groups, which are designed around their strengths and weaknesses so that they can tutor each other. Allow extra time on assessments Provide study guides Weekly conference to set short term goal	channels (auditory, visual, kinesthetic, model), and/or small group instruction for reading/writing ELL supports should include, but are not limited to, the following:: Extended time Provide visual aids Repeated directions Differentiate based on proficiency Provide word banks Allow for translators, dictionaries use of calculator extended time small group instruction use of manipulatives repeated instruction task broken down into smaller parts Provide frequent reviews of current concepts and information taught Assist with organizing classroom materials.

Pacing Guide

Course Name	Resource	Standards
MP		
UNIT 1 Measurement/Money/Time (20 days)	**CHAPTERS** Measurement Temperature Elapsed Time Schedules Calendar	**New Jersey Student Learning Standards** EE.N-Q.1–3. EE.F-IF.1–3. EE.N-CN.2.c.

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	Unit Assessment: Itinerary Project (3 days) Lemonade Stand Project (3 days)	
UNIT 2 Spatial Relationships (15 days)	**CHAPTERS** **Lines** **Line Segments** **Angles** **Conjecture** **Unit Assessment:** Geometric Figure Project (3 days)	**New Jersey Student Learning Standards** G-CO.D. G-GMD.B. **Dynamic Learning Maps-Essential Elements** EE.G-MG.1–3. EE.G-GMD.4. EE.G-CO.1.
MP		
UNIT 2 Spatial Relationships (15 days)	**CHAPTERS** Lines Line Segments Angles Conjecture **Unit Assessment:** Marketing Project (3 days)	**New Jersey Student Learning Standards** G-CO.D. G-GMD.B. **Dynamic Learning Maps-Essential Elements** EE.G-MG.1–3. EE.G-GMD.4. EE.G-CO.1.
UNIT 3 Geometric Models (18 days)	**CHAPTERS** Geometric Shapes Perimeter and Area Volume Pythagorean Theorem Circles Congruent vs. Similar **Unit Assessment:** School Improvement Project (3 days) Dream House Project (3 days) Cereal Box Project (3 days)	**New Jersey Student Learning Standards** G-CO.C. G-CO.D. G-C.A G-GMD.A. G-GMD.B. **Dynamic Learning Maps-Essential Elements** EE.G-GPE.7 EE.G-MG.1–3. EE.G-GMD.1–3 EE.G-GMD.4 EE.G-CO.1.