

Office of Curriculum & Instruction  
2019-2020 Mathematics Curriculum Guide



**Newcomers Academy**

Grades 4 & 5 Mathematics

Pacing Guide

*2019-2020*

## Money

Module	Topic	Lesson	Student Lesson Objective/ Supportive Videos
<b>Grade 2 Module 7:</b>  Length, Money, & Data	<b>Topic B:</b> Problem Solving with Coins And Bills	Lesson 6	Recognize the value of coins and count up to find their total value <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 7	Solve word problems involving the total value of a group of coins. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 8	Solve word problems involving the total value of a group of bills <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 9	Solve word problems involving different combinations of coins with the same total value <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 10	Use the fewest number of coins to make a given value <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 11	Use different strategies to make \$1 or make change from \$1. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 12	Solve word problems involving different ways to make change from \$1. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 13	Solve two-step word problems involving dollars or cents with totals within \$100 or \$1 <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

**Time**

<b><u>Time</u></b>			
<b>Grade 2 Module 8:</b> Time, Shapes, Fractions	<b>Topic D:</b> Application of Fractions to Tell Time	Lesson 13	Construct a paper clock by partitioning a circle into halves and quarters, and tell time to the half hour or quarter hour.  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 14	Tell time to the nearest five minutes  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 15	Tell time to the nearest five minutes; relate a.m. and p.m. to time of day  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 16	Solve elapsed time problems involving whole hours and a half hour  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

<b>Grade 3 Module 2:</b> Place Value and Problem Solving with Units of Measure	<b>Topic A:</b> Time Measurement and Problem Solving	Lesson 1	Explore time as a continuous measurement using a stopwatch.
		Lesson 2	Relate skip-counting by 5 on the clock and telling time to a continuous measurement model, the number line. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 3	Count by fives and ones on the number line as a strategy to tell time to the nearest minute on the clock. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 4	Solve word problems involving time intervals within 1 hour by counting backward and forward using the number line and clock
		Lesson 5	Solve word problems involving time intervals within 1 hour by adding and subtracting on the number line. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

## Geometry

<b>Grade 2 Module 8:</b> Time, Shapes, Fractions	<b>Topic A:</b> Attributes of Geometric Shapes	Lesson 1	Describe two-dimensional shapes based on attributes. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 2	Build, identify, and analyze two-dimensional shapes with specified attributes. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 3	Use attributes to draw different polygons including triangles, quadrilaterals, pentagons, and hexagons. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 4	Use attributes to identify and draw different quadrilaterals including rectangles, rhombuses, parallelograms, and trapezoids. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 5	Relate the square to the cube, and describe the cube based on attributes <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

<b>Grade 3 Module 7:</b> Geometry and Measurement Word Problem	<b>Topic B:</b> Attributes of Two- Dimensional Figures	Lesson 4	Compare and classify quadrilaterals. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 5	Compare and classify other polygons. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 6	Draw polygons with specified attributes to solve problems. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 7	Reason about composing and decomposing polygons using tetrominoes. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

## Measurement

	Topic	Lesson	Student Lesson Objective/ Supportive Videos
<b>Grade 2</b> <b>Module 2:</b> Addition and Subtraction of Length Units	<b>Topic A:</b> Understand Concepts about the Ruler	Lesson 1	Connect measurement with physical units by using multiple copies of the same physical unit to measure  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
		Lesson 2&3	Use iteration with one physical unit to measure. Apply concepts to create unit rulers and measure lengths using unit rulers  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a> <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	<b>Topic B:</b> Measure and Estimate Length Using Different Measurement Tools	Lesson 4 & 5	Measure various objects using centimeter rulers and meter sticks Develop estimation strategies by applying prior knowledge of length and using mental benchmarks  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a> <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	<b>Topic C:</b> Measure and Compare Lengths Using Different Length Units	Lesson 6	Measure and compare lengths using centimeters and meters  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	<b>Topic C:</b> Measure and Compare Lengths Using Different Length Units	Lesson 7	Measure and compare lengths using standard metric length units and non-standard length units; relate measurement to unit size  <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

**Grade 4 Module 1: Place Value, Round, and Algorithms for  
Addition/ Subtraction**  
**Topics: A,B,C,D**

Topic	Lesson	Lesson Objective/ Supportive Videos
<b>Topic A:</b> Place Value of Multi-Digit Whole Numbers	Lesson 1	Interpret a multiplication equation as a comparison. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 2	Recognize a digit represents 10 times the value of what it represents in the place to its right. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 3	Name numbers within 1 million by building understanding of the place value chart and placement of commas for naming base thousand units. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 4	Read and write multi-digit numbers using base ten numerals, number names, and expanded form. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
<b>Topic B:</b> Comparing Multi-Digit Whole Numbers	Lesson 5	Compare numbers based on meanings of the digits, using $>$ , $<$ , or $=$ to record the comparison. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 6	Find 1, 10, and 100 thousand more and less than a given number. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
<b>Topic C:</b> Rounding Multi-Digit Whole Numbers	Lesson 7	Round multi-digit numbers to the thousands place using the vertical number line. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 8	Round multi-digit numbers to any place using the vertical number line. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 9	Use place value understanding to round multi-digit numbers to any place value. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 10	Use place value understanding to round multi-digit numbers to any place value using real world applications. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
<b>Topic D:</b> Multi-Digit Whole Number Addition	Lesson 11	Use place value understanding to fluently add multi-digit whole numbers using the standard addition algorithm and apply the algorithm to solve word problems using tape diagrams. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 12	Solve multi-step word problems using the standard addition algorithm modeled with tape diagrams and assess the reasonableness of answers using rounding. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

## **Grade 4 Module 3: Multi-Digit Multiplication and Division**

### **Topics: B,C,D,E,G,H**

Topic	Lesson	Lesson Objective/ Supportive Videos
<b>Topic B:</b> Multiplication by 10, 100, and 1,000	Lesson 4	Interpret and represent patterns when multiplying by 10, 100, and 1,000 in arrays and numerically. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 5	Multiply multiples of 10, 100, and 1,000 by single digits, recognizing patterns. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 6	Multiply two-digit multiples of 10 by two-digit multiples of 10 with the area model. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
<b>Topic C:</b> Multiplication of up to Four Digits by Single-Digit Numbers	Lesson 7	Use place value disks to represent two-digit by one-digit multiplication. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 8	Extend the use of place value disks to represent three- and four-digit by one-digit multiplication. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 9	Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 11	Connect the area model and the partial products method to the standard algorithm. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
<b>Topic D:</b> Multiplication Word Problems	Lesson 12	Solve two-step word problems, including multiplicative comparison. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 13	Use multiplication, addition, or subtraction to solve multi-step word problems. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
<b>Topic E:</b> Division of Tens and Ones with Successive Remainders	Lesson 14	Solve division word problems with remainders. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 15	Understand and solve division problems with a remainder using the array and area models. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>
	Lesson 16	Understand and solve two-digit dividend division problems with a remainder in the ones place by using number disks. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a>

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<p><b>Topic E:</b> Division of Tens and Ones with Successive Remainders</p>	Lesson 17	<p>Represent and solve division problems requiring decomposing a remainder in the tens. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
	Lesson 18	<p>Find whole number quotients and remainders. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
	Lesson 19	<p>Explain remainders by using place value understanding and models. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
	Lesson 20	<p>Solve division problems without remainders using the area model. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
<p><b>Topic G:</b> Division of Thousands, Hundreds, Tens, and Ones</p>	Lesson 26	<p>Divide multiples of 10, 100, and 1,000 by single-digit numbers. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
	Lesson 27	<p>Represent and solve division problems with up to a three-digit dividend numerically and with number disks requiring decomposing a remainder in the hundreds place. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
	Lesson 28	<p>Represent and solve three-digit dividend division with divisors of 2, 3, 4, and 5 numerically. <a href="https://www.youtube.com/watch?v">https://www.youtube.com/watch?v</a></p>
	Lesson 29	<p>Represent numerically four-digit dividend division with divisors of 2, 3, 4, and 5, decomposing a remainder up to three times. <a href="https://www.youtube.com/watch?v=NiMbVsLuCpU&amp;index=29&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr">https://www.youtube.com/watch?v=NiMbVsLuCpU&amp;index=29&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr</a></p>
	Lesson 30-33	<p>Solve division problems with a zero in the dividend or with a zero in the quotient. <a href="https://www.youtube.com/watch?v=GXY9unJJHWA&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=30">https://www.youtube.com/watch?v=GXY9unJJHWA&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=30</a></p> <p>Explain the connection of the area model of division to the long division algorithm for three- and four-digit dividends. <a href="https://www.youtube.com/watch?v=dZ2_9xRGf-Y&amp;index=33&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr">https://www.youtube.com/watch?v=dZ2_9xRGf-Y&amp;index=33&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr</a></p>
	Lesson 31	<p>Interpret division word problems as either <i>number of groups unknown</i> or <i>group size unknown</i>. <a href="https://www.youtube.com/watch?v=VTW2tt0odgA&amp;index=31&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr">https://www.youtube.com/watch?v=VTW2tt0odgA&amp;index=31&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr</a></p>
Lesson 32	<p>Interpret and find whole number quotients and remainders to solve one-step division word problems with larger divisors of 6, 7, 8, and 9. <a href="https://www.youtube.com/watch?v=20l35vvaqNU&amp;index=32&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr">https://www.youtube.com/watch?v=20l35vvaqNU&amp;index=32&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr</a></p>	



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<p><b>Topic H:</b> Multiplication of Two-Digit by Two-Digit Num- bers</p>	Lesson 34	<p>Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.</p> <p><a href="https://www.youtube.com/watch?v=GFqUpELGJ-g&amp;index=34&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr">https://www.youtube.com/watch?v=GFqUpELGJ-g&amp;index=34&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr</a></p>
	Lesson 35	<p>Multiply two-digit multiples of 10 by two-digit numbers using the area model.</p> <p><a href="https://www.youtube.com/watch?v=kUUoBNMSy4A&amp;index=35&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr">https://www.youtube.com/watch?v=kUUoBNMSy4A&amp;index=35&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr</a></p>
	Lesson 36	<p>Multiply two-digit by two-digit numbers using four partial products.</p> <p><a href="https://www.youtube.com/watch?v=ujdcH5X1vgY&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=36">https://www.youtube.com/watch?v=ujdcH5X1vgY&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=36</a></p>
	Lesson 37	<p>Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.</p> <p><a href="https://www.youtube.com/watch?v=T7oYai_WPqs&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=37">https://www.youtube.com/watch?v=T7oYai_WPqs&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=37</a></p>
	Lesson 38	<p>Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.</p> <p><a href="https://www.youtube.com/watch?v=N3OUYK7JPzY&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=38">https://www.youtube.com/watch?v=N3OUYK7JPzY&amp;list=PLvolZqLMhJmne18B7_qMvEOnxdCusfXjr&amp;index=38</a></p>

**Grade 5 Module 2: Multi-Digit Number and Decimal Fraction Operations****Topics: B,E,F**

<b>Topic</b>	<b>Lesson</b>	<b>Lesson Objective/ Supportive Videos</b>
<b>Topic B:</b> The Standard Algorithm for Multi-Digit Whole Number Multiplication	Lesson 3	Write and interpret numerical expressions, and compare expressions using a visual model.
	Lesson 4	Convert numerical expressions into unit form as a mental strategy for multi-digit multiplication.
	Lesson 5	Connect visual models and the distributive property to partial products of the standard algorithm without renaming.
	Lesson 6-7	Connect area models and the distributive property to partial products of the standard algorithm with renaming.
	Lesson 8	Fluently multiply multi-digit whole numbers using the standard algorithm and using estimation to check for reasonableness of the product.
	Lesson 9	Fluently multiply multi-digit whole numbers using the standard algorithm to solve multi-step word problems.
<b>Topic E:</b> Mental Strategies for Multi-Digit Whole Number Division	Lesson 16	Use divide by 10 patterns for multi-digit whole number division
	Lesson 17-18	Use basic facts to approximate quotients with two-digit divisors.
<b>Topic F:</b> Partial Quotients and Multi-Digit Whole Number Division	Lesson 19	Divide two- and three-digit dividends by multiples of 10 with single-digit quotients and make connections to a written method.
	Lesson 20-21	Divide two- and three-digit dividends by two-digit divisors with single-digit quotients and make connections to a written method.
	Lesson 22-23	Divide three- and four-digit dividends by two-digit divisors resulting in two- and three-digit quotients, reasoning about the decomposition of successive remainders in each place value.

<b>Modifications</b>	
<b>Special Education/ 504:</b>	<b>English Language Learners:</b>
<ul style="list-style-type: none"> <li>-Adhere to all modifications and health concerns stated in each IEP.</li> <li>-Give students a menu of options, allowing students to pick assignments from different levels based on difficulty.</li> <li>-Accommodate Instructional Strategies: reading aloud text, graphic organizers, one-on-one instruction, class website (Google Classroom), handouts, definition list with visuals, extended time</li> <li>-Allow students to demonstrate understanding of a problem by drawing the picture of the answer and then explaining the reasoning orally and/or in writing, such as Read-Draw-Write</li> <li>-Provide breaks between tasks, use positive reinforcement, use proximity</li> <li>-Assure students have experiences that are on the Concrete- Pictorial- Abstract spectrum by using manipulatives</li> <li>-Common Core Approach to Differentiate Instruction: Students with Disabilities (<a href="#">pg 17-18</a>)</li> <li>- <a href="#">Strategies for Students with 504 Plans</a></li> </ul>	<ul style="list-style-type: none"> <li>- Use manipulatives to promote conceptual understanding and enhance vocabulary usage</li> <li>- Provide graphic representations, gestures, drawings, equations, realia, and pictures during all segments of instruction</li> <li>- During i-Ready lessons, click on “Español” to hear specific words in Spanish</li> <li>- Utilize graphic organizers which are concrete, pictorial ways of constructing knowledge and organizing information</li> <li>- Use sentence frames and questioning strategies so that students will explain their thinking/ process of how to solve word problems</li> <li>- Utilize program translations (if available) for L1/ L2 students</li> <li>- Reword questions in simpler language</li> <li>- Make use of the ELL Mathematical Language Routines (click <a href="#">here</a> for additional information)</li> <li>-Scaffolding instruction for ELL Learners</li> <li>-Common Core Approach to Differentiate Instruction: Students with Disabilities (<a href="#">pg 16-17</a>)</li> </ul>
<b>Gifted and Talented:</b>	<b>Students at Risk for Failure:</b>
<ul style="list-style-type: none"> <li>- Elevated contextual complexity</li> <li>- Inquiry based or open ended assignments and projects</li> <li>- More time to study concepts with greater depth</li> <li>- Promote the synthesis of concepts and making real world connections</li> <li>- Provide students with enrichment practice that are imbedded in the curriculum such as:                             <ul style="list-style-type: none"> <li>● Application / Conceptual Development</li> <li>● Are you ready for more?</li> </ul> </li> <li>- Common Core Approach to Differentiate Instruction: Students with Disabilities (<a href="#">pg. 20</a>)</li> <li>- Provide opportunities for math competitions</li> <li>- Alternative instruction pathways available</li> </ul>	<ul style="list-style-type: none"> <li>- Assure students have experiences that are on the Concrete- Pictorial- Abstract spectrum</li> <li>- Modify Instructional Strategies, reading aloud text, graphic organizers, one-on-one instruction, class website (Google Classroom), inclusion of more visuals and manipulatives, Field Trips, Google Expeditions, Peer Support, one on one instruction</li> <li>- Assure constant parental/ guardian contact throughout the year with successes/ challenges</li> <li>- Provide academic contracts to students/guardians</li> <li>- Create an interactive notebook with samples, key vocabulary words, student goals/ objectives.</li> <li>- Always plan to address students at risk in your learning tasks, instructions, and directions. Try to anticipate where the needs will be and then address them prior to lessons.</li> <li>-Common Core Approach to Differentiate Instruction: Students with Disabilities (<a href="#">pg 19</a>)</li> </ul>

## 21st Century Life and Career Skills:

Career Ready Practices describe the career-ready skills that all educators in all content areas should seek to develop in their students. They are practices that have been linked to increase college, career, and life success. Career Ready Practices should be taught and reinforced in all career exploration and preparation programs with increasingly higher levels of complexity and expectation as a student advances through a program of study.

<https://www.state.nj.us/education/cccs/2014/career/9.pdf>

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| <ul style="list-style-type: none"><li>● <b>CRP1.</b> Act as a responsible and contributing citizen and employee.</li><li>● <b>CRP2.</b> Apply appropriate academic and technical skills.</li><li>● <b>CRP3.</b> Attend to personal health and financial well-being.</li><li>● <b>CRP4.</b> Communicate clearly and effectively and with reason.</li><li>● <b>CRP5.</b> Consider the environmental, social and economic impacts of decisions.</li><li>● <b>CRP6.</b> Demonstrate creativity and innovation.</li></ul> | <ul style="list-style-type: none"><li>● <b>CRP7.</b> Employ valid and reliable research strategies.</li><li>● <b>CRP8.</b> Utilize critical thinking to make sense of problems and persevere in solving them.</li><li>● <b>CRP9.</b> Model integrity, ethical leadership and effective management.</li><li>● <b>CRP10.</b> Plan education and career paths aligned to personal goals.</li><li>● <b>CRP11.</b> Use technology to enhance productivity.</li><li>● <b>CRP12.</b> Work productively in teams while using cultural global competence.</li></ul> |
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**Students are given an opportunity to communicate with peers effectively, clearly, and with the use of technical language. They are encouraged to reason through experiences that promote critical thinking and emphasize the importance of perseverance. Students are exposed to various mediums of technology, such as digital learning, calculators, and educational websites.**

## Technology Standards:

All students will be prepared to meet the challenge of a dynamic global society in which they participate, contribute, achieve, and flourish through universal access to people, information, and ideas.

<https://www.state.nj.us/education/cccs/2014/tech/>

### 8.1 Educational Technology:

All students will use digital tools to access, manage, evaluate, and synthesize information in order to solve problems individually and collaborate and to create and communicate knowledge.

- A. **Technology Operations and Concepts:** Students demonstrate a sound understanding of technology concepts, systems and operations.
- B. **Creativity and Innovation:** Students demonstrate creative thinking, construct knowledge and develop innovative products and process using technology.
- C. **Communication and Collaboration:** Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.
- D. **Digital Citizenship:** Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.
- E. **Research and Information Fluency:** Students apply digital tools to gather, evaluate, and use of information.
- F. **Critical thinking, problem solving, and decision making:** Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

### 8.2 Technology Education, Engineering, Design, and Computational Thinking - Programming:

All students will develop an understanding of the nature and impact of technology, engineering, technological design, computational thinking and the designed world as they relate to the individual, global society, and the environment.

- A. **The Nature of Technology: Creativity and Innovation-** Technology systems impact every aspect of the world in which we live.
- B. **Technology and Society:** Knowledge and understanding of human, cultural, and societal values are fundamental when designing technological systems and products in the global society.
- C. **Design:** The design process is a systematic approach to solving problems.
- D. **Abilities in a Technological World:** The designed world in a product of a design process that provides the means to convert resources into products and systems.
- E. **Computational Thinking: Programming-** Computational thinking builds and enhances problem solving, allowing students to move beyond using knowledge to creating knowledge.

### Interdisciplinary Connections:

#### English Language Arts:

RF.4.4	Read with sufficient accuracy and fluency to support comprehension.
W.4.10	Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.
SL.4.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 4 topics and texts</i> , building on others' ideas and expressing their own clearly.

### Interdisciplinary Connections:

#### English Language Arts:

L.5.3	Use knowledge of language and its conventions when writing, speaking, reading, or listening.
SL.5.1	Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on <i>grade 5 topics and texts</i> , building on others' ideas and expressing their own clearly.
W.5.1	Write opinion pieces on topics or texts, supporting a point of view with reasons and information.