

Teacher(s): Mrs. Breazeale & Ms. DeBlanc

Subject/Grade: 7<sup>th</sup> /Grade Math

Week of: Feb 5, 2024

Domain: **Geometry**

Lesson Plan Title: Area, Surface Area, & Volume

| MATHEMATICS - Mississippi College and Career Readiness Standards for 7 <sup>th</sup> Grade |   |
|--|---|
| Numbers & Operations   | 7.NS.1 Apply and extend previous understandings of addition and subtraction to add and subtract rational numbers; represent addi...   |
| Ratios & Proportions   | 7.RP Analyze proportional relationships and use them to solve real-world and mathematical problems.   |
| Expressions & Equations  | 7.EE Solve real-life and mathematical problems using numerical and algebraic expressions and equations.   |
| Geometry   | 7.G.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of th...<br>7.G.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects c...      |
| Statistics & Probability   | 7.SP.3 Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities, measuring the di...<br>7.SP.4 Use measures of center and measures of variability (i.e. inter-quartile range) for numerical data from random samples to dra... |

**Bottom 25%:** Students will be placed in groups based on ability. The general education teacher and the inclusion teacher will review their February DCA. The general education teacher and the inclusion teacher will review their DCA and clear up any misconceptions on Tuesday and Thursday.

**Top 25%:** Students will work through problems on math prodigy while the teacher pulls students that scored below 70% on their current DCA.

**Bubbles:** Students will be placed in groups based on their ability. Some with higher performing students and some with lower performing students. The students in the higher performing group will learn from their peers and the students in the lower performing groups will act as a tutor to their peers. The general education teacher and the inclusion teacher will review their DCA and clear up any misconceptions on Tuesday and Thursday.

**ESSENTIAL QUESTION(S):** How do I solve real-world problems involving area, surface area, and volume? (7.G.4 & 7.G.5)

| Day | Objective   | Focus Question   | I will..   |
|-----|---|--|--|
| M   | TSWBAT to utilize area formulas to calculate unknown dimensions of composite figures by completing the iReady lesson "Area and Surface Area " with 80% accuracy.  | How will I calculate unknown dimensions when given an area and length of two and three dimensional composite figures?                    | <p>_Use given areas and given lengths to solve problems involving unknown lengths of two-dimensional composite figures.</p> <p>_Use given surface areas and given lengths to solve problems involving unknown lengths of right prisms.</p> <p>_Apply knowledge of surface area of right prisms to solve real-world and mathematical problems involving surface areas of composite figures.</p> |
| T   | TSWBAT <b>complete an iReady math lesson by taking notes on key vocabulary and at least three example problems</b> with 80% accuracy by the end of the lesson.  | How can I calculate the volume of 3-dimensional shapes?  | Use formulas to calculate the volume of rectangular and triangular prisms.   |
| W   | TSWBAT use the skills and vocabulary they have learned to score proficient on the February DCA.   | How will I use the skills and vocabulary they have learned to score proficient on the February DCA.                                      | Use the skills and vocabulary they have learned to score proficient on the February DCA.   |
| Th  | TSWBAT <b>examine, analyze, and correct their February DCA by reviewing resources provided by the teacher, consulting with peers, and/or asking the teacher for help</b> with 100% accuracy by the end of the lesson.<br>TBA based on MPT data. | How do mathematicians analyze and correct their graded tests in order to reflect on knowledge needed to master 7th grade math standards? | <p>-Differentiate between silly mistakes and lack of knowledge.</p> <p>-In writing, explain the silly mistake and rework the problems that contain silly mistakes.</p> <p>-Use resources to help correct mistakes where mastery is not yet obtained.</p>   |
| F   | TBA based on MPT data.  |  |  |

## MONDAY\_ Feb 5, 2024

**WARM-UP/HOOK:** *The student will* login to iReady and choose “Area and Surface Area” Take notes on lesson vocabulary and lesson goals. (5 minutes)

**TEACHER INPUT:** (30 minutes)

*The teacher will ...*

- Present the lesson objectives.
- Use questioning strategies to ALL students to answer questions.
- Direct students to copy at least 3 examples from the lesson.

**INDEPENDENT PRACTICE:** (10 minutes)

*The student will ...*

- Complete the lesson quiz with 80% or higher accuracy.

**STUDENT REFLECTION/EXIT TICKET:** *The student will* complete an exit ticket based on today’s learning target. The teacher will use this data to determine which students need extra support. (5 minutes)

**MATERIALS:** notebook paper or “iReady Notes template,” computers, projector, exit tickets

**ASSESSMENT(S):** Teacher observation, exit tickets, iReady lesson quiz results

## TUESDAY\_ Feb 6, 2024

**Focus Question:** How can I calculate the volume of 3-dimensional shapes?

**Bell Ringer:** Complete an entry ticket. (2 minutes)

**Anticipatory Set: (4 minutes)**

**Hook:** Ask the students if they know who invented 3D technology. Say, “**Chuck Hull** was born May 12, 1939) is the co-founder, executive vice president and chief technology officer of 3D Systems.<sup>[1][2]</sup> He is an inventor of the solid imaging process known as stereolithography (3D Printing), the first commercial rapid prototyping technology, and the STL file format.

**Real World Connection:** Say, “The earliest confirmed 3D film shown to an out-of-house audience was *The Power of Love*, which premiered at the Ambassador Hotel Theater in Los Angeles on September 27, 1922. The camera rig was a product of the film's producer, Harry K. Fairall, and cinematographer Robert F. Elder.

**Importance/Relevance:** Say, “President Barack Obama said it has the "potential to revolutionize the way we make almost everything." A recent Freelancer.com study found that it has experienced unprecedented growth. A MyCorporation infographic also estimated that it will become a \$5.2 billion industry by 2020, with a projected 14 percent annual growth between 2012 and 2017. As the 3D printing industry booms, what does it mean for job seekers? From designers to nontechnical positions, there are many jobs available in this industry such as 3D design and research and development.

**Teacher Input:**

*The teacher will... (7.G.6)*

- Present the formulas to find the volume of prisms.
- Explain the meaning behind each part of the symbol.
- Give students drill and practice sheets to find the volume of 3D figures.
- Demonstrate how to use the formulas on several problems.

**Guided Practice:**

*The student will...*

- Solve multiple problems finding the volume of a variety of 3D figures.
- The teacher will lap the room checking for understanding.

**Closure:** *The student will...List, Link, Learn. (List 2 things that are still confusing. Link the lesson to their everyday life. Record 2-3 things that they learned.)*

WEDNESDAY\_ Feb 7, 2024

**ASSESSMENT:**

*The student will*

- Login to Edulastics and complete February DCA.
- Show work on more than half the problems.
- Use time wisely.
- **Early Finishers:** Complete iReady Lesson on their path.

**February 2024 DCA Results**

| Class | 0% - 49% (Critical)<br><i>[Rubies]</i> | 50% - 69% (Emerging)<br><i>[Ambers]</i> | 70% - 84% (Proficient)<br><i>[Emeralds]</i> | 85% - 100% (Advanced)<br><i>[Sapphires]</i> |
|-------|--|---|---|---|
| 1st   |  |   |   |   |
| 3rd   |  |   |   |   |

|     |  |  |  |  |
|-----|--|--|--|--|
| 4th |  |  |  |  |
| 5th |  |  |  |  |
| 7th |  |  |  |  |

**THURSDAY\_ Feb 7, 2024**

**WARM-UP/HOOK:** *The student will* copy the data set from the board. Find the mean, median. Mode. and range of the data set (February DCA). TSW then create a dot plot and a box and whisker plot of the data. **(8 minutes)** TTW will invite students to the board to demonstrate each part. **(8 minutes)**

**TEACHER INPUT: ( 2 minutes)**

*The teacher will ...*

- Direct student to mark an "X" on the questions that the students missed.
- Explain that they will use the class set of the test that includes "Teacher Notes" to rework the problems and/or explain what silly mistake they made.

## **INDEPENDENT PRACTICE: ( 30 minutes)**

*The student will ...*

- Rework problems on their test paper.
- Justify why they missed certain problems.
- Compare their graded test to the teacher's class set/guided notes and questions.
- Identify careless mistakes and correct them.
- Use the UNRAVEL test taking strategy for math for questions not understood.
- Use the videos under the topic "Helpful Videos" in Google classroom recommended by the teacher for each question not understood.
- Notify the teacher when they think they are finished for feedback/review.
- Staple data analysis sheet to the top of their test.
- Get it signed by their parents or guardian and return the following day

## **Meanwhile...**

**TEACHER CONFERENCES:** The teacher will invite individual students to her desk to discuss their most recent MPT and clear up any misconceptions and offer support. **(30 minutes)**

**EARLY FINISHERS:** The student will get iReady or Math Prodigy and wait patiently to be called to the teacher's desk to discuss the test and any misconceptions.

## **TEACHER INPUT: ( 10 minutes)**

*The teacher will ...*

- Review the most missed problems or take any questions the students have.
- Check over student work and provide feedback.
- Choose a student to staple the remainder of the student's paper.
- Explain that it is mandatory to bring their tests back signed by tomorrow.

**STUDENT REFLECTION/EXIT TICKET:** *The student will* complete an exit ticket based on the most missed question(s). The teacher will use this data to determine which students need extra support. **(5 minutes)**

**MATERIALS:** graded Tuesday tests, test analysis sheets, stapler, staples, exit tickets

**ASSESSMENT(S):** Teacher observation, exit tickets, Tuesday tests

FRIDAY\_ Feb 8, 2024

To Be Announced based on the most recent MPT Math data.

| Most Missed Standard(s) | Objective(s) | Activity |
|-------------------------|--------------|----------|
| [Rubies]                | TSWBAT       |          |
| [Ambers]                | TSWBAT       |          |
| [Emeralds]              | TSWBAT       |          |



[Sapphires]

TSWBAT

### Meanwhile...

**TEACHER CONFERENCES:** TTW will finish inviting individual students to her desk to discuss their most recent MPT and clear up any misconceptions and offer support. **(30 minutes)**

**STUDENT REFLECTION/EXIT TICKET:** *The student will* complete an exit ticket based on the most missed question(s). The teacher will use this data to determine which students need extra support. **(5 minutes)**

**MATERIALS:** returned Tuesday tests, exit tickets

**ASSESSMENT(S):** Teacher observation, exit tickets