Office of Curriculum & Instruction
2019-2020 Mathematics Curriculum Guide

Newcomers Academy

Grade 2 Mathematics
Pacing Guide
2019-2020

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

Time			
Grade 1 Module 5: Identifying, Compos-ing, and Partitioning Shapes	**Topic D:** Applica-tion of Halves to Tell Time	Lesson 10	Construct a paper clock by partitioning a circle and tell time to the hour https://www.youtube.com/watch?v
		Lesson 11	Recognize halves within a circular clock face and tell time to the half-hour https://www.youtube.com/watch?v
		Lesson 12	Recognize halves within a circular clock face and tell time to the half-hour https://www.youtube.com/watch?v
		Lesson 13	Recognize halves within a circular clock face and tell time to the half-hour https://www.youtube.com/watch?v

Grade 2 Module 8: Time, Shapes, Fractions	**Topic D:** Applica-tion 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. https://www.youtube.com/watch?v
		Lesson 14	Tell time to the nearest five minutes https://www.youtube.com/watch?v
		Lesson 15	Tell time to the nearest five minutes; relate a.m. and p.m. to time of day https://www.youtube.com/watch?v
		Lesson 16	Solve elapsed time problems involving whole hours and a half hour https://www.youtube.com/watch?v

Geometry			
Grade 1 Module 5: Identifying, Composing, and Partitioning Shapes	**Topic A:** Attributes of Shapes	Lesson 1	Classify shapes based on defining attributes using examples, variants, and non-examples. https://www.youtube.com/watch?v
		Lesson 2	Find and name two-dimensional shapes including trapezoid, rhombus, and a square as a special rectangle, based on defining attributes of sides and corners https://www.youtube.com/watch?v
		Lesson 3	Find and name three-dimensional shapes including cone and rectangular prism, based on defining attributes of faces and points https://www.youtube.com/watch?v
	Topic B: Part–Whole Relationships Within Composite Shapes	Lesson 4	Create composite shapes from two-dimensional shapes https://www.youtube.com/watch?v
		Lesson 5	Compose a new shape from composite shapes https://www.youtube.com/watch?v
Grade 2 Module 8: Time, Shapes, Fractions	**Topic A:** Attributes of Geometric Shapes	Lesson 1	Describe two-dimensional shapes based on attributes. https://www.youtube.com/watch?v
		Lesson 2	Build, identify, and analyze two-dimensional shapes with specified attributes. https://www.youtube.com/watch?v
		Lesson 3	Use attributes to draw different polygons including triangles, quadrilaterals, pentagons, and hexagons. https://www.youtube.com/watch?v
		Lesson 4	Use attributes to identify and draw different quadrilaterals including rectangles, rhombuses, parallelograms, and trapezoids. https://www.youtube.com/watch?v
		Lesson 5	Relate the square to the cube, and describe the cube based on attributes https://www.youtube.com/watch?v

Measurement			
Grade 2 Module 2: Addition and Subtraction of Length Units	**Topic**	**Lesson**	**Student Lesson Objective/ Supportive Videos**
	Topic A: Understand Concepts about the Ruler	Lesson 1	Connect measurement with physical units by using multiple copies of the same physical unit to measure https://www.youtube.com/watch?v
		Lesson 2&3	Use iteration with one physical unit to measure. Apply concepts to create unit rulers and measure lengths using unit rulers https://www.youtube.com/watch?v https://www.youtube.com/watch?v
	Topic 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 https://www.youtube.com/watch?v https://www.youtube.com/watch?v
	Topic C: Measure and Compare Lengths Using Different Length Units	Lesson 6	Measure and compare lengths using centimeters and meters https://www.youtube.com/watch?v
		Lesson 7	Measure and compare lengths using standard metric length units and non-standard length units; relate measurement to unit size https://www.youtube.com/watch?v

Grade 2 Module 3: Place Value, Counting and Comparison of Numbers to 1000

All Topics

Topic	Lesson	Student Lesson Objective/ Supportive Videos
Topic A: Forming Base Ten Units of Ten, a Hundred and a Thousand	Lesson 1	Bundle and count ones, tens, and hundreds to 1,000. https://www.youtube.com/watch?v
Topic B: Understanding Place Value of One, Ten, and a Hundred	Lesson 2	Count up and down between 100 and 220 using ones and tens. https://www.youtube.com/watch?v
	Lesson 3	Count up and down between 90 and 1,000 using ones, tens, and hundreds https://www.youtube.com/watch?v
Topic C: Three-Digit Numbers in Unit, Standard, Expanded and Word Forms	Lesson 4	Count up to 1,000 on the place value chart https://www.youtube.com/watch?v
	Lesson 5	Write base ten three-digit numbers in unit form; show the value of each digit https://www.youtube.com/watch?v
	Lesson 6	Write base ten numbers in expanded form https://www.youtube.com/watch?v
	Lesson 7	Write, read, and relate base ten numbers in all forms https://www.youtube.com/watch?v
Topic D: Modeling Base Ten Numbers Within 1000 with Money	Lesson 8	Count the total value of $1, $10, and $100 bills up to $1,000 https://www.youtube.com/watch?v
	Lesson 9	Count from $10 to $1,000 on the place value chart and the empty number line. https://www.youtube.com/watch?v
Topic E: Modeling Numbers Within 1000 with Place Value Disks	Lesson 11	Count the total value of ones, tens, and hundreds with place value disks. https://www.youtube.com/watch?v
	Lesson 12	Change 10 ones for 1 ten, 10 tens for 1 hundred, and 10 hundreds for 1 thousand https://www.youtube.com/watch?v

Topic E: Modeling Numbers Within 1000 with Place Value Disks	Lesson 13	Read and write numbers within 1,000 after modeling with place value disks https://www.youtube.com/watch?v
	Lesson 14	Model numbers with more than 9 ones or 9 tens; write in expanded, unit, standard, and word forms https://www.youtube.com/watch?v
	Lesson 15	Explore a situation with more than 9 groups of ten https://www.youtube.com/watch?v
Topic F: Comparing Two Three-Digit Numbers	Lesson 16	Compare two three-digit numbers using <, >and =. https://www.youtube.com/watch?v
	Lesson 17 &18	Compare two three-digit numbers using <, >, and = when there are more than 9 ones or 9 tens. Order numbers in different forms. https://www.youtube.com/watch?v https://www.youtube.com/watch?v
Topic G: Finding 1, 10, and 100 More	Lesson 19	Model and use language to tell about 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less. https://www.youtube.com/watch?v
	Lesson 20	Lesson 20: Model 1 more and 1 less, 10 more and 10 less, and 100 more and 100 less when changing the hundreds place. https://www.youtube.com/watch?v

Grade 2 Module 4: Addition and Subtraction within 200 with Word Problems to 100 **All Topics**		
Topic	**Lesson**	**Student Lesson Objective/ Supportive Videos**
Topic A: Sums and Differences within 100	Lesson 1	Relate 1 more, 1 less, 10 more, and 10 less to addition and subtraction of 1 and 10. https://www.youtube.com/watch?v=IB2mHoinybw&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 2	Add and subtract multiples of 10 including counting on to subtract https://www.youtube.com/watch?v=au8_fsJwS-I&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=2
	Lesson 3 &4	Add and subtract multiples of 10 and some ones within 100 https://www.youtube.com/watch?v=mdi5Gk8HVWk&index=3&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM https://www.youtube.com/watch?v=0yckkOhgtXU&index=4&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 5	Solve one- and two-step word problems within 100 using strategies based on place value. https://www.youtube.com/watch?v=8pPZXUIw5aU&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=5
Topic B: Strategies for Composing a Ten	Lesson 6	Use manipulatives to represent the composition of 10 ones as 1 ten with two-digit addends https://www.youtube.com/watch?v=urYVOIAIltY&index=6&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 7	Relate addition using manipulatives to a written vertical method https://www.youtube.com/watch?v=iJH5uN33Sbc&index=7&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 8	Use math drawings to represent the composition and relate drawings to a written method https://www.youtube.com/watch?v=E_sAOb0UIgE&index=8&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 9 &10	Use math drawings to represent the composition when adding a two-digit to a three-digit addend https://www.youtube.com/watch?v=htHhMUOlkgQ&index=9&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM https://www.youtube.com/watch?v=GVouDyY5QxI&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=10

Topic C: Strategies for De-composing a Ten	Lesson 11	Represent subtraction with and without the decomposition of 1 ten as 10 ones with manipulatives. https://www.youtube.com/watch?v=XMdbStwv8QI&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=11
	Lesson 12	Relate manipulative representations to a written method https://www.youtube.com/watch?v=96-k1P-aNEk&index=12&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 13	Use math drawings to represent subtraction with and without de-composition and relate drawings to a written method https://www.youtube.com/watch?v=df3YAB4psXM&index=13&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 14 &15	Represent subtraction with and without the decomposition when there is a three-digit minuend https://www.youtube.com/watch?v=C_LeUa5QF5o&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=14 https://www.youtube.com/watch?v=4qaPt4WBADQ&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=15
	Lesson 16	Solve one- and two-step word problems within 100 using strate-gies based on place value. https://www.youtube.com/watch?v=sinn8f8p778&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=16
Topic D: Strategies for Composing Tens and Hundreds	Lesson 17	Use mental strategies to relate compositions of 10 tens as 1 hundred to 10 ones as 1 ten https://www.youtube.com/watch?v=0oLo0L3KRrM&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=17
	Lesson 18	Use manipulatives to represent addition with two compositions https://www.youtube.com/watch?v=mLfahhgWSno&index=18&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 19	Relate manipulative representations to a written method https://www.youtube.com/watch?v=jKJZJg-F2h8&index=19&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 20 &21	Use math drawings to represent additions with up to two compo-sitions and relate drawings to a written method https://www.youtube.com/watch?v=lbLdKFVpzms&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=20 https://www.youtube.com/watch?v=yXKabm5UW5Y&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=21
	Lesson 22	Solve additions with up to four addends with totals within 200 with and without two compositions of larger units https://www.youtube.com/watch?v=fkuxYeZf40U&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=22

Topic E: Strategies for Decomposing Tens and Hundreds	Lesson 23	Use number bonds to break apart three-digit minuends and subtract from the hundred. https://www.youtube.com/watch?v=Xl8oH45j4_0&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=23
	Lesson 24	Use manipulatives to represent subtraction with decompositions of 1 hundred as 10 tens and 1 ten as 10 ones https://www.youtube.com/watch?v=EsqUeeQT2dw&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=24
	Lesson 25	Relate manipulative representations to a written method https://www.youtube.com/watch?v=tmfL5olqXQI&index=25&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 26	Use math drawings to represent subtraction with up to two decompositions and relate drawings to a written method https://www.youtube.com/watch?v=ZmjTmgGiPo0&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=26
	Lesson 27& 28	Subtract from 200 and from numbers with zeros in the tens place. https://www.youtube.com/watch?v=JHqUL9kRuco&index=27&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM https://www.youtube.com/watch?v=XYLieoQHQmA&index=28&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
Topic F: Student Explanations of Written Method	Lesson 29	Use and explain the totals below method using words, math drawings, and numbers https://www.youtube.com/watch?v=ngJlR1da9c8&index=29&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 30	Lesson 30: Compare totals below to new groups below as written methods https://www.youtube.com/watch?v=t2mR2yi2Ams&index=30&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM
	Lesson 31	Solve two-step word problems within 100 https://www.youtube.com/watch?v=3kpD56UsP7k&list=PLvolZqLMhJmkb4rXaDraEy4l-TLolZNTM&index=31

Modifications

Special Education/ 504:

-Adhere to all modifications and health concerns stated in each IEP.
-Give students a menu of options, allowing students to pick assignments from different levels based on difficulty.
-Accommodate Instructional Strategies: reading aloud text, graphic organizers, one-on-one instruction, class website (Google Classroom), handouts, definition list with visuals, extended time
-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
-Provide breaks between tasks, use positive reinforcement, use proximity
-Assure students have experiences that are on the Concrete- Pictorial- Abstract spectrum by using manipulatives
-Common Core Approach to Differentiate Instruction: Students with Disabilities (pg 17-18)
- Strategies for Students with 504 Plans

English Language Learners:

- Use manipulatives to promote conceptual understanding and enhance vocabulary usage
- Provide graphic representations, gestures, drawings, equations, realia, and pictures during all segments of instruction
- During i-Ready lessons, click on "Español" to hear specific words in Spanish
- Utilize graphic organizers which are concrete, pictorial ways of constructing knowledge and organizing information
- Use sentence frames and questioning strategies so that students will explain their thinking/ process of how to solve word problems
- Utilize program translations (if available) for L1/ L2 students
- Reword questions in simpler language
- Make use of the ELL Mathematical Language Routines (click here for additional information)
-Scaffolding instruction for ELL Learners
-Common Core Approach to Differentiate Instruction: Students with Disabilities (pg 16-17)

Gifted and Talented:

- Elevated contextual complexity
- Inquiry based or open ended assignments and projects
- More time to study concepts with greater depth
- Promote the synthesis of concepts and making real world connections
- Provide students with enrichment practice that are imbedded in the curriculum such as:
    - Application / Conceptual Development
    - Are you ready for more?
- Common Core Approach to Differentiate Instruction: Students with Disabilities (pg. 20)
- Provide opportunities for math competitions
- Alternative instruction pathways available

Students at Risk for Failure:

- Assure students have experiences that are on the Concrete- Pictorial- Abstract spectrum
- 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
- Assure constant parental/ guardian contact throughout the year with successes/ challenges
- Provide academic contracts to students/guardians
- Create an interactive notebook with samples, key vocabulary words, student goals/ objectives.
- 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.
-Common Core Approach to Differentiate Instruction: Students with Disabilities (pg 19)

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

- **CRP1**. Act as a responsible and contributing citizen and employee.
- **CRP2**. Apply appropriate academic and technical skills.
- **CRP3**. Attend to personal health and financial well-being.
- **CRP4**. Communicate clearly and effectively and with reason.
- **CRP5**. Consider the environmental, social and economic impacts of decisions.
- **CRP6**. Demonstrate creativity and innovation.
- **CRP7**. Employ valid and reliable research strategies.
- **CRP8**. Utilize critical thinking to make sense of problems and persevere in solving them.
- **CRP9**. Model integrity, ethical leadership and effective management.
- **CRP10**. Plan education and career paths aligned to personal goals.
- **CRP11**. Use technology to enhance productivity.
- **CRP12**. Work productively in teams while using cultural global competence.

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.2.4	Read with sufficient accuracy and fluency to support comprehension.
SL.2.1	Participate in collaborative conversations with diverse partners about *grade 2 topics and texts* with peers and adults in small and larger groups.
L.2.4	Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on grade 2 reading and content, choosing flexibly from an array of strategies.