7th Grade Math Standards

Math Essential Standards:

Benchmark 1:

1. **7.M.NS.A.01:** The Highly Proficient student can justify the steps to add and subtract rational numbers and interpret the sums in real world context. **- 5 days**
2. **7.M.NS.A.02:** The Highly Proficient student can multiply and divide to justify the product and quotient in real world situations. **- 5 days**
3. **7.M.NS.A.03:** The Highly Proficient student can create a story problem to model a given number sentence based on a real-world context and uses this to solve problems. **- 5 days**
4. **7.M.EE.A.01:** The Highly Proficient student can apply mathematical properties to expand linear expressions, create equivalent expressions, and explain key terms and factors. **- 5 days**
5. **7.M.EE.B.04a:** The Highly Proficient student can create a model and solve real-world or mathematical problems using equations with rational coefficients and explains what the solution means. **- 5 days**
6. **7.M.EE.B.04b:** The Highly Proficient student can create a model and solve real-world or mathematical problems using inequalities with rational coefficients and explains what the solution means. **- 5 days**

Benchmark 2:

1. **7.M.RP.A.03:** The Highly Proficient student can create equivalent proportional equations that could be used to solve the same ratio/percent problem. **- 10 days**
2. **7.M.RP.A.02ab:** The Highly Proficient student can describe the constant rate of change and identify, extend, and create a proportional relationship in context. **- 5 days**
3. **7.M.G.A.01:** The Highly Proficient student can use a scale drawing to calculate the actual dimensions of a figure and reproduce a scale drawing using a different scale. **- 5 days**
4. **7.M.G.B.05:** The Highly Proficient student can write and solve multi-step equations to find missing angles formed by intersecting lines. **- 5 days**
5. **7.M.G.A.02:** The Highly Proficient student can justify the conditions for a unique triangle, more than one triangle or no triangle. **- 5 days**
6. **7.M.G.B.04:** The Highly Proficient student can explain why the formulas for area and circumference work and explain the relationship between area of a circle and area of a parallelogram. **- 10 days**

Benchmark 3:

1. **7.M.G.A.03:** The Highly Proficient student can describe and draw 2-D figures that result from slicing a right prism or pyramid. **- 5 days**
2. **7.M.G.B.06a:** The Highly Proficient student can solve surface area of 3D shapes to solve real world problems. **- 5 days**

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3. **7.M.G.B.06b:** The Highly Proficient student can use relationships between volume and surface area to solve real-world problems. **- 5 days**
4. **7.M.SP.A.02:** The Highly Proficient student can justify and create the best method to represent the sample and the impact of the prediction. **- 5 days**
5. **7.M.SP.C.06**: The Highly Proficient student can recognize and justify the relationship between the experimental and theoretical probability. **- 5 days**
6. **7.M.SP.C.08:** The Highly Proficient student can compare different simulations to determine the best prediction. **- 10 days**

Benchmark 4:

1. **7.M.SP.B.03**: The Highly Proficient student can compare two visual representations of data to make comparative inferences, using measures of central tendency and variability, about two populations in context. **- 10 days**

Math Yearly Standards:

★ **None**

Math Additional Standards:

1. **7.M.NS.A.01c**: Understand subtraction of rational numbers as adding the additive inverse, $p – q = p + (–q)$. Show 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. **(Month 1 & 2)**
2. **7.M.NS.A.01d:** Apply properties of operations as strategies to add and subtract rational numbers. **(Month 1 & 2)**
3. **7.M.NS.A.02c:** Apply properties of operations as strategies to multiply and divide rational numbers. **(Month 1 & 2)**
4. **7.M.NS.A.02d:** Convert a rational number to a decimal using long division; know that the decimal form of a rational number terminates in 0s or eventually repeats. **(Month 1 & 2)**
5. **7.M.EE.B.03:** The Highly Proficient student can create a model and solve real-world or mathematical problems using equations and inequalities with rational coefficients and explain what the solution means. **(Months 1, 2, & 3)**
6. **7.M.EE.A.02:** Understand that rewriting an expression in different forms in a problem context can shed light on the problem and how the quantities in it are related. For example, $a + 0.05a = 1.05a$ means that “increase by 5%” is the same as “multiply by 1.05.” **(Month 2)**
7. **7.M.RP.A.01**: Compute unit rates associated with ratios of fractions, including ratios of lengths, areas and other quantities measured in like or different units. For example, if a person walks 1⁄2 mile in each 1⁄4 hour, compute the unit rate as the complex fraction 1⁄2/1⁄4 miles per hour, equivalently 2 miles per hour. **(Month 3 & 4)**

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8. **7.M.RP.A.02c:** Represent proportional relationships by equations. For example, if total cost t is proportional to the number n of items purchased at a constant price p, the relationship between the total cost and the number of items can be expressed as t=pn. **(Month 4)**
9. **7.M.RP.A.02d:** Explain what a point (x, y) on the graph of a proportional relationship means in terms of the situation, with special attention to the points (0, 0) and (1, r) where r is the unit rate. **(Month 4)**
10. **7.M.SP.C.05**: Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring. Larger numbers indicate greater likelihood. A probability near 0 indicates an unlikely event, a probability around 1⁄2 indicates an event that is neither unlikely nor likely, and a probability near 1 indicates a likely event. **(Month 9)**
11. **7.M.SP.C.07**: Develop a probability model and use it to find probabilities of events. Compare probabilities from a model to observed frequencies; if the agreement is not good, explain possible sources of the discrepancy. **(Month 9)**
12. **7.M.SP.A.01:** Understand that statistics can be used to gain information about a population by examining a sample of the population; generalizations about a population from a sample are valid only if the sample is representative of that population. Understand that random sampling tends to produce representative samples and support valid inferences. **(Month 10)**
13. **7.M.SP.B.04:** Use measures of center and measures of variability for numerical data from random samples to draw informal comparative inferences about two populations. For example, decide whether the words in a chapter of a seventh-grade science book are generally longer than the words in a chapter of a fourth- grade science book. **(Month 10)**