

8th grade eLearning Math Resources for South Carolina School Districts

The Office of Standards and Learning has compiled the resources in this document for middle level Math learners in light of school closures due to the community impact of COVID-19.

The South Carolina College- and Career-Ready Standards for Mathematics informed the selection and organization of these resources.

The resources listed below are tasks to get your students exploring the mathematical content in the world around them. Teachers, choose among the resources listed below based on knowledge of your students and the work that has already been completed in your classroom. Each of the following tasks can be given to students as they are stated below. The tasks can be copied and pasted into a document to be copied and sent to students, or they can be copied and pasted into your district's learning management system. However, feel free to modify as needed for your students.

<i>Mathematics Content Standard(s) Addressed</i>	<i>Mathematics Process Standard(s) Addressed</i>	<i>Math Task</i>
<p><i>Functions</i></p> <p>8.F.1 Explore the concept of functions.</p> <p>8.F.3 Investigate the differences between linear and nonlinear functions using multiple representations (i.e., tables, graphs, equations, and verbal descriptions).</p> <p>8.F.4 Apply the concepts of linear functions to real-world and mathematical situations.</p> <p>8.F.5 Apply the concepts of linear and nonlinear functions to graphs in real-world and mathematical situations.</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason both contextually and abstractly. 3. Use critical thinking skills to justify mathematical reasoning. 4. Connect mathematical ideas and real-world situations through modeling. 6. Communicate mathematically and with precision. 7. Identify and utilize structure and patterns. 	<p>Determine the calories for one scoop, two scoops, and three scoops of your favorite flavor of ice cream cone. Create at least 3 different representations of the information (mapping, equation, picture, table, graph, etc.). Is this relationship a function? Why or why not? Is this a linear relationship? Why or why not? Show your thinking.</p>
<p><i>Geometry and Measurement</i></p> <p>8.GM.9 Solve real-world and mathematical problems involving volumes of cones, cylinders, and spheres and the surface area of cylinders.</p>	<ol style="list-style-type: none"> 1. Make sense of problems and persevere in solving them. 2. Reason both contextually and abstractly. 3. Use critical thinking skills to justify mathematical reasoning. 	<p>Find a can or jar. Measure the dimensions of the can or jar. Determine the volume of the can or jar. Do your calculations match those on the can or jar? Why or why not? Does it make sense that your calculations may be different? Why or why not? Calculate the surface area of the</p>

<i>Mathematics Content Standard(s) Addressed</i>	<i>Mathematics Process Standard(s) Addressed</i>	<i>Math Task</i>
	<p>4. Connect mathematical ideas and real-world situations through modeling.</p> <p>6. Communicate mathematically and with precision.</p> <p>7. Identify and utilize structure and patterns.</p>	<p>can or jar. Show your thinking as you determine the volume and surface area of the can or jar.</p>
<p><i>Data Analysis, Statistics, and Probability</i></p> <p>8.DSP.1 Investigate bivariate data. 8.DSP.2 Draw an approximate line of best fit on a scatter plot that appears to have a linear association and informally assess the fit of the line to the data points.</p> <p>8.DSP.3 Apply concepts of an approximate line of best fit in real-world situations.</p>	<p>1. Make sense of problems and persevere in solving them.</p> <p>2. Reason both contextually and abstractly.</p> <p>3. Use critical thinking skills to justify mathematical reasoning.</p> <p>4. Connect mathematical ideas and real-world situations through modeling.</p> <p>6. Communicate mathematically and with precision.</p> <p>7. Identify and utilize structure and patterns.</p>	<p>Record the daily high and low temperatures for two weeks. Create a scatterplot of the high temperature data. Create a scatterplot of the low temperature data (use the same scale as you used for the high temperature graph). Do you see any outliers in the data? If so, explain why the data point is an outlier. Find a line of best fit for both graphs. Use your line of best fit to predict what the high and low temperatures will be in 5 days. Show your work and explain your thinking.</p>
<p><i>Geometry and Measurement</i></p> <p>8.GM.7 Apply the Pythagorean Theorem to model and solve real-world and mathematical problems in two and three dimensions involving right triangles.</p>	<p>1. Make sense of problems and persevere in solving them.</p> <p>2. Reason both contextually and abstractly.</p> <p>3. Use critical thinking skills to justify mathematical reasoning.</p> <p>4. Connect mathematical ideas and real-world situations through modeling.</p> <p>6. Communicate mathematically and with precision.</p> <p>7. Identify and utilize structure and patterns.</p>	<p>Measure the dimensions of your front door. What is the largest game table that you can get through your door? Hint: The table does not have to come through the door straight up. Show your work and explain your thinking.</p>

References

Ammons, Sandra. (2020). *8th grade eLearning Math Resources for South Carolina School Districts*. South Carolina Department of Education.

South Carolina College- and Career-Ready Standards for Mathematics. (2015). Retrieved March 17, 2020, from <https://ed.sc.gov/instruction/standards-learning/mathematics/standards/scccr-standards-for-mathematics-final-print-on-one-side/>