**Algebra 8**

**Course Compendium**

**UNITS OF STUDY\***

Unit 1- Real Numbers and their Properties: 3 weeks, September

Unit 2- Polynomials & Factoring: 5 weeks, September & October

Unit 3- Solving Equations: 4 weeks, November & December

Unit 4- Solving Inequalities: 3 weeks: December

Unit 5- Intro to Functions: 4 weeks: January

Unit 6- Linear Functions: 4 weeks: February

Unit 7- Systems of Equations & Inequalities: 4 weeks: March

Unit 8- Quadratic Functions & Equations: 4 weeks: April

Unit 9- Exponential Functions: 2 weeks: May

Unit 10- Radical Expressions & Equations: 2 weeks: May

Unit 11- Descriptive Statistics: 2 weeks: June

Unit 12- Rational Expressions & Equations: 2 weeks: June

**INTERDISCIPLINARY CONNECTIONS**

**NJSLS Companion Standards Grades 6-8**

[**RST.6-8.3**](http://www.corestandards.org/ELA-Literacy/RST/6-8/3/)**.** Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

[**RST.6-8.4**](http://www.corestandards.org/ELA-Literacy/RST/6-8/4/)**.** Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 6-8 texts and topics*.

[**RST.6-8.7**](http://www.corestandards.org/ELA-Literacy/RST/6-8/7/)**.** Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).

**NJSLSA.W4.** Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

**21st Century Life and Careers**

**CRP2**. Apply appropriate academic and technical skills.

**CRP4**. Communicate clearly and effectively and with reason.

**CRP11**. Use technology to enhance productivity.

**9.1.8.A.2**  Relate how career choices, education choices, skills, entrepreneurship, and economic conditions affect income.

**9.1.8.C.5**  Calculate the cost of borrowing various amounts of money using different types of credit (e.g., credit cards, installment loans, mortgages).

**9.1.8.D.3** Differentiate among various investment options.

**9.1.8.E.6** Compare the value of goods or services from different sellers when purchasing large quantities and small quantities.

**9.2.8.B.7** Evaluate the impact of online activities and social media on employer decisions.

**Technology**

**8.1.8.A.1** Demonstrate knowledge of a real world problem using digital tools.

**8.2.8.E.1** Identify ways computers are used that have had an impact across the range of human activity and within different careers where they are used.

**8.1.8.D.1** Understand and model appropriate online behaviors related to cyber safety, cyber bullying, cyber security, and cyber ethics including appropriate use of social media.

**8.2.8.C.1** Explain how different teams/groups can contribute to the overall design of a product.

**8.2.8.C.8** Develop a proposal for a chosen solution that include models (physical, graphical or mathematical) to communicate the solution to peers.

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| **GENERAL CONSIDERATIONS FOR DIVERSE LEARNERS** | | |
| **English Language Learners** | **Students Receiving Special Education Services** | **Advanced Learners** |
| * [WIDA Can Do Descriptors for Grades 6-8](https://drive.google.com/open?id=0B-j1SG5dErXzODlwUW5wSE82MlE)\* * [WIDA Essential Actions Handbook](https://drive.google.com/file/d/1MOkRH7aeYmJ3FwxKsT9bcQJXGfTWkidY/view?usp=sharing) * [FABRIC Paradigm](https://drive.google.com/file/d/1R7mxpIl_nttbJf6leydxHWloMs2ykocb/view?usp=sharing) * [Wall Township ESL Grading Protocol](https://drive.google.com/file/d/1P7F_7Iq9knrCdTXo77tEpoGfVOtH-mPW/view?usp=sharing)   \*Use WIDA Can Do Descriptors in coordination with [Student Language Portraits (SLPs)](https://docs.google.com/document/d/1qs-mZZZ9bBPRNsJcSvmMYB1REHPENPy_XQQwGWo7Nhw/edit?usp=sharing).  **Potential Accommodations for ELLs**   * Personal glossary * Text-to-speech * Extended time * Simplified / verbal instructions * Frequent breaks * Small group/One to one * Additional time * Review of directions * Student restates information * Extra visual and verbal cues and prompts * Preferential seating * Verbal and visual cues regarding directions and staying on task * Checklists * Immediate feedback | * [New Jersey Tiered System of Supports](http://www.nj.gov/education/njtss/) * [National Center on Universal Design for Learning - About UDL](http://www.udlcenter.org/aboutudl) * [UDL Checklist](https://drive.google.com/open?id=12ND_gk5do8Cm5udNNsWpC6sHPKlaruqh) * [UDL Key Terms](https://drive.google.com/open?id=1GpRJu1U4CGCoBIjF2XlVjlmVnqWYU3P1)   Response to Intervention:  Reteach to Build Understanding, Additional Vocabulary Support, Build Mathematical Literacy  Students within this class receiving Special Education/Section 504 programming have specific goals and objectives, as well as accommodations and modifications outlined within their Individualized Education Plans (IEP)/504 Plans due to an identified disability and/or diagnosis. In addition to exposure to the general education curriculum, instruction is differentiated based upon the student's needs. The IEP/504 Plan acts as a supplemental curriculum guide inclusive of instructional strategies that support each specific learner.  **Potential Accommodations for Special Education**  **Presentation accommodations**:   * Listen to audio recordings instead of reading text * Pre-teach unknown vocabulary through pictures or videos, and relate to prior knowledge * Work with fewer items per page and/or materials in a larger print size * Use a visual blocker * Use visual presentations of verbal material, such as word webs and visual organizers * Be given a written list of instructions/picture cues   **Response accommodations**:   * Give responses in a form (oral or written) that’s easier for him/her * Dictate answers to a scribe * Capture responses on an audio recorder * Use a spelling dictionary or electronic spell-checker * Use a word processor to give responses in class * Use a calculator or table of “math facts”   **Setting accommodations**:   * Work or take a test in a different setting, such as a quiet room with few distractions * Sit where he/she learns best (for example, near the teacher) * Take a test in small group setting   **Timing accommodations**:   * Take more time to complete a task or a test * Have extra time to process oral information and directions * Take frequent breaks, such as after completing a task   **Assignment modifications**:   * Complete fewer or different homework problems than peers * Shorten assignment * Answer fewer or different test questions * Create alternate projects or assignments | * [Knowledge and Skill Standards in Gifted Education for All Teachers](http://www.nagc.org/resources-publications/resources/national-standards-gifted-and-talented-education/knowledge-and) * [Pre-K-Grade 12 Gifted Programming Standards](https://drive.google.com/file/d/1kyzci6RjKrwn7Yo-g2su1DS0l8-rOeK4/view?usp=sharing) * [Gifted Programming Glossary of Terms](https://drive.google.com/file/d/13bnynRPFgKtxapLCyu8f7y_hIIf9HQvU/view?usp=sharing)   **Potential Accommodations for Advanced Learners**   * Use of high level academic vocabulary/texts * Problem-based learning * Pre-assess to condense curriculum * Interest-based research * Authentic problem-solving * Homogeneous grouping opportunities |
| **Students with 504 Plans** |
| Teachers are responsible for implementing designated services and strategies identified on a student’s 504 Plan. |
| **At Risk Learners / Differentiation Strategies** | | |
| Alternative Assessments  Choice Boards  Games and Tournaments  Group Investigations  Guided Reading  Learning Contracts  Leveled Rubrics  Literature Circles  Multiple Texts  Personal Agendas | Independent Research & Projects  Multiple Intelligence Options  Project-Based Learning  Varied Supplemental Activities  Varied Journal Prompts or RAFT Writing  Tiered Activities/Assignments  Tiered Products  Graphic Organizers  Choice of Books/Activities  Mini-Workshops to Reteach or Extend  Think-Pair-Share by readiness or interest  Use of Collaboration of Various Activities | Jigsaw  Think-Tac-Toe  Cubing Activities  Exploration by Interest  Flexible Grouping  Goal-Setting with Students  Homework Options  Open-Ended Activities  Use of Reading Buddies  Varied Product Choices  Stations/Centers  Work Alone/Together |

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