

## Curriculum Map

Name of Teacher-Fahmida Salam

Subject GR-7 Math

September

<b>Unit 1.</b> Integers and Rational Numbers
<b>Enduring Understandings</b> <ol style="list-style-type: none"><li>1. Students will know properties of operation, linear expressions, and rational coefficients.</li><li>2. Students will understand how to model addition, subtraction, multiplication and division of integers and rational numbers.</li><li>3. Students will be able to apply properties of operation to write equivalent expressions and to add, subtract, factor and expand linear expressions.</li><li>4. Students will be able to use numerical representation to describe and compare the value of real-world quantities.</li><li>5. Students will be able to understand additive inverse and that opposite quantities combine to make zero.</li><li>6. Students will be solving real world problems that involve all properties of operations and all integer rules.</li></ol>
<b>Essential Questions</b> <ol style="list-style-type: none"><li>1. How do you use patterns to understand mathematics and model situations?</li><li>2. How can we predict that the sum of two integers is positive, negative or zero?</li><li>3. How do we add integers with different signs?</li><li>4. How can any difference <math>a-b</math> of two integers be restated as an equivalent addition statement?</li><li>5. How do we determine if the product or quotient of two integers is positive or negative?</li></ol>
<b>Activities</b> <ul style="list-style-type: none"><li>• Hands on activities using post aids and markers to get a deeper understanding of absolute value.</li></ul>
<b>Assessments</b> <p>Formative (Throughout)</p> <ul style="list-style-type: none"><li>• Unit Test</li><li>• Solve and justify task</li><li>• Homework- envision common core workbook</li><li>• Guided practice</li><li>• Corrections and reflection</li><li>• Group work based on post it, agree or disagree</li></ul>
Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 22 days**

**Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-1>
- <https://grade7commoncoremath.wikispaces.hcps.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
- [http://www.free-test-online.com/ccss/grade7/grade7\\_base\\_ten.html](http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html)
- <https://www.plickers.com/>
- <https://www.emathinstruction.com/>

**Textbook Name (Chapters/Pages)**

Envision Math Common core: Ch:1, Pages 2-77

## **TOPIC 2**

Analyze and Use Proportional Relationships

**Enduring Understandings**

1. Students will be able to connect Ratios ,Rates and Unit Rates
2. Students will understand how to determine Unit Rates and Ratios of Fractions.
3. Students will be able to understand Proportional Relationships : Equivalent Ratios
4. Students will be to describe proportional relationships : Constant of Proportionality
5. Students will be able to graph proportional Relationships
6. Students will apply Proportional Reasoning to solve problems

**Essential Questions**

1. How do you recognize and represent proportional relationships between quantities?
2. How can we compute Unit Rates associated with Ratios of Fractions?
3. How do we decide whether two quantities are in a proportional relationship e.g. by testing, for equivalent ratios in a table or graphing and whether the graph is a straight line through the origin?
4. How do we represent proportional relationships in equations?
5. How can we identify the constant of proportionality (unit rates) in tables, graphs, equations, diagrams and verbal descriptions?
6. How do we use proportional relationships to solve multistep ratio and percent problems?

**Activities**

Hands on activities by using markers and sticky notes on writing real world equations
<b>Assessments</b>
Formative (Throughout) <ul style="list-style-type: none"> <li>• Unit Test</li> <li>• Solve and justify task</li> <li>• Homework- envision common core workbook</li> <li>• Guided practice</li> <li>• Corrections and reflection</li> <li>• Group work based on post it, agree or disagree</li> </ul>
Summative (End of Year) <ul style="list-style-type: none"> <li>• Standardized tests and quizzes</li> </ul>
<b>Time Frame/Month : 20 days</b>
<b>Resources/Websites(Primary/Secondary)</b>
<ul style="list-style-type: none"> <li>• <a href="https://www.engageny.org/resource/grade-7-mathematics-module-2">https://www.engageny.org/resource/grade-7-mathematics-module-2</a></li> <li>• <a href="https://grade7commoncoremath.wikispaces.hcpss.org/home">https://grade7commoncoremath.wikispaces.hcpss.org/home</a></li> <li>• <a href="https://www.illustrativemathematics.org/content-standards/7/NBT">https://www.illustrativemathematics.org/content-standards/7/NBT</a></li> <li>• <a href="http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html">http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html</a></li> <li>• <a href="https://www.plickers.com/">https://www.plickers.com/</a></li> <li>• <a href="https://www.emathinstruction.com/">https://www.emathinstruction.com/</a></li> </ul>
<b>Textbook Name (Chapters/Pages)</b>
Envision Math Common core: Ch:2

<b>TOPIC 3</b>
Analyze and Solve Percent Problems
<b>Enduring Understandings</b>
<ol style="list-style-type: none"> <li>1. Students will be able to analyze percent of numbers</li> <li>2. Students will understand how to connect Percent and proportions</li> <li>3. Students will be able to represent and use the percent equation</li> <li>4. Students will be to solve percent change and percent error problems</li> <li>5. Students will be able to solve markup and markdown problems</li> <li>6. Students will solve simple interest questions.</li> </ol>
<b>Essential Questions</b>
<ol style="list-style-type: none"> <li>1. How do you analyze percent of numbers?</li> <li>2. How can we use proportional relationships to connect percent and proportions?</li> </ol>

<ol style="list-style-type: none"> <li>3. How do we represent and use percent equations?</li> <li>4. How do we solve percent change and percent error?</li> <li>5. How can we solve markup and markdowns problems?</li> <li>6. How do we solve simple interest?</li> </ol>
<p><b>Activities</b></p> <p>Hands on activities by using markers and sticky notes on writing real world equations</p> <p>Like sales and simple interest questions.</p>
<p><b>Assessments</b></p> <p>Formative (Throughout)</p> <ul style="list-style-type: none"> <li>• Unit Test</li> <li>• Solve and justify task</li> <li>• Homework- envision common core workbook</li> <li>• Guided practice</li> <li>• Corrections and reflection</li> <li>• Group work based on post it, agree or disagree</li> </ul> <p>Summative (End of Year)</p> <ul style="list-style-type: none"> <li>• Standardized tests and quizzes</li> </ul>
<p><b>Time Frame/Month : 20 days</b></p>
<p><b>Resources/Websites(Primary/Secondary)</b></p> <ul style="list-style-type: none"> <li>• <a href="https://www.engageny.org/resource/grade-7-mathematics-module-2">https://www.engageny.org/resource/grade-7-mathematics-module-2</a></li> <li>• <a href="https://grade7commoncoremath.wikispaces.hcpss.org/home">https://grade7commoncoremath.wikispaces.hcpss.org/home</a></li> <li>• <a href="https://www.illustrativemathematics.org/content-standards/7/NBT">https://www.illustrativemathematics.org/content-standards/7/NBT</a></li> <li>• <a href="http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html">http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html</a></li> <li>• <a href="https://www.plickers.com/">https://www.plickers.com/</a></li> <li>• <a href="https://www.emathinstruction.com/">https://www.emathinstruction.com/</a></li> </ul>
<p><b>Textbook Name (Chapters/Pages)</b></p> <p>Envision Math Common core: Ch:3</p>

<p><b>TOPIC 4</b></p> <p><b>Generate Equivalent Expressions</b></p>
<p><b>Enduring Understandings</b></p> <ol style="list-style-type: none"> <li>1. Students will write and evaluate algebraic expressions.</li> <li>2. Students will understand how to generate equivalent expressions</li> </ol>

3. Students will be able to simplify, expand and factor expressions.
4. Students will be able to add and subtract expressions.
5. Students will be able to analyze equivalent expressions.

**Essential Questions**

1. How do you write and evaluate expressions?
2. How can we generate equivalent expressions?
3. How do we simplify, expand and factor expressions?
4. How can we add and subtract expressions?
5. How do we analyze equivalent expressions?

**Activities**

Hands on activities by using markers and sticky notes on writing real world equations

**Assessments**

## Formative (Throughout)

- Unit Test
- Solve and justify task
- Homework- envision common core workbook
- Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree

## Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 18 days****Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-1>
- <https://grade7commoncoremath.wikispaces.hcpss.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
- [http://www.free-test-online.com/ccss/grade7/grade7\\_base\\_ten.html](http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html)
- <https://www.plickers.com/>
- <https://www.emathinstruction.com/>
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**Textbook Name (Chapters/Pages)**

Envision Math Common core: Ch:4

**TOPIC 5**

Solve problems using equations and inequalities

**Enduring Understandings**

1. Students will be able to write two step equations
2. Students will understand how to solve two step equations
3. Students will be able to solve equations using the distributive property
4. Students will be to solve inequalities using addition or subtraction
5. Students will be to solve inequalities using multiplication or division
6. Students will solve two step inequalities and multi-step inequalities.

**Essential Questions**

1. How do you use different tools and strategies to write two-step equations?
2. How can students solve a problem using two step equation and compare algebraic and arithmetic solutions?
3. How do we use the distributive property to solve equations with integers and rational numbers?
4. How do we graph inequalities on a number line?
5. How can we solve inequalities using addition, subtraction, multiplication or division
6. How do we solve two-step inequality and multi-step inequality?

**Activities**

Hands on activities by using markers and sticky notes on writing real world equations

**Assessments**

Formative (Throughout)

- Unit Test
- Solve and justify task
- Homework- envision common core workbook
- Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree

Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 20 days**

**Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-2>
- <https://grade7commoncoremath.wikispaces.hcpss.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
- [http://www.free-test-online.com/ccss/grade7/grade7\\_base\\_ten.html](http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html)
- <https://www.plickers.com/>

- <https://www.emathinstruction.com/>

**Textbook Name (Chapters/Pages)**

Envision Math Common core: Ch:5

Ready book (practice and problem solving, Instructions)

**Unit 6**

Using samples to draw Inferences about population

**Enduring Understandings**

1. Students will understand the difference between a population and a sample.
2. Students will establish whether a sample is representative of a population.
3. Students will be able to generate random samples that represent the entire population.
4. Students will be able to make qualitative and quantitative inferences from a sample data and assess whether the inferences are valid
5. Students will be able to distinguish between samples and data.

**Essential Questions**

1. How do you reflect the characteristics of the entire population?
2. How can data from random samples be used to make valid inferences about a population by looking for patterns or trends in the distribution of the data?
3. How do we distinguish between sample and data?
4. How can we identify and generate random samples that are representative of a population?

**Activities**

Hands on activities by using markers and sticky notes on random and samples

**Assessments**

Formative (Throughout)

- Unit Test
- Solve and justify task
- Homework- envision common core workbook
- Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree

Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 16 days**

**Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-1>
- <https://grade7commoncoremath.wikispaces.hcpss.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
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**Textbook Name (Chapters/Pages)**

Envision Math Common core: Ch:6

**Unit 7**

**Probability**

**Enduring Understandings**

1. Students will use probability to describe likelihood that an event will occur.
2. Students will relate probability to mathematical fairness
3. Students will compare theoretical and experimental probability
4. Students will explain differences between theoretical and experimental probability
5. Students will use a probability model to evaluate a situation.

**Essential Questions**

1. How do you use probabilities to make predictions?
2. How do we compare experimental probability with theoretical probability?
3. How do we determine the probability of compound events?
4. How do we find sample space?
5. How do we use tree diagrams, tables and organized lists to represent sample spaces?

**Activities**

Hands on activities by using markers and sticky notes on probabilities for tossing coins, dice and marble.

**Assessments**

Formative (Throughout)

- Unit Test
- Solve and justify task
- Homework- envision common core workbook
- Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree
- Ready and past exam papers 2019,2018,2017



Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 16 days**

**Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-1>
- <https://grade7commoncoremath.wikispaces.hcps.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
- [http://www.free-test-online.com/ccss/grade7/grade7\\_base\\_ten.html](http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html)
- <https://www.plickers.com/>
- <https://www.emathinstruction.com/>

**Textbook Name (Chapters/Pages)**

Envision Math Common core: Ch:7

## **Unit 8**

Solve problems involving Geometry

**Enduring Understandings**

1. Students will use a scale drawing as a representation of actual lengths and area.
2. Students will name and classify quadrilaterals according to their properties
3. Students will construct triangles with given conditions
4. Students will conclude whether a triangle is formed and what type of triangle it is.
5. Students will calculate the measures of angles by using angle relationships.
6. Students will calculate radius, diameter of a circle and recognize the relationship between the circumference and the diameter of a circle and pi
7. Students will be able to find the area of a circle, use the area to find the radius and diameter.
8. Students will be able to find surface areas and volume of two and three dimensional figures.

**Essential Questions**

1. How do you use scale drawings to calculate measurements and reproduce proportional scale drawings?
2. How do we draw a unique quadrilateral that requires a combination of side lengths, angle measures and side angle relationships?
3. How do we construct triangles with given conditions and determine whether it is a unique more than one or no triangle?
4. How do we find the measures of angles by using angle relationships?
5. How do we find circumference and diameter of a circle?

6. How do we use the formula for the area of a circle to solve problems by substituting the unknown values for areas and/or radius to solve for the unknown value?
7. How do we find the surface area of a composite figure?
8. How do we find the volume of a composite figure?

**Activities**

Drawing of circles on construction paper and drawing and measuring the diameter and radius

**Assessments**

## Formative (Throughout)

- Unit Test
  - Solve and justify task
  - Homework- envision common core workbook
  - Guided practice
  - Corrections and reflection
  - Group work based on post it, agree or disagree
- 
- Ready and past exam papers, 2016,2015,2014.

## Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 16 days****Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-1>
- <https://grade7commoncoremath.wikispaces.hcpss.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
- [http://www.free-test-online.com/ccss/grade7/grade7\\_base\\_ten.html](http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html)
- <https://www.plickers.com/>
- <https://www.emathinstruction.com/>

**Textbook Name (Chapters/Pages)**

Envision Math Common core: Chapter 8

**TOPIC 9****GEOMETRY****Enduring Understandings**

1. Students will be able to describe and sketch cross sections of right rectangular prisms.
2. Students will solve problems involving cross sections
3. Students will be able to understand how the faces of a three dimensional figure determine the size and shape of its cross sections.
4. Students will be to find the surface area of 2 and 3 dimensional composite figure.
5. Students will solve problems involving volume

**Essential Questions**

1. How do you use describe and sketch cross sections of right rectangular prisms?
2. How can students solve a problem involving cross sections?
3. How do we use the faces of a three dimensional figure to determine the size and shape of its cross sections?
4. How do we find the surface area of 2 and 3 dimensional composite figure?
5. How can we solve problems involving volume?

**Activities**

Hands on activities by using markers and sticky notes on writing real world equations

**Assessments**

Formative (Throughout)

- Unit Test
- Solve and justify task
- Homework- envision common core workbook
- Guided practice
- Corrections and reflection
- Group work based on post it, agree or disagree

Summative (End of Year)

- Standardized tests and quizzes

**Time Frame/Month : 18 days****Resources/Websites(Primary/Secondary)**

- <https://www.engageny.org/resource/grade-7-mathematics-module-2>
- <https://grade7commoncoremath.wikispaces.hcpss.org/home>
- <https://www.illustrativemathematics.org/content-standards/7/NBT>
- [http://www.free-test-online.com/ccss/grade7/grade7\\_base\\_ten.html](http://www.free-test-online.com/ccss/grade7/grade7_base_ten.html)
- <https://www.plickers.com/>
- <https://www.emathinstruction.com/>

**Textbook Name (Chapters/Pages)**

Envision Math Common core:

Ready book (practice and problem solving, Instructions)

