

Mrs. Autry

ACT Prep Curriculum Map (Math and Science Semester)

- Each unit is 2-3 weeks depending on the school calendar
- Each unit consist of direct instruction at the beginning of the skill set, followed by activities, practice and questions
- A post-assessment will be at the end of each unit
- Each month, students will take a practice ACT and will track their progress

Unit 1	Essential Skills	<ul style="list-style-type: none"><li>• Fractions</li><li>• Percentages</li><li>• Averages</li><li>• ratios</li></ul>	<ul style="list-style-type: none"><li>• N201 - Perform one operation computation with whole numbers and decimals</li><li>• N202 - Recognize equivalent fractions and fractions in lowest terms</li><li>• N203 - Locate positive rational numbers on the number line</li><li>• N501 order fractions</li></ul>
Unit 2	Number and quantity	<ul style="list-style-type: none"><li>• Factoring</li><li>• Sequences</li><li>• Exponents and roots</li><li>• irrational/imaginary numbers</li></ul>	<ul style="list-style-type: none"><li>• N303 - locate rational numbers on the number line</li><li>• N302- Locate a digits place value</li><li>• N602 - apply number properties involving even/odd numbers and factors/multiples</li><li>• N702 - apply properties</li></ul>

			<p>of rational numbers and the rational number system</p> <ul style="list-style-type: none"> <li>● F201 - Extend a given pattern by a few terms for patterns that have a constant increase or decrease between terms</li> </ul>
Unit 3	Algebra	<ul style="list-style-type: none"> <li>● Simple equations</li> <li>● Absolute values</li> <li>● Quadratic equations</li> <li>● Translations (word problems)</li> </ul>	<ul style="list-style-type: none"> <li>● AF 301 - solve routine one-step arithmetic problems using positive rational numbers, such as a single percent step</li> <li>● AF302 Solve some routine two step problems</li> <li>● A301 - Substitute whole numbers for unknown quantities to evaluate expressions</li> <li>● F301 - extend a pattern by a few terms for patterns that have a constant factor between terms</li> <li>● AF 401 - Solve routine two -step or three-step problems involving concepts such as rate and proportions, tax added, percentage off, and estimating by using a given average value</li> </ul>

			<p>in place of actual values</p> <ul style="list-style-type: none"> <li>• A402 - add and subtract simple algebraic expressions</li> <li>• A506 - identify solutions to simple quadratic equations</li> <li>• A507 - Solve quadratic equations</li> <li>• A 508 - factor simple quadratic equations</li> </ul>
Unit 4	Geometry	<ul style="list-style-type: none"> <li>• Basic shapes</li> <li>• Angles and triangles</li> <li>• Special triangles</li> <li>• The coordinate plane</li> <li>• Pythagorean theorem</li> <li>• Circles</li> <li>• polygons</li> </ul>	<ul style="list-style-type: none"> <li>• G201 - estimate the length of a line segment based on other lengths in a geometric figure</li> <li>• G202- Calculate the length of a line segment based on the lengths of other line segments that go in the same directions</li> <li>• G203 - Perform common conversions of money and of length, weight, mass and time within a measurement system</li> <li>• G301 - exhibit some knowledge of the angles associated with parallel lines</li> <li>• G302 - Compute perimeter of polygons</li> </ul>

			<p>when all side lengths are given</p> <ul style="list-style-type: none"><li>● G303 - compute the area of rectangles when whole number dimensions are given</li><li>● G304 - Locate points in the first quadrant</li><li>● G401 - use properties of parallel lines to find the measure of an angle</li><li>● G402- Exhibit knowledge of basic angle properties and special sums of angle measures</li><li>● G403 - Compute the area and perimeter of triangles and rectangles in simple problems</li><li>● G404 - Find the length of the hypotenuse of a right triangle when only very simple computation is involved</li><li>● G405 - use geometric formulas when all necessary information is given</li><li>● G406- Locate points in the coordinate plane</li><li>● G407 - Translate points up, down , left and right in the coordinate plane</li></ul>
--	--	--	---

Unit 5	Functions	<ul style="list-style-type: none"> <li>• Functions</li> <li>• Linear equations</li> <li>• Trig review</li> <li>• Unit circle (upper level)</li> <li>• Logic</li> <li>• matrices</li> </ul>	<ul style="list-style-type: none"> <li>• F401 - Evaluate linear and quadratic functions, expressed in function notation, at integer values</li> <li>• A502 - Solve real world problems by using first degree equations</li> <li>• A503 - solve first degree inequalities when the method does not involve reversing the inequality sign</li> <li>• A505- add, subtract and multiply polynomials</li> </ul>
Unit 6	Statistics	<ul style="list-style-type: none"> <li>• Probability</li> <li>• Graphs</li> <li>• Logarithms</li> </ul>	<ul style="list-style-type: none"> <li>• S 201- Calculate the average of a list of positive whole numbers</li> <li>• S202- extract one relevant number from a basic table or chart, and use it in a single computation</li> <li>• S301- Calculate the average of a list of numbers</li> <li>• S302- Calculate the average given the number of data values and the sum of the data values</li> <li>• S303 - Read basic tables and charts</li> </ul>

			<ul style="list-style-type: none"> <li>● S304 - Extract relevant data from a basic table or chart and use the data in a computation</li> <li>● S305 - Use the relationship between the probability of an event and the probability of its complement</li> <li>● S401 - calculate the missing data value given the average and all data values but one</li> <li>● S402 - Translate from one representation of data to another</li> <li>● S403- Determine the probability of a simple event</li> <li>● S404 - describe events as combinations of other events</li> <li>● S405- exhibit knowledge of simple counting techniques</li> </ul>
Unit 7 (science)	Interpretation of data		<ul style="list-style-type: none"> <li>● IOD 201. Select one piece of data from a simple data presentation (e.g., a simple food web diagram)</li> <li>● IOD 202. Identify basic features of a table, graph, or diagram (e.g.,</li> </ul>

			<p>units of measurement)</p> <ul style="list-style-type: none"><li>• IOD 203. Find basic information in text that describes a simple data presentation</li><li>• IOD 301. Select two or more pieces of data from a simple data presentation</li><li>• IOD 302. Understand basic scientific terminology</li><li>• IOD 303. Find basic information in text that describes a complex data presentation</li><li>• IOD 304. Determine how the values of variables change as the value of another variable changes in a simple data presentation</li><li>• IOD 401. Select data from a complex data presentation (e.g., a phase diagram) IOD 402. Compare or combine data from a simple data presentation (e.g., order or sum data from a table) IOD 403. Translate information into a table, graph, or diagram IOD 404.</li></ul>
--	--	--	--

			Perform a simple interpolation or simple extrapolation using data in a table or graph
Unit 8 (science)	Scientific investigation		<ul style="list-style-type: none"> <li>● SIN 201. Find basic information in text that describes a simple experiment</li> <li>● SIN 202. Understand the tools and functions of tools used in a simple experiment</li> <li>● SIN 301. Understand the methods used in a simple experiment</li> <li>● SIN 302. Understand the tools and functions of tools used in a complex experiment</li> <li>● SIN 303. Find basic information in text that describes a complex experiment</li> <li>● SIN 401. Understand a simple experimental design</li> <li>● SIN 402. Understand the methods used in a complex experiment</li> <li>● SIN 403. Identify a control in an experiment</li> <li>● SIN 404. Identify similarities and differences between</li> </ul>



			<p>experiments</p> <ul style="list-style-type: none"> <li>• SIN 405. Determine which experiments utilized a given tool, method, or aspect of design</li> </ul>
Unit 9 (science)	Evaluation of models, inferences, and experimental results		<ul style="list-style-type: none"> <li>• EMI 201. Find basic information in a model (conceptual)</li> <li>• EMI 301. Identify implications in a model</li> <li>• EMI 302. Determine which models present certain basic information</li> <li>• EMI 401. Determine which simple hypothesis, prediction, or conclusion is, or is not, consistent with a data presentation, model, or piece of information in text</li> <li>• EMI 402. Identify key assumptions in a model</li> <li>• EMI 403. Determine which models imply certain information</li> <li>• EMI 404. Identify similarities and differences between models</li> </ul>

