Grade 8 – Addendum

Pennsylvania State Standards

Science and Technology and Engineering

3.4.6.D2 Use computers appropriately to access and organize and apply information.
3.4.6.E4 Illustrate how communication systems are made up of a source, encoder, transmitter, receiver, decoder, and destination. Examine how communications information technologies are used to help humans make decisions and solve problems.
3.4.7.B2 Explain how decisions to develop and use technologies may be influenced by environmental and economic concerns.
3.4.7.C1 Describe how design, as a creative planning process, leads to useful products and systems.
3.4.7.C2 Explain how modeling, testing, evaluating, and modifying are used to transform ideas into practical solutions.
3.4.7.D2 Select and safely use appropriate tools, products and systems for specific tasks.
3.4.7.E4 Illustrate how information can be acquired and sent through a variety of technological sources, including print and electronic media.
3.4.7.E7 Examine subsystems found in the construction of a building.
3.4.8.C1 Evaluate the criteria and constraints of a design.
3.4.8.D1 Test and evaluate the solutions for a design problem.
3.4.8.D2 Operate and maintain systems in order to achieve a given purpose.
3.4.8.D3 Interpret and evaluate the accuracy of the information obtained and determine its usefulness.
3.4.8.E4 Describe how the design of the message is influenced by such factors as the intended audience, medium, purpose, and nature of the message.
3.4.8.E6 Analyze the steps involved in the manufacturing process (e.g., design, development, production, marketing and servicing of products and systems).
3.4.8.E7 Analyze factors that determine structural design (e.g., building laws and codes, style, convenience, cost, climate, and function).

Reading, Writing, Speaking

1.1.8.F Understand the meaning of and apply key vocabulary across the various subject areas
1.2.8.A Read and understand essential content of informational texts and documents in all academic areas.
1.2.8.B Use and understand a variety of media and evaluate the quality of material produced.
1.5.8.A Write with a sharp, distinct focus. 1.5.8.B - Write using well-developed content appropriate for the topic.
1.5.8.B  Write using well-developed content appropriate for the topic.
1.6.8.A  Listen to others.
1.6.8.C  Speak using skills appropriate to formal speech situations.
1.6.8.D  Contribute to discussions.
1.8.8. B  Locate information using appropriate sources and strategies.
1.8.8. C  Organize, summarize and present the main ideas from research.

Mathematics
2.2.8.A  Complete calculations by applying the order of operations.
2.2.8.F  Identify the difference between exact value and approximation and determine which is appropriate for a given situation.
2.2.11.A  Develop and use computation concepts, operations and procedures with real numbers in problem-solving situations.
2.3.11.A  Select and use appropriate units and tools to measure to the degree of accuracy required in particular measurement situations.
2.3.11.C  Demonstrate the ability to produce measures with specified levels of precision.
2.3.8. A  Develop formulas and procedures for determining measurements
2.3.8.D  Estimate, use and describe measures of distance, rate, perimeter, area, volume, weight, mass and angles.
2.3.8.F  Use scale measurements to interpret maps or drawings.
2.3.8.G  Create and use scale models.
2.5.8.A  Invent, select, use and justify the appropriate methods, materials and strategies to solve problems.
2.9.8.A  Construct figures incorporating perpendicular and parallel lines, the perpendicular bisector of a line segment and an angle bisector using computer software.
2.9.8.B  Draw, label, measure and list the properties of complementary, supplementary and vertical angles.
2.9.8.D  Identify, name, draw and list all properties of squares, cubes, pyramids, parallelograms, quadrilaterals, trapezoids, polygons, rectangles, rhombi, circles, spheres, triangles, prisms and cylinders.
2.9.8.E  Construct parallel lines, draw a transversal and measure and compare angles formed

Career Education and Work
13.1.8.A  Relate careers to individual interests, abilities, and aptitudes.
13.1.8.D  Explain the relationship of career training programs to employment opportunities.
13.3.8.E  Identify and apply time management strategies as they relate to both personal and work situations.
Common Core Standards

RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks.

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 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).

RST.6-8.9 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).

WHST.6-8.2 Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.

WHST.6-8.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

WHST.6-8.6 Use technology, including the Internet, to produce and publish writing and present the relationships between information and ideas clearly and efficiently.

WHST.6-8.8 Gather relevant information from multiple print and digital sources, using search terms effectively; assess the credibility and accuracy of each source; and quote or paraphrase the data and conclusions of others while avoiding plagiarism and following a standard format for citation.

SL.8.1 Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 8 topics, texts, and issues, building on others’ ideas and expressing their own clearly.

SL.8.4 Present claims and findings, emphasizing salient points in a focused, coherent manner with relevant evidence, sound valid reasoning, and well-chosen details; use appropriate eye contact, adequate volume, and clear pronunciation.

SL.8.5 Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest.