# Winslow Township School District

## Mathematics Curriculum – Grade 5

## Unit 1

| Overview | Standards for Mathematical Content | Unit Focus | Standards for Mathematical Practice |
|---|---|---|---|
| **Unit 1**<br><br>**Understanding the Place Value System** | • 5.OA.A.1<br>• 5.OA.A.2<br>• 5.NBT.A.1<br>• 5.NBT.A.2*<br>• 5.NBT.B.5*<br>• 5.NBT.B.6<br>• 5.NBT.A.3<br>• 5.NBT.A.4 | • Write and interpret numerical expressions<br>• Understand the place value system<br>• Perform operations with multi-digit whole numbers and with decimals to hundredths | MP.1 Make sense of problems and persevere in solving them.<br><br>MP.2 Reason abstractly and quantitatively.<br><br>MP.3 Construct viable arguments and critique the reasoning of others.<br><br>MP.4 Model with mathematics.<br><br>MP.5 Use appropriate tools strategically.<br><br>MP.6 Attend to precision.<br><br>MP.7 Look for and make use of structure.<br><br>MP.8 Look for and express regularity in repeated reasoning. |
| **Unit 1:**<br>**Suggested Open Educational Resources** | 5.OA.A.1 Using Operations and Parentheses<br>5.OA.A.1 Watch out for Parentheses 1<br>5.NBT.A.1 Which number is it?<br>5.NBT.A.1 Millions and Billions of People<br>5.NBT.A.3 Placing Thousandths on the Number Line<br>5.NBT.A.4 Rounding to Tenths and Hundredths<br>5.NBT.B.5 Elmer's Multiplication Error | | |

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

# Winslow Township School District

## Mathematics Curriculum – Grade 5

## Unit 1

| Curriculum Unit 1 | Standards | | Pacing | |
|---|---|---|---|---|
| | | | Days | Unit Days |
| **Unit 1**<br><br>**Understanding the Place Value System** | • 5.OA.A.1 | Evaluate numerical expressions that contain parentheses, brackets and braces. | 5 | 45 |
| | • 5.OA.A.2 | Write numerical expressions when given a verbal description or word problem; interpret numerical expressions without evaluating them. | 5 | |
| | • 5.NBT.A.1 | Explain that a digit in one place represents 1/10 of what it would represent in the place to its left and ten times what it would represent in the place to its right. | 3 | |
| | • 5.NBT.A.2* | Explain patterns in the number of zeros in the product when a whole number is multiplied by a power of 10; represent powers of 10 using whole-number exponents. | 3 | |
| | • 5.NBT.B.5* | Use the standard algorithm to multiply a whole number of up to a four digits by a whole number of up two digits. | 5 | |
| | • 5.NBT.B.6 | Calculate whole number quotients of whole numbers with 4-digit dividends and 2-digit divisors; explain and represent calculations with equations, rectangular arrays, and area models. | 15 | |
| | • 5.NBT.A.3 | Compare two decimals to thousandths using >, =, and < for numbers presented as base ten numerals, number names, and/or in expanded form. | 3 | |
| | • 5.NBT.A.4 | Round decimals to any place value. | 3 | |
| | | Assessment, Re-teach and Extension | 3 | |

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## Mathematics Curriculum – Grade 5

## Unit 1

| Unit 1 Grade 5 | | |
|---|---|---|
| **Content Standards** | **Suggested Standards for Mathematical Practice** | **Critical Knowledge & Skills** |
| ● 5.OA.A.1. Use parentheses, brackets, or braces in numerical expressions, and evaluate expressions with these symbols. | MP.1 Make sense of problems and persevere in solving them.<br>MP.5 Use appropriate tools strategically.<br>MP.8 Look for and express regularity in repeated reasoning. | Concept(s):<br>● Standard convention for performing operations (Order of operations, including grouping symbols)<br>Students are able to:<br>● evaluate numerical expressions that include grouping symbols (parentheses, brackets or braces).<br>● evaluate numerical expressions that include nested grouping symbols (for example, 3 x [5 + (7 - 3)]).<br>Learning Goal 1: Evaluate numerical expressions that contain parentheses, brackets and braces. |
| ● 5.OA.A.2. Write simple expressions that record calculations with numbers, and interpret numerical expressions without evaluating them.<br>*example, express the calculation "add 8 and 7, then multiply by 2" as 2 × (8 + 7). Recognize that 3 × (18932 + 921) is three times as large as 18932 + 921, without having to calculate the indicated sum or product.* | MP.1 Make sense of problems and persevere in solving them.<br>MP.2 Reason abstractly and quantitatively.<br>MP.7 Look for and make use of structure.<br>MP.8 Look for and express regularity in repeated reasoning | Concept(s):<br>● Order of operations, including grouping symbols.<br>Students are able to:<br>● write a simple numerical expression when given a verbal description.<br>● interpret the quantitative relationships in numerical expressions without evaluating (simplifying) the expression.<br>Learning Goal 2: Write numerical expressions when given a verbal description or word problem; interpret numerical expressions without evaluating them. |
| ● 5.NBT.A.1. Recognize that in a multi-digit number, a digit in one place represents 10 times as much as it represents in the place to its right and 1/10 of what it represents in the place to its left. | MP.2 Reason abstractly and quantitatively.<br>MP.6 Attend to precision.<br>MP.7 Look for and make use of structure. | Concept(s):<br>● Quantitative relationships exist between the digits in place value positions of a multi-digit number.<br>Students are able to:<br>● explain that a digit in one place represents 1/10 of what it would represent in the place to its left.<br>● explain that a digit in one place represents ten times what it would represent in the place to its right.<br>Learning Goal 3: Explain that a digit in one place represents 1/10 of what it would represent in the place to its left and ten times what it would represent in the place to its right. |

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| • 5.NBT.A.2. Explain patterns in the number of zeros of the product when multiplying a number by powers of 10, and explain patterns in the placement of the decimal point when a decimal is multiplied or divided by a power of 10. Use whole-number exponents to denote powers of 10. | MP.2 Reason abstractly and quantitatively.<br>MP.6 Attend to precision.<br>MP.7 Look for and make use of structure. | Concept(s):<br>• Scientific notation and exponents<br>Students are able to:<br>• explain patterns in the number of zeros of the product when multiplying a whole number by powers of 10.<br>• write powers of 10 using whole-number exponents.<br><br>Learning Goal 4: Explain patterns in the number of zeros in the product when a whole number is multiplied by a power of 10; represent powers of 10 using whole-number exponents. |
| • 5.NBT.B.5. Fluently multiply multi-digit whole numbers using the standard algorithm. *(benchmarked) | MP.2 Reason abstractly and quantitatively.<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. | Concept(s): No new concept(s) introduced<br>Students are able to:<br>• multiply a whole number of up to a four digits by a whole number of up two digits using the standard algorithm with accuracy and efficiency.<br><br>Learning Goal 5: Use the standard algorithm to multiply a whole number of up to a four digits by a whole number of up two digits. |
| • 5.NBT.B.6. Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations, and/or the relationship between multiplication and division. Illustrate and explain the calculation by using equations, rectangular arrays, and/or area models. | MP.2 Reason abstractly and quantitatively.<br>MP.3 Construct viable arguments and critique the reasoning of others.<br>MP.4 Model with mathematics.<br>MP.5 Use appropriate tools strategically.<br>MP.7 Look for and make use of structure. | Concept(s): No new concept(s) introduced<br>Students are able to:<br>• divide to find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors using strategies based on place value, properties of operations, and the relationship between multiplication and division.<br>• represent these operations with equations, rectangular arrays, and area models.<br>• explain the calculation by referring to the model (equation, array, or area model).<br><br>Learning Goal 6: Calculate whole number quotients of whole numbers with 4-digit dividends and 2-digit divisors; explain and represent calculations with equations, rectangular arrays, and area models. |

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## Mathematics Curriculum – Grade 5

### Unit 1

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| ● 5.NBT.A.3. Read, write, and compare decimals to thousandths.<br>5.NBT.A.3a. Read and write decimals to thousandths using base-ten numerals, number names, and expanded form, e.g., 347.392 = 3 × 100 + 4 × 10 + 7 × 1 + 3 × (1/10) + 9 × (1/100) + 2 × (1/1000).<br>5.NBT.A.3b. Compare two decimals to thousandths based on meanings of the digits in each place, using >, =, and < symbols to record the results of comparisons. | MP.2 Reason abstractly and quantitatively.<br>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. | Concept(s):<br>● Multiple representations of whole numbers<br>Students are able to:<br>● read and write decimals to thousandths using base-ten numerals.<br>● read and write decimals to thousandths using number names.<br>● read and write decimals to thousandths using expanded form.<br>● compare two decimals to thousandths using >, =, and < symbols.<br>● compare decimals when each is presented in a different form (base-ten numeral, number name, and expanded form).<br><br>Learning Goal 7: Compare two decimals to thousandths using >, =, and < for numbers presented as base ten numerals, number names, and/or in expanded form. |
| ● 5.NBT.A.4. Use place value understanding to round decimals to any place. | MP.2 Reason abstractly and quantitatively.<br>MP.6 Attend to precision.<br>MP.7 Look for and make use of structure. | Concept(s): No new concept(s) introduced<br>Students are able to:<br>● round decimals to any place value.<br><br>Learning Goal 8: Round decimals to any place value. |

# Winslow Township School District

## Mathematics Curriculum – Grade 5

## Unit 1

| Unit 1 Grade 5 | |
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| **School/District Formative Assessment Plan** | **School/District Summative Assessment Plan** |
| Pre-Assessment-"Show What You Know"<br>"Mid-Chapter Checkpoint"<br>Lesson Quizzes<br>Exit Tickets<br>Daily Monitoring | Link It<br>Chapter Tests<br>Math Portfolio |

**Focus Mathematical Concepts**

**Prerequisite skills:**

**Achieve the Core Coherence Map**

https://achievethecore.org/coherence-map/

Standards:

**5.OA.A.1:** 3.OA.8, 4.OA.3
**5.OA.A.2:** 3.OA.8, 4.OA.2, 4.OA.3, 5.OA.1
**5.NBT.A.1:** 3.NBT.3, 4.NBT.1, 4.NBT.2, 4.NF.6
**5.NBT.A.2:** 3.NBT.3, 4.NBT.1, 4.NF.6, 5.NBT.1
**5.NBT.B.5:** 3.OA.7, 4.NBT.4, 4.NBT.5
**5.NBT.B.6:** 4.NBT.4, 4.NBT.5, 5.NBT.1
**5.NBT.A.3:** 4.NBT.1, 4.NBT.2, 4.NF.6, 4.NF.7, 5.NBT.1, 5.NBT.2, 5.NBT.3a
**5.NBT.A.4:** 4.NBT.3, 4.NF.6, 5.NBT.2, 5.NBT.3

**Common Misconceptions:**

**5.OA.A.1 & 5.OA.A.2 & 5.NBT.A.3 & 5.NBT.A.4**

Students may believe the order in which a problem with mixed operations is written is the order to solve the problem.

**5.NBT.A.1 & 5.NBT.A.2**

A common misconception that students have when trying to extend their understanding of whole number place value to decimal place value is that as you move to the left of the decimal point, the number increases in value. Reinforcing the concept of powers often is essential for addressing this issue. A second misconception that is directly related to comparing whole numbers is the idea that the longer the number the greater the number. With whole numbers, a 5-digit number is always greater that a 1-, 2-, 3-, or 4-digit number. However, with decimals a number with one decimal place may be greater than a number with two or three decimal places. For example, 0.5 is greater than 0.12, 0.009 or 0.499. One method for comparing decimals it to make all numbers have the same number of digits to the right of the decimal point by adding zeros to the number, such as 0.500, 0.120, 0.009 and 0.499. A second method is to use a place-value chart to place the numerals for comparison.

**5. NBT.B.5 & 5.NBT.B.6**

Students might compute the sum or difference of decimals by lining up the right-hand digits as they would whole number. For example, in computing the sum of 15.34 + 12.9, students will write the problem in this manner:

15.34
+ 12.9
16.63

To help students add and subtract decimals correctly, have them first estimate the sum or difference. Providing students with a decimal-place value chart will enable them to place the digits in the proper place

**Number Fluency:**

**5.NBT.5** Students fluently multiply multi-digit whole numbers using the standard algorithm.

**Achieve the Core – GoMath Fluency Activities**
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**
**XtraMath www.xtramath.org**

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## Mathematics Curriculum – Grade 5

## Unit 1

| District/School Tasks | District/School Primary and Supplementary Resources and Technology Integration |
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| **PARCC Released Items**<br>http://www.parcc-assessment.org/released-items<br><br>**NJDOE Digital Item Library**<br>https://nj.digitalitemlibrary.com/home<br><br>**NJSLA Mathematics Evidence Statements**<br>https://docs.google.com/spreadsheets/d/18M5r1jk4P729fTpAlWAzrw1gE6tken233I-Yk0U712M/edit#gid=554025491<br><br>**LinkIt! Form A, B, & C** | Text: Go Math<br><br>**Think Central**<br>https://www-k6.thinkcentral.com/ePC/viewResources.do?method=retrieveResources&pageName=resourcepage<br><br>**GoMath Personal Math Trainer**<br>Xtramath www.xtramath.org<br>Sumdog www.sumdog.com<br>Khan Academy www.khanacademy.org<br><br>**Math Coach – Fact Fluency http://schoolwires.henry.k12.ga.us/Page/21865**<br>**Math Wire – Basic Facts Link**<br>**http://mathwire.com/numbersense/bfactslinks.html**<br>**Math Fact Practice**<br>**http://www.playkidsgames.com/games/mathfact/mathFact.htm**<br>**5th grade Flip Book**<br>http://community.ksde.org/Default.aspx?tabid=5646<br>**North Carolina Dept of Ed. Wikispaces:**<br>http://maccss.ncdpi.wikispaces.net/Elementary<br><br>**PARCC Math Resources**<br>http://www.parcc-assessment.org/assessments/test-design/mathematics/math-test-specifications-documents<br><br>**101 Math Discourse Questions:**<br>http://www.casamples.com/downloads/100MathDiscourseQuestions_Printable.pdf<br><br>**Asking Effective Questions**<br>http://www.edu.gov.on.ca/eng/literacynumeracy/inspire/research/CBS_AskingEffectiveQuestions.pdf |

# Winslow Township School District

## Mathematics Curriculum – Grade 5

## Unit 1

| Instructional Best Practices | |
|---|---|
| 1. Identifying similarities and differences<br>2. Summarizing and note taking<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<br>10. Manage response rates |

| Vocabulary | |
|---|---|
| 5.OA.A.1 & 2<br>**Write and interpret numerical expressions.** parentheses, brackets, braces, numerical expressions<br><br>5.NBT.A.1, 2, 3 & 4<br>**Understand the place value system.**<br>place value, decimal, decimal point, patterns, multiply, divide, tenths, thousands, greater than, less than, equal to, ‹, ›, =, compare/comparison, round<br><br>**GO Math Chapter 1 Vocabulary**<br>base, evaluate, inverse operations, order of operations, distributive property, exponent, period<br>**Go Math Chapter 2 Vocabulary**<br>compatible numbers, partial quotient, factor, product, remainder | 5.NBT.B.5 & 6<br>**Perform operations with multi-digit whole numbers and with decimals to hundredths.**<br>multiplication/multiply, division/division, decimal, decimal point, tenths, hundredths, products, quotients, dividends, divisor, rectangular arrays, area models, addition/add, subtraction/subtract, (properties)-rules about how numbers work, reasoning<br><br>**GO Math Chapter 3 Vocabulary**<br>benchmark, place value, sequence, term, hundredth, round |

# Winslow Township School District

## Mathematics Curriculum – Grade 5

## Unit 1

| 9.1 Personal Financial Literacy, 9.2 Career Awareness, Exploration, Preparation and Training & 9.4 Life Literacies and Key Skills |
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| 9.1.5.CP.1: Identify the advantages of maintaining a positive credit history.<br>9.1.5.EG.1: Explain and give examples of what is meant by the term “tax.”<br>9.1.5.EG.2: Describe how tax monies are spent.<br>9.1.5.EG.3: Explain the impact of the economic system on one’s personal financial goals.<br>9.1.5. EG.4: Describe how an individual’s financial decisions affect society and contribute to the overall economy.<br>9.1.5.FI.1: Identify various types of financial institutions and the services they offer including banks, credit unions, and credit card companies.<br>9.1.5.FP.1: Illustrate the impact of financial traits on financial decisions.<br>9.1.5.FP.2: Identify the elements of being a good steward of money.<br>9.1.5.FP.3: Analyze how spending choices and decision-making can result in positive or negative consequences.<br>9.1.5.FP.4: Explain the role of spending money and how it affects well- being and happiness (e.g., "happy money," experiences over things, donating to causes, anticipation, etc.).<br>9.1.5.PB.1: Develop a personal budget and explain how it reflects spending, saving, and charitable contributions.<br>9.1.5.PB.2: Describe choices consumers have with money (e.g., save, spend, donate).<br>9.1.5.RMI.1: Identify risks that individuals and households face.<br>9.1.5.RMI.2: Justify reasons to have insurance.<br>9.2.5.CAP.7: Identify factors to consider before starting a business.<br>9.2.5.CAP.8: Identify risks that individuals and households face.<br>9.2.5.CAP.9: Justify reasons to have insurance.<br><br>The implementation of the 21st 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:<br>**Philadelphia Mint**<br>https://www.usmint.gov/learn/kids/resources/educational-standards<br>**Different ways to teach Financial Literacy.**<br>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.

☐ Provide the opportunity to re-take tests
☐Modify activities/assignments/projects/assessments
☐ Breakdown activities/assignments/projects/assessments into manageable units
☐Additional time to complete activities/assignments/projects/assessments
☐ Provide an option for alternative activities/assignments/projects/assessments
☐ Modify Content
☐ Modify Amount
☐ Small Group Intervention/Remediation
☐ Individual Intervention/Remediation
☐ Additional Support Materials
☐ Guided Notes
☐ Graphic Organizers
☐ Adjust Pacing of Content
☐ Increase one on one time
☐ Peer Support
☐ Other Modifications for Special Education:

- Think Central Online Resources:
  - Reteach
  - Strategic Intervention
  - Intensive Intervention Skill Pack
  - Response to Intervention Activities

**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

☐ Provide the opportunity to re-take tests
☐ Increase one on one time
☐ Oral prompts can be given
☐ Using visual demonstrations, illustrations, and models
☐ Give directions/instructions verbally and in simple written format
☐ Peer Support
☐ Modify activities/assignments/projects/assessments
☐ Additional time to complete activities/assignments/projects/assessments
☐ Provide an option for alternative activities/assignments/projects/assessments

☐ Modify Content
☐ Modify Amount
☐ Adjust Pacing of Content
☐ Small Group Intervention/Remediation
☐ Individual Intervention/Remediation
☐ Additional Support Materials
☐ Guided Notes
☐ Graphic Organizers
☐ Other Modifications for Students At-Risk:

- Think Central Online Resources:
  - Reteach
  - Strategic Intervention
  - Intensive Intervention Skill Pack
  - Response to Intervention Activities

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| English Language Learners | Suggested Modifications for Gifted Students |
|---|---|
| All WIDA Can Do Descriptors can be found at this link: https://wida.wisc.edu/teach/can-do/descriptors<br>☐ Grades 4-5 WIDA Can Do Descriptors:<br>☐ Listening ☐ Speaking<br>☐ Reading ☐ Writing<br>☐ Oral Language<br>Students will be provided with accommodations and modifications that may include:<br>• Relate to and identify commonalities in mathematics studies in student's home country<br>• Assist with organization<br>• Use of computer<br>• Emphasize/highlight key concepts<br>• Teacher Modeling<br>• Peer Modeling<br>• Label Classroom Materials - Word Walls | Students excelling in mastery of standards will be challenged with complex, high level challenges related to the topic.<br>• Raise levels of intellectual demands<br>• Require higher order thinking, communication, and leadership skills<br>• Differentiate content, process, or product according to student's readiness, interests, and/or learning styles<br>• Provide higher level texts<br>• Expand use of open-ended, abstract questions<br>• Critical and creative thinking activities that provide an emphasis on research and in-depth study<br>• Enrichment Activities/Project-Based Learning/ Independent Study<br>Additional Strategies may be located at the links:<br>❖ Gifted Programming Standards<br>❖ Webb's Depth of Knowledge Levels and/or Revised Bloom's Taxonomy<br>❖ REVISED Bloom's Taxonomy Action Verbs |

| Suggested Activities | |
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| ☐ Do Now/Warm-Up<br>☐ Whole Group<br>☐ Small Groups<br>☐ Guided Practice<br>☐ Independent Practice<br>☐ Personal Math Trainer on ThinkCentral<br>☐ Go Math Vocabulary Games | ☐ Centers<br>☐ Intervention/Remediation<br>☐ Projects<br>☐ Go Math Grab and Go Activities<br>☐Academic Games<br>☐ Other Suggested Activities: |

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| Interdisciplinary Connections |
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| Science/Social Studies questions embedded in series (math, science, social studies)<br>Think Central Go Math! Real World Videos (math, reading, science, social studies)<br>Think Central S.T.E.M. Activities (math and science)<br>Math Journal Prompts embedded in series (math and writing) |
| **Integration of Computer Science and Design Thinking NJSLS 8** |
| 8.1.5.CS.1: Model how computing devices connect to other components to form a system.<br>8.1.5.CS.2: Model how computer software and hardware work together as a system to accomplish tasks.<br>8.1.5.CS.3: Identify potential solutions for simple hardware and software problems using common troubleshooting strategies.<br>8.1.5.DA.1: Collect, organize, and display data in order to highlight relationships or support a claim. |