

Technology problem-solving and decision –making tools:

- Demonstrate an understanding of concepts underlying hardware, software, and connectivity and of practical applications to learning and problem solving

Basic Operations and Concepts:

- Use input devices (e.g., mouse, keyboard, remote control) and output devices (e.g., monitor, printer) to successfully operate computers, VCRs, audiotapes, and other technologies.
- Use a variety of media and technology resources for directed and independent learning activities.

Math

- Solve rate problems
- Calculate the circumference and area of a circle
- Use the Stem and Leaf Plots to analyze data
- Calculate the area and perimeter of polygons
- Simplify and combine like terms in equations
- Solve problems involving proportions with rational numbers
- Solve equations using inverse operations
- Solve problems involving rates
- Add, subtract, multiply and divide integers
- Graph linear equations
- Graph inequalities
- Determine the slope of a line
- Find/Estimate the square roots of numbers
- Use Venn Diagrams to interpret statements
- Simplify arithmetic expressions containing integers using the order of operations

- Identify the symmetry of objects
- Identify rational and irrational numbers
- Solve equations with fractions
- Calculate the sum of the interior angles of a polygon
- Classify triangles (sides and angles)
- Use the Pythagorean Theorem to solve problems
- Use exponential and scientific notation to write numbers
- Identify, compare and graph rational numbers on a number line
- Solve algebraic equations using inverse operations
- Calculate the surface area of a cylinder
- Find the x and y-intercepts; Write equations in slope intercept form
- Multiply and divide powers of numbers
- Solve permutation/combination problems
- Calculate the volume and surface areas of geometric figures
- Solve scale drawing problems
- Solve problems involving temperature, time, maps, speed, distance, density, and monetary values
- Table/Graphs (i.e., model change in data, model functions, solve problems about linear change, model exponential change)
- Create arithmetic and geometric sequences
- Recognize and simplify quadratic equations
- Determine correlations between variables and quantities
- Recognize/Generate equivalent forms for linear equations

EIGHTH GRADE CURRICULUM GUIDE

Spencer Technology Academy

*“Moving Students
Beyond the Immediate”*



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A Eighth Grade Seahawk Student must have:

Literacy

A. Word Analysis and Vocabulary

- Expand listening and reading vocabulary
- Apply a variety of word meaning strategies before, during and after reading
- Assess author's word choice and identifies effect of literary device
- Apply word identification strategies (i.e. structural analysis, denotation, connotation, multiple meanings in context, word origin) to enhance reading independence

B. Comprehension and Fluency

- Use skimming to preview reading materials and scanning to see visual patterns and identify text structure before reading.
- Demonstrate understanding of text structure through use of graphic organizers and outlining.
- Summarize, infer, and draw conclusions about text, using prior knowledge.
- Apply self-monitoring techniques and adjusts rate to increase comprehension.
- Identify story elements, major and secondary themes and topics in text.
- Apply appropriate reading strategies (e.g. asks questions, takes notes, summarizes) to fiction and nonfiction texts within and across content areas.
- Read a variety of material for different viewpoints
- Identify and understands character, setting, plot, conflict, and major and secondary themes.
- Recognize examples of traditional literature and non-fiction materials.
- Recognize various types of poetry (free verse, haiku, limerick, lyric and narrative).
- Identify elements of poetry

- Respond to literature through art, drama, music, writing, puppetry, and oral reading

- Selects material of high quality for personal reading

C. Writing and Spelling

- Use prewriting strategies (e.g. webbing, brainstorming, listing, note taking, outlining, graphic organizers)
- Develop compositions that include a variety of sentence structure and sentence types
- Produce writing with appropriate focus, support/elaboration, organization, mechanics/grammar, and integration
- Use transitional words and phrases within and between paragraphs
- Edit for correct spelling, punctuation, and capitalization
- Edit and revises to maintain a consistent tone and focus throughout a piece of writing
- Demonstrate appropriate use of eight parts of speech
- Use writing process (prewriting, drafting, revising, editing, and publishing) to produce well-developed expository, narrative, and persuasive pieces

D. Listening and Speaking

- Listen critically and analytically
- Recall content (main idea and details) of message
- Infer and draw conclusions, synthesize, analyze, and evaluate information in presentations or messages
- Deliver oral presentation that is coherent, well organized, and rehearsed
- Use spoken language that is clear, audible, and appropriate
- Employ an engaging introduction, appropriate organization, and effective conclusion
- Use physical movements and nonverbal expressions to communicate message
- Formulate relevant and focused questions and answers in a variety of settings
- Contribute meaningfully and politely to small and large group discussions with relevant responses, and respectful listening behaviors

Technology

Social, ethical, and human issues:

- Demonstrate knowledge of current changes in information technologies and effect those changes have on workplace and society.
- Exhibit legal and ethical behaviors when using information and technology, and discuss consequences and misuse.
- Research and evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources concerning real-world problems.

Technology productivity tools:

- Use content-specific tools, software, and simulations (e.g., environmental probes, graphing calculators, exploratory environments, Web tools) to support learning and research.
- Apply productivity/multimedia tools and peripherals to support personal productivity, group collaboration, and learning throughout the curriculum.

Technology Communication tools:

- Design, develop, publish, and present products (e.g., Webpages, videotapes) using technology resources that demonstrate and communicate curriculum concepts to audiences inside and outside the classroom.

Technology research tools:

- Collaborate with peers, experts, and others using telecommunications and collaborative tools to investigate curriculum related problems, issues and information, and to develop solutions or products for audiences inside and outside the classroom.
- Select and use appropriate tools and technology resources to accomplish a variety of tasks and solve problems.