## Winslow Schools <br> Mathematics Curriculum - Grade 1 <br> Unit 4

| Overview | Standards for Mathematical Content | Unit Focus | Standards for Mathematical Practice |
| :---: | :---: | :---: | :---: |
| Unit 4 <br> Reason with Shapes and their Attributes |  | - Reason with shapes and their attributes <br> - Represent and solve problems involving addition and subtraction. <br> - Add and subtract within 20 <br> - Extend the counting sequence <br> - Use place value understanding and properties of operations to add and subtract | MP. 1 Make sense of problems and persevere in solving them. <br> MP. 2 Reason abstractly and quantitatively. <br> MP. 3 Construct viable arguments and critique the reasoning of others. |
| Unit 4: <br> Suggested Open Educational Resources | 1.G.A. 1 All vs. Only some <br> 1.G.A. 1 3-D Shape Sort <br> 1.G.A. 2 Make Your Own Puzzle <br> 1.G.A. 2 Overlapping Rectangles <br> 1.G.A. 3 Equal Shares <br> 1.OA.A. 1 Twenty Tickets <br> 1.NBT.A. 1 Where Do I Go? |  | MP. 4 Model with mathematics. <br> MP. 5 Use appropriate tools strategically. <br> MP. 6 Attend to precision. <br> MP. 7 Look for and make use of structure. <br> MP. 8 Look for and express regularity in repeated reasoning |

Major Supporting Additional (Identified by PARCC Model Content Frameworks).

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| Curriculum Unit 4 | Standards |  | Pacing |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Days | Unit Days |
| Unit 4 <br> Reason with Shapes and their Attributes | - 1.G.A. 1 | Name the attributes of a given two-dimensional shape (square, triangle, rectangle, regular hexagon), distinguishing between defining and non-defining attributes. | 5 | 45 |
|  | - 1.G.A. 2 | Build and draw shapes when given defining attributes. | 7 |  |
|  | - 1.G.A. 3 | Create a composite shape by composing two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles and quarter circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders), and compose new shapes from the composite shape. | 5 |  |
|  | - 1.OA.A. ${ }^{\text {* }}$ | Use addition and subtraction within 20 to solve problems, including word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions | 7 |  |
|  | - 1.OA.C.6* | Add and subtract whole numbers within 20 using various strategies: counting on, making ten, composing, decomposing, relationship between addition and subtraction, creating equivalent but easier or known sums, etc. | 7 |  |
|  | - 1.NBT.A.1* | Count to 120 orally, read and write numerals, and write numerals to represent the number of objects (up to 120). | 4 |  |
|  | - 1.NBT.C.4* | Add a 2-digit and a 1-digit number using concrete models and drawings with a place value strategy or properties of operations; explain or show how the model relates to the strategy (sums within 100). <br> Add a 2-digit number and a multiple of 10 , using concrete models and drawings with a place value strategy or properties of operations. Explain or show how the model relates to the strategy (sums within 100). | 7 |  |
|  |  | Assessment, Re-teach and Extension | 3 |  |

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| Unit 4 Grade 1 |  |  |
| :---: | :---: | :---: |
| Content Standards | Suggested Standards for Mathematical Practice | Critical Knowledge \& Skills |
| 1.G.A.1. Distinguish between defining attributes (e.g., triangles are closed and three-sided) versus nondefining attributes (e.g., color, orientation, overall size); build and draw shapes to possess defining attributes. | MP. 3 Construct viable arguments and critique the reasoning of others. <br> MP. 4 Model with mathematics. <br> MP. 7 Look for and make use of structure. | Concept(s): <br> - Defining attributes versus non defining attributes. <br> Students are able to: <br> - name attributes that define two-dimensional shapes (square, triangle, rectangle, regular hexagon). <br> - name attributes that do not two-dimensional shapes. <br> - build and draw shapes when given defining attributes. <br> Learning Goal 1: Name the attributes of a given two-dimensional shape (square, triangle, rectangle, regular hexagon), distinguishing between defining and non-defining attributes. <br> Learning Goal 2: Build and draw shapes when given defining attributes. |
| 1.G.A.2. Compose two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders) to create a composite shape, and compose new shapes from the composite shape. | MP. 4 Model with mathematics. MP. 7 Look for and make use of structure. | Concept(s): <br> - Shapes can be composed from other shapes (e.g. trapezoids can be composed from triangles). <br> - New shapes can be composed from composite shapes. <br> Students are able to: <br> - create a composite shape using two-dimensional shapes (rectangles, squares, trapezoids, triangles, half-circles, and quarter-circles). <br> - create a composite shape using three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders). <br> - compose new shapes from the composite shapes. <br> Learning Goal 3: Create a composite shape by composing two-dimensional shapes (rectangles, squares, trapezoids, triangles, halfcircles and quarter circles) or three-dimensional shapes (cubes, right rectangular prisms, right circular cones, and right circular cylinders), and compose new shapes from the composite shape. |

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- 1.G.A.3. Partition circles and rectangles into two and four equal shares, describe the shares using the words halves, fourths, and quarters, and use the phrases half of, fourth of, and quarter of. Describe the whole as two of, or four of the shares. Understand for these examples that decomposing into more equal shares creates smaller shares


## MP. 2 Reason abstractly and quantitatively.

MP. 3 Construct viable arguments and critique the reasoning of others.
MP. 6 Attend to precision.
MP. 4 Model with mathematics.
MP. 7 Look for and make use of structure.

## MP. 1 Make sense of problems and persevere in

 solving them.MP. 2 Reason abstractly and quantitatively.
MP. 3 Construct viable arguments and critique the reasoning of others.
MP. 4 Model with mathematics.
MP. 5 Use appropriate tools strategically.
MP. 8 Look for and express regularity in repeated reasoning.

## Concept(s):

- Shapes can be partitioned into equal parts or shares
- Equal shares are named based on the number of shares that make the whole (e.g. halves, fourths, quarters).
- Shares can be described based on their relation to the whole (e.g half of, fourth of, quarter of).
- The whole can be described based on the number of shares.
- Decomposing a whole into more equal shares creates smaller shares.

Students are able to:

- partition circles and rectangles into two or four equal shares.
- distinguish equal shares from those that are not equal.
- describe shares using the words halves, fourths, and quarters.
- describe the relationship between the whole and the share using the phrases half of, fourth of, and quarter of.
- describe the whole as two of, or four of the shares.
- decompose a whole into a greater number of equal shares and identify the new shares as smaller.

Learning Goal 4: Partition circles and rectangles into two or four equal shares, describing the shares using halves, fourths, and quarters and use the phrases half of, fourth of, and quarter of. Describe the whole circle (or rectangle) partitioned into two or four equal shares as two of, or four of the shares.
Concept(s):

- Symbols can be used to represent unknown numbers.
- The symbol (unknowns) can be in any position.

Students are able to:

- add, using objects and drawings, to solve word problems involving situations of adding to and putting together.
- subtract, using objects and drawings, to solve world problems involving situations of taking from and taking apart.

Learning Goal 5: Use addition and subtraction within 20 to solve problems, including word problems involving situations of adding to, taking from, putting together, taking apart, and comparing with unknowns in all positions.

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- 1.OA.C.6. Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 . Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=$ $10+4=14$ ); decomposing a number leading to a ten (e.g., $13-4=13-3$ $-1=10-1=9$ ); using the relationship between addition and subtraction (e.g., knowing that $8+4=$ 12 , one knows $12-8=4$ ); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+$ $1=12+1=13) *($ benchmarked $)$
- 1.NBT.A.1. Count to 120 , starting at any number less than 120 . In this range, read and write numerals and represent a number of objects with a written numeral. *(benchmarked)

MP. 2 Reason abstractly and quantitatively.
MP. 7 Look for and make use of structure.
MP. 8 Look for and express regularity in repeated reasoning.

## MP. 2 Reason abstractly and quantitatively

MP. 7 Look for and make use of structure.
MP. 8 Look for and express regularity in repeated reasoning.

Concept(s):

- Different strategies can be used to add and subtract

Students will be able to

- add and subtract within 20 , using the following strategies:
- counting on;
- making ten;
- composing numbers;
- decomposing numbers;
- relationship between addition and subtraction, and
- creating equivalent but easier or known sums.
- fluently add or subtract whole numbers within 20.

Learning Goal 6: Add and subtract whole numbers within 20 using various strategies: counting on, making ten, composing, decomposing, relationship between addition and subtraction, creating equivalent but easier or known sums, etc.

## Concept(s):

- Number names and the count sequence up to 120

Students are able to:

- count orally by ones up to 120 .
- count up to 120 beginning at any number less than 120 .
- read numerals up to 120 .
- write numerals up to 120 .
- represent a number of objects up to 120 with a written number.

Learning Goal 7: Count to 120 orally, read and write numerals, and write numerals to represent the number of objects (up to 120).

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- 1.NBT.C.4. Add within 100,
including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10, using concrete models (e.g. base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.
*(benchmarked)


## MP. 2 Reason abstractly and quantitatively.

MP. 3 Construct viable arguments and critique the reasoning of others.
MP. 4 Model with mathematics.
MP. 7 Look for and make use of structure.
MP. 8 Look for and express regularity in repeated reasoning.

Concept(s):

- In adding two-digit numbers, add tens with tens and ones with ones.
- In adding two-digit numbers, sometimes it is necessary to compose a ten.
Students are able to:
- use concrete models and drawings with a strategy based on place value to add a two-digit number and a one-digit number.
- use concrete models and drawings with properties of operations to add a two-digit number and a one-digit number.
- use concrete models and drawings with a strategy based on place value to add a two-digit number and a multiple of 10 .
- use concrete models and drawings with properties of operations to add a two-digit number and a multiple of 10 .
- explain or show how the model relates to the strategy.

Learning Goal 8: Add a 2-digit and a 1-digit number using concrete models and drawings with a place value strategy or properties of operations; explain or show how the model relates to the strategy (sums within 100).
Learning Goal 9: Add a 2-digit number and a multiple of 10, using concrete models and drawings with a place value strategy or properties of operations. Explain or show how the model relates to the strategy (sums within 100).

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## Common Misconceptions:

1.G.A. 1 Students may think that a square that has been rotated 45 -degree is no longer a square but a diamond. They need to have experiences with shapes in different orientations. For example, in building-shapes, ask students to orient the smaller shapes in different ways. Some students may think that the size of the equal shares is directly related to the number of equal shares. For example, they think that fourths are larger than halves because there are four fourths in one whole and only two halves in one whole. Students need to focus on the change in the size of the fractional parts as recommended in the folding shapes strategy. (Focus on Concrete and Representational activities).
1.OA.A. 1 A misconception that many students have is that it is valid to assume that a key word or phrase in a problem suggests the same operation will be used every time. For example, they might assume that the word left always means that subtraction must be used to find a solution. Providing problems in which key words like this are used to represent different operations is essential. For example, the use of the word left in this problem does not indicate subtraction as a solution method: Jose took the 8 stickers he no longer wanted and gave them to Anna. Now Jose has 11 stickers left. How many stickers did Jose have to begin with? Students need to analyze word problems and make sense of them, rather than look for "tricks" to help them decide which operation to use. Avoid teaching key words to solve problems, instead emphasize understanding the situation.

## Number Fluency:

1.OA.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem
1.OA. 6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10 . Use strategies such as counting on; making ten (e.g., $8+6=8+2+4=10+4=$ 14); decomposing a number leading to a ten (e.g., $13-4=13-3-1=10-1=9$ ); using the relationship between addition and subtraction (e.g., knowing that $8+4=12$, one knows $12-8=4$ ); and creating equivalent but easier or known sums (e.g., adding $6+7$ by creating the known equivalent $6+6+1=12+1=13$ ).
1.NBT. 1 Count to 120, starting at any number less than 120. In this range, read and write numerals and represent a number of objects with a written numeral.
1.NBT. 4 Add within 100 , including adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10 , using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

## Achieve the Core - GoMath Fluency Activities <br> https://achievethecore.org/page/2853/go-math-k-5-guidance-documents

## Achieve the Core - Fluency Activities

https://achievethecore.org/page/2948/fluency-resources-for-grade-level-routines

## Math Coach - Fact Fluency http://schoolwires.henry.k12.ga.us/Page/21865

Math Wire - Basic Facts Link http://mathwire.com/numbersense/bfactslinks.html
Math Fact Practice http://www.playkidsgames.com/games/mathfact/mathFact.htm

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| District/School Tasks | District/School Primary and Supplementary Resources |
| :---: | :---: |
| Examples of CCSS Items - Delaware Comparison Document Delaware Common Core Item Bank for Mathematics - Grade 1 http://www.doe.k12.de.us/cms/lib09/DE01922744/Centricity/Domain/111/Math_Grade_1.pdf | Text: Go Math <br> Think Central <br> https://www-k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources\&pageName=resourcepage <br> XtraMath <br> https://xtramath.org/ <br> $\mathbf{1}^{\text {st }}$ Grade Flipbook <br> http://community.ksde.org/Default.aspx?tabid=5646 <br> North Carolina Dept of Ed. Wikispaces: <br> http://maccss.ncdpi.wikispaces.net/Elementary <br> 101 Math Discourse Questions: <br> http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf <br> Asking Effective Questions <br> http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf <br> ThinkCentral Personal Math Trainer |
| Instructional Best Practices and Exemplars |  |
| 1. Identifying similarities and differences <br> 2. Summarizing <br> 3. Reinforcing effort and providing recognition <br> 4. Homework and practice <br> 5. Nonlinguistic representations | 6. Cooperative learning <br> 7. Setting objectives and providing feedback <br> 8. Generating and testing hypotheses <br> 9. Cues, questions, and advance organizers 10. Manage response rates |

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9.1 Personal Financial Literacy, 9.2 Career Awareness, Exploration, and Preparation and Training, 9.4 Life Literacies and Key Skills
9.1.2.RM. 1 Describe how valuable items might be damaged or lost and ways to protect them.
9.1.2.PB. 1 Determine various ways to save and places in the local community that help people save and accumulate money over time
9.1.2.CR. 2 List ways to give back, including making donations, volunteering and starting a business
9.2.2.CAP. 1 Make a list of different types of jobs and describe the skills associated with each job
9.2.2.CAP. 3 Define entrepreneurship and social entrepreneurship

The implementation of the 21 st Century skills and standards for students of the Winslow Township District is infused in an interdisciplinary format in a variety of curriculum areas that include, English language Arts, Mathematics, School Guidance, Social Studies, Technology, Visual and Performing Arts, Science, Physical Education and Health, and World Language.: Additional opportunities to address 9.1, 9.2 \& 9.4:

## Philadelphia Mint

https://www.usmint.gov/learn/kids/resources/educational-standards
Different ways to teach Financial Literacy.
https://www.makeuseof.com/tag/10-interactive-financial-websites-teach-kids-money-management-skills/

## Suggested Modifications for Special Education/504

Students with special needs: The students' needs will be addressed on an individual and grade level using a variety of modalities. Accommodations will be made for those students who need extra time to complete assignment. Support staff will be available to aid students related to IEP specifications. 504 accommodations will also be attended to by all instructional leaders. Physical expectations and modifications, alternative assessments, and scaffolding strategies will be used to support this learning. The use of Universal Design for Learning (UDL) will be considered for all students as teaching strategies are considered.
$\square$ Provide the opportunity to re-take tests $\square$ Individual Intervention/Remediation
$\square$ Modify activities/assignments/projects/assessmentsAdditional Support Materials
$\square$ Breakdown activities/assignments/projects/assessments into manageable unitsGuided Notes
$\square$ Additional time to complete activities/assignments/projects/assessments
$\square$ Provide an option for alternative activities/assignments/projects/assessmentsGraphic Organizers
$\square$ Modify ContentAdjust Pacing of Content
$\square$ Modify AmountIncrease one on one time
$\square$ Small Group Intervention/RemediationPeer SupportOther Modifications for Special Education:

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## Suggested Modifications for At-Risk Students

Formative and summative data will be used to monitor student success. At first signs of failure, student work will be reviewed to determine support. This may include parent consultation, basic skills review and differentiation strategies. With considerations to UDL, time may be a factor in overcoming developmental considerations
$\square$ Provide the opportunity to re-take testsModify Content
$\square$ Increase one on one time
$\square$ Oral prompts can be given$\square$ Using visual demonstrations, illustrations, and modelsGive directions/instructions verbally and in simple written formatPeer SupportModify activities/assignments/projects/assessmentsAdditional time to complete activities/assignments/projects/assessments
$\square$ Provide an option for alternative activities/assignments/projects/assessmentsModify AmountAdjust Pacing of ContentSmall Group Intervention/RemediationIndividual Intervention/RemediationAdditional Support MaterialsGuided NotesGraphic Organizers

## English Language Learners

$\square$ Other Modifications for Students At-Risk:
English Language Learners
https://wida.wisc.edu/teach/can-do/descriptors
$\square$ Grades 1 WIDA Can Do Descriptors:
Students excelling in mastery of standards will be challenged with complex, high level challenges related to the topic.

- Raise levels of intellectual demandsListening $\square$ SpeakingReading $\square$ WritingOral Language
Students will be provided with accommodations and modifications that may include:
- Relate to and identify commonalities in mathematics studies in student's home country
- Assist with organization
- Use of computer
- Emphasize/highlight key concepts
- Teacher Modeling
- Require higher order thinking, communication, and leadership skills
- Differentiate content, process, or product according to student's readiness, interests, and/or learning styles
- Provide higher level texts
- Expand use of open-ended, abstract questions
- Critical and creative thinking activities that provide an emphasis on research and in-depth study
- Enrichment Activities/Project-Based Learning/ Independent Study

Additional Strategies may be located at the links:

* Gifted Programming Standards
- Peer Modeling
* Webb's Depth of Knowledge Levels and/or Revised Bloom's Taxonomy
- Label Classroom Materials - Word Walls
* REVISED Bloom's Taxonomy Action Verbs


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| Suggested Activities |  |
| :---: | :---: |
| Do Now/Warm-Up Whole Group Small Groups Guided Practice Independent Practice | Centers Intervention/Remediation Projects Academic Games Other Suggested Activities: |
| Interdisciplinary Connections |  |
| Go Math Big Idea Vocabulary Reader: On the Move (Math, Reading, Writing, Social Studies) <br> Go Math Real World Project: My Shape Coloring Book (Math and Social Studies) <br> Go Math ThinkCentral STEM Activities (Science) <br> Go Math Cross-Curricular Science and Social Studies questions, experiments, and activities embedded throughout the chapter |  |
| Integration of Computer Science and Design Thinking |  |
| 8.2.2.ITH. 3 Identify how 8.2.2.ITH. 4 Identify how 8.1.2.NI. 1 Model and d 8.1.2.NI. 2 Describe how 8.1.2.CS. 3 Describe ba | uals, places, information, and ideas through a network. de. logy. |

