

Unit 5 Common Core State Standards

6.SP.1 Recognize a statistical question as one that anticipates variability in the data related to the question and .accounts for it in the answers	6.SP.2 Understand that a set of data collected to answer a statistical question has a distribution which can be described by its center, spread, and overall shape.	6.SP.3 Recognize that a measure of center for numerical data set summarizes all of its values with a single number, while a measure of variation describes how its values vary with a single number.	6.SP.4 Display numerical data in plots on a number line, including dot plots, histograms, and box plots.	6.SP.5 Summarize quantitative measures of center and variability, as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
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Unit 5 Essential Questions:

- *What are the benefits of each type of data plot when analyzing the distribution of a given data set?*
- *What do the measurements of variation: range, interquartile range (IQR) and mean absolute deviation (MAD); represent with respect to a numerical data set and how do they help us understand it better?*

Number Sense:

- *Odd one out*
- *Ways to make a number*
- *Always, Sometimes, Never*

Monday Engage NY Lesson 6-1

Objective: Students distinguish between statistical questions and those that are not statistical. Students formulate a statistical question and explain what data could be collected to answer the question. Students distinguish between categorical data and numerical data.

Agenda:

1. Warm up: Ways to Make a Number AND Video:
2. Classwork: Engage NY Lesson 1
3. Homework: Engage NY Lesson 1 Problem Set/Homework
4. Exit Ticket

Tuesday Engage NY Lesson 6-2

Objective: Given a dot plot, students begin describing the distribution of the points on the dot plot in terms of center and variability.

Agenda:

5. Warm up: Ways to Make a Number AND Video::
6. Classwork: Engage NY Lesson 2 Exercises 1-3
7. Homework: Engage NY Lesson 2 Problem Set/Homework
8. Exit Ticket

Wednesday Engage NY Lesson 6-4

Objective: Students construct a frequency histogram. Students recognize that the number of intervals may affect the shape of a histogram.

Agenda:

1. Warm up: Ways to Make a Number AND Video:
2. Classwork: Engage NY Lesson 4 Exercises and Stations
3. Homework: Engage NY Lesson 4 Problem Set/Homework
4. Exit Ticket

Thursday Engage NY Lesson 6-6

Objective: Students define the center of data distribution by a “fair share” value called a mean. Students connect the “fair share” concept with a mathematical formula for finding the mean.

Agenda:

1. Warm up: Ways to Make a Number AND Video:
2. Classwork: Engage NY Lesson 6-6 Examples 1-3 and Exercises 1-4
3. Homework: Engage NY Lesson 6-6 Problem Set/Homework

Friday Engage NY Lesson 6-7

Objective: Students characterize the center of a distribution by its mean in the sense of a balance point. Students understand that the mean is a balance point by calculating the distances of the data points from the mean and call the distances, deviations.

Agenda:

4. Warm up: Ways to Make a Number AND Video:
5. Classwork: Engage NY Lesson 6-7 Examples 1-6
6. Homework: Engage NY Lesson 6-7 Problem Set/Homework

Mrs. Rayman's Daily Instructional Plan- Grade 6 Math

	Monday	Tuesday	Wednesday	Thursday	Friday
Accessing Prior Knowledge - <i>Where</i> are your students headed? Where have they been? How will you make sure the students know where they are going?	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video: :
Guided Practice - What events will help students <i>experience and explore</i> the big idea and questions in the unit? How will you equip them with needed skills and knowledge?	Direct Instruction: Engage NY Lesson 6-1	Direct Instruction: Engage NY Lesson 6-2 Examples 1-8	Direct Instruction: Engage NY Lesson 6-4 Examples 1-4	Direct Instruction: Engage NY Lesson 6-6 Examples 1-2 and Exercises 1-6	Direct Instruction: Engage NY Lessons 6-7
Independent Practice - How will you cause students to <i>reflect and rethink</i> ? How will you guide them in rehearsing, revising, and refining their work? How will students work together to ensure mastery for all?	Student Notes and Homework: Engage NY Lesson 6-1 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-2 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-4 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-6 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-7 Problem Set/Homework
Assessing Knowledge - How will you help students to <i>exhibit and self-evaluate</i> their growing skills, knowledge, and understanding throughout the unit?	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations
Differentiation/Accommodation - How will you <i>tailor</i> and otherwise personalize the learning plan to optimize the engagement and effectiveness of ALL students, without compromising the goals of the unit?	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments
Learner Outcome - How will students <i>demonstrate</i> , as a result of lesson, their level of mastery? <ul style="list-style-type: none"> ● Understand ● Know ● Do 	Students distinguish between statistical questions and those that are not statistical. Students formulate a statistical question and explain what data could be collected to answer the question. Students distinguish between categorical data and numerical data.	Given a dot plot, students begin describing the distribution of the points on the dot plot in terms of center and variability.	Students construct a frequency histogram. Students recognize that the number of intervals may affect the shape of a histogram.	Students define the center of data distribution by a "fair share" value called a mean. Students connect the "fair share" concept with a mathematical formula for finding the mean.	Students characterize the center of a distribution by its mean in the sense of a balance point. Students understand that the mean is a balance point by calculating the distances of the data points from the mean and call the distances, deviations.

Unit 6 Common Core State Standards

6.G.1 Find the area of right triangles, other triangles, special quadrilaterals, and polygons by composing into rectangles or decomposing into triangles and other shapes; apply these techniques in the context of solving real-world and mathematical problems.	6.G.2 Find the volume of a right rectangular prism with fractional edge lengths by packing it with unit cubes of the appropriate unit fraction edge lengths, and show that the volume is the same as would be found by multiplying the edge lengths of the prism. Apply the formulas $V = L \times W \times H$ and $V = B \times H$ to find the volume of right rectangular prisms.	6.G.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.	6.G.4 Represent three-dimensional figures using nets made up of rectangles and triangles, and use the nets to find the surface area of these figures. Apply these techniques in the context of solving real-world and mathematical problems.
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Unit 6 Essential Questions:

- What are the Similarities and differences of finding the area and perimeter of a 2-dimensional shape compared to the volume and surface area of a 3-dimensional shape?
- What strategies can be used to find the area of non-regular shapes?

Number Sense:

- Odd one out
- Always, Sometimes, Never

Monday Engage NY Lesson 1

Objective: Students show the area formula for the region bounded by a parallelogram by composing it into rectangles. They understand that the area of a parallelogram is the area of the region bounded by the parallelogram.

1. Warm up: Ways to Make a Number AND Video:
2. Classwork: Engage NY Lesson 1 Exercises 1-2
3. Homework: Engage NY Lesson 1 Problem Set/Homework

Tuesday Engage NY Lesson 2

Objective: Students justify the area formula for a right triangle by viewing the right triangle as part of a rectangle composed of two triangles.

4. Warm up: Ways to Make a Number AND Video:
5. Classwork: Engage NY Lesson 2 Exemplary Challenge and Exercises 1-8
6. Homework: Engage NY Lesson 2 Problem Set/Homework

Wednesday Engage NY Lesson 3

Objective: Students show the area formula for a triangular region by decomposing a triangle into right triangles. For a given triangle, the height of the triangle is the length of the altitude. The length of the base is called either the length base or, more commonly, the base. Students understand that the height of the triangle is the perpendicular segment from a vertex of a triangle to the line containing the opposite side. The opposite side is called the base. Students understand that any side of a triangle can be considered a base and that the choice of base determines the height.

7. Warm up: Ways to Make a Number AND Video:
8. Classwork: Engage NY Lesson 3 Exercises 1-5
9. Homework: Engage NY Lesson 3 Problem Set/Homework

Thursday Engage NY Lesson 4

Objective: Students construct the altitude for three different cases: an altitude that is a side of a right angle, an altitude that lies over the base, and an altitude that is outside the triangle. Students deconstruct triangles to justify that the area of a triangle is exactly one half the area of a parallelogram.

10. Warm up: Ways to Make a Number AND Video:
11. Classwork: Engage NY Lesson 4 Exercises 1-8
12. Homework: Engage NY Lesson 4 Problem Set/Homework

Friday Engage NY Lesson 5

Objective: Students show the area formula for the region bounded by a polygon by decomposing the region into triangles and other polygons. They understand that the area of a polygon is actually the area of the region bounded by the polygon. Students find the area for the region into two triangles. They understand that the area of a trapezoid is actually the area of the region bounded by the trapezoid. Students decompose rectangles to determine the area of other quadrilaterals.

13. Warm up: Ways to Make a Number AND Video:
14. Classwork: Engage NY Lesson 5 Examples 1-3
15. Homework: Engage NY Lesson 5 Problem Set/Homework

Mrs. Rayman's Daily Instructional Plan- Grade 6 Advanced Math

	Monday	Tuesday	Wednesday	Thursday	Friday
Accessing Prior Knowledge - Where are your students headed? Where have they been? How will you make sure the students know where they are going?	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video:	Warm up: Ways to Make a Number of the Day AND Video: :	Warm up: Ways to Make a Number of the Day AND Video:
Guided Practice - What events will help students experience and explore the big idea and questions in the unit? How will you equip them with needed skills and knowledge?	Direct Instruction: Engage NY Lessons: 6-12	Direct Instruction: Engage NY Lessons: 6-13	Direct Instruction: Engage NY Lessons: 6-14	Direct Instruction: Engage NY Lessons 6-15	Direct Instruction: Engage NY Vocabulary
Independent Practice - How will you cause students to reflect and rethink ? How will you guide them in rehearsing, revising, and refining their work? How will students work together to ensure mastery for all?	Student Notes and Homework: Engage NY Lesson 6-12 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-13 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-14 Problem Set/Homework	Student Notes and Homework: Engage NY Lesson 6-15 Problem Set/Homework	Student Notes and Homework: Vocabulary
Assessing Knowledge - How will you help students to exhibit and self-evaluate their growing skills, knowledge, and understanding throughout the unit?	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations	Exit Tickets and Teacher Observations
Differentiation/Accommodation - How will you tailor and otherwise personalize the learning plan to optimize the engagement and effectiveness of ALL students, without compromising the goals of the unit?	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments	Pre written vocabulary & notes, extended time, preferential seating, reduced assignments
Learner Outcome - How will students demonstrate , as a result of lesson, their level of mastery? <ul style="list-style-type: none"> • Understand • Know • Do 	Students show the area formula for the region bounded by a parallelogram by composing it into rectangles. They understand that the area of a parallelogram is the area of the region bounded by the parallelogram.	Students justify the area formula for a right triangle by viewing the right triangle as part of a rectangle composed of two triangles.	Students show the area formula for a triangular region by decomposing a triangle into right triangles. For a given triangle, the height of the triangle is the length of the altitude. The length of the base is called either the length base or, more commonly, the base. Students understand that the height of the triangle is the perpendicular segment from a vertex of a triangle to the line containing the opposite side. The opposite side is called the base. Students understand that any side of a triangle can be considered a base and that the choice of base determines the height.	Students construct the altitude for three different cases: an altitude that is a side of a right angle, an altitude that lies over the base, and an altitude that is outside the triangle. Students deconstruct triangles to justify that the area of a triangle is exactly one half the area of a parallelogram.	Students show the area formula for the region bounded by a polygon by decomposing the region into triangles and other polygons. They understand that the area of a polygon is actually the area of the region bounded by the polygon. Students find the area for the region into two triangles. They understand that the area of a trapezoid is actually the area of the region bounded by the trapezoid. Students decompose rectangles to determine the area of other quadrilaterals.