7th Grade Syllabus/Pacing Guide
(Tentative)
2024-2025

Curriculum Resources-

- **Math Nation (Accelerated Math)**
    - **(both non-digital and digital)**
- **Maneuvering the Middle**
- **PLP**
- **IXL (digital)**
- **I-Ready (digital)**
- **Other reteaching resources as needed**

1st Nine Weeks
*Star Math Assessment/I-Ready will be administered

Number Systems and Operations
4. Apply and extend knowledge of operations of whole numbers, fractions, and decimals to add, subtract, multiply,
g. Convert a rational number to a decimal using long division, explaining that the decimal form of a rational
number terminates or eventually repeats.
and divide rational numbers including integers, signed fractions, and decimals.
a. Identify and explain situations where the sum of opposite quantities is 0 and opposite quantities are defined as
additive inverses.
b. Interpret the sum of two or more rational numbers, by using a number line and in real-world contexts.
c. Explain subtraction of rational numbers as addition of additive inverses.
d. Use a number line to demonstrate that the distance between two rational numbers on the number line is the
absolute value of their difference, and apply this principle in real-world contexts.
e. Extend strategies of multiplication to rational numbers to develop rules for

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multiplying signed numbers,
showing that the properties of the operations are preserved.
f. Divide integers and explain that division by zero is undefined. Interpret the quotient of integers (with a non-zero divisor) as a rational number.

5. Solve real-world and mathematical problems involving the four operations of rational numbers, including complex
fractions. Apply properties of operations as strategies where applicable.

Proportional Reasoning

Analyze proportional relation
1. Calculate unit rates of length, area, and other quantities measured in like or different units that include ratios or
fractions.
2. Represent a relationship between two quantities and determine whether the two quantities are related
proportionally.
a. Use equivalent ratios displayed in a table or in a graph of the relationship in the coordinate plane to determine
whether a relationship between two quantities is proportional.
b. Identify the constant of proportionality (unit rate) and express the proportional relationship using multiple
representations including tables, graphs, equations, diagrams, and verbal descriptions.
c. Explain in context the meaning of a point (x,y) on the graph of a proportional relationship, with special
attention to the points (0,0) and (1, r) where r is the unit rate.ships and use them to solve real-world and mathematical problems.

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2nd Nine Weeks
*Star Math Assessment - end of 9 weeks

Proportional Reasoning
3. Solve multi-step percent problems in context using proportional reasoning, including simple interest, tax, gratuities, commissions, fees, markups and markdowns, percent increase, and percent decrease.

Data Analysis, Statistics
Make inferences about a population using random sampling
10. Examine a sample of a population to generalize information about the population.
a. Differentiate between a sample and a population.
b. Compare sampling techniques to determine whether a sample is random and thus representative of a
population, explaining that random sampling tends to produce representative samples and support valid
inferences.
c. Determine whether conclusions and generalizations can be made about a population based on a sample.
d. Use data from a random sample to draw inferences about a population with an unknown characteristic of
interest, generating multiple samples to gauge variation and making predictions or conclusions about the
population.
e. Informally explain situations in which statistical bias may exist.
11. Informally assess the degree of visual overlap of two numerical data distributions with similar variabilities,
measuring the difference between the centers by expressing it as a multiple of a measure of variability.
12. Make informal comparative inferences about two populations using measures of center and variability and/or mean
absolute deviation in context.

Probability
Investigate probability models.
13. Use a number from 0 to 1 to represent the probability of a chance event occurring, explaining that larger numbers
indicate greater likelihood of the event occurring, while a number near zero indicates an unlikely event.
14. Define and develop a probability model, including models that may or may not be uniform, where uniform models
assign equal probability to all outcomes and non-uniform models involve events that

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are not equally likely.
a. Collect and use data to predict probabilities of events.
b. Compare probabilities from a model to observed frequencies, explaining possible sources of discrepancy.
15. Approximate the probability of an event using data generated by a simulation (experimental probability) and
compare it to the theoretical probability.
a. Observe the relative frequency of an event over the long run, using simulation or technology, and use those
results to predict approximate relative frequency.
16. Find probabilities of simple and compound events through experimentation or simulation and by analyzing the
sample space, representing the probabilities as percents, decimals, or fractions.
a. Represent sample spaces for compound events using methods such as organized lists, tables, and tree diagrams,
and determine the probability of an event by finding the fraction of outcomes in the sample space for which the
compound event occurred.
b. Design and use a simulation to generate frequencies for compound events.
c. Represent events described in everyday language in terms of outcomes in the sample space which composed
the event.
Geometry and Measurement
Construct and describe
geometric figures,
analyzing relationships
among them.
17. Solve problems in

3rd Nine Weeks

Algebra and Functions
Create equivalent expressions using the properties of operations.
6. Apply properties of operations as strategies to add, subtract, factor, and expand linear expressions with rational
coefficients.
7. Generate expressions in equivalent forms based on context and explain how the quantities are related

Algebra and Functions
Solve real-world and mathematical problems using numerical and algebraic

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expressions, equations, and inequalities.
8. Solve multi-step real-world and mathematical problems involving rational numbers (integers, signed fractions and
decimals), converting between forms as needed. Assess the reasonableness of answers using mental computation
and estimation strategies.
9. Use variables to represent quantities in real-world or mathematical problems and construct algebraic expressions,
equations, and inequalities to solve problems by reasoning about the quantities.
a. Solve word problems leading to equations of the form px + q = r and p(x + q) = r, where p, q, and r are specific
rational numbers. Solve equations of these forms fluently. Compare an algebraic solution to an arithmetic
solution, identifying the sequence of the operations used in each approach.
b. Solve word problems leading to inequalities of the form px + q > r or px + q < r, where p, q, and r are specific
rational numbers. Graph the solution set of the inequality, and interpret it in the context of the problem.

Geometry and Measurement
Construct and describe geometric figures, analyzing relationships among them
17. Solve problems involving scale drawings of geometric figures, including computation of actual lengths and areas
from a scale drawing and reproduction of a scale drawing at a different scale.
18. Construct geometric shapes (freehand, using a ruler and a protractor, and using technology), given a written
description or measurement constraints with an emphasis on constructing triangles from three measures of angles
or sides, noticing when the conditions determine a unique triangle, more than one triangle, or no triangle.
19. Describe the two-dimensional figures created by slicing three-dimensional figures into plane sections.

4th Nine Weeks

Geometry and Measurement
Solve real-world and mathematical problems involving angle measure, circumference, area, surface area, and volume. Note: Students must select and use the appropriate unit for the attribute being measured when determining length, area, angle, time, or volume.

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20. Explain the relationships among circumference, diameter, area, and radius of a circle to demonstrate understanding
of formulas for the area and circumference of a circle.
a. Informally derive the formula for area of a circle.
b. Solve area and circumference problems in real-world and mathematical situations involving circles.
21. Use facts about supplementary, complementary, vertical, and adjacent angles in multi-step problems to write and
solve simple equations for an unknown angle in a figure.
22. Solve real-world and mathematical problems involving area, volume, and surface area of two- and three dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right rectangular prisms.

ACAP Review will start in March
After Acap, we will review 7th grade standards and preview 8th grade Standards

Star Math Assessment - May

The student mathematical practices are as follows:

- Make sense of problems and persevere in solving them
- Reason abstractly and quantitatively
- Construct viable arguments and critique the reasoning of others
- Model with mathematics
- Use appropriate tools and strategically
- Attend to precision
- Look for and make use of structure
- Look for and express regularity in repeated reasoning

Remind code: **@sjones7th**

Please Refer to the student code of conduct for grading & discipline policies

Classroom rules will be explained and all Remind and Class to students the first week of school

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