

Standards in MESA
NEDC - HS

Educational Technology

S1.C1.PO1: Analyze, evaluate, and synthesize information to generate new ideas, processes, or products.

S1.C3.PO1: Analyze patterns and trends and their logical links to form inferences, and forecast possibilities providing novel insights.

S1.C4.PO1: Create innovative products or projects using digital tools to express original ideas

S1.C4.PO2: Use digital collaborative tools to synthesize information, produce original works, and express ideas.

S2.C1.PO1: . Collaborate with peers, experts, or others in the global community employing a variety of digital tools to share findings and/or publish in a variety of ways

S2.C2.PO2: Communicate information and ideas respectfully and effectively to multiple audiences using a variety of digital environments.

S2.C2.PO1: Communicate and collaborate for the purpose of producing original works or solving problems.

S2.C3.PO1: Engage in a global community to contribute to a specific global issue.

S3.C1.PO1: Identify and defend effective key words, phrases, and strategies for conducting information searches

S3.C1.PO2: Evaluate diverse information sources.

S3.C2.PO 1. Locate and synthesize information utilizing advanced search strategies including a variety of search engines, metadata search engines, deep web searches and databases

S3.C2.PO3: Evaluate information identifying facts, opinions, bias, inaccurate and misleading information by analyzing multiple sources.

S3.C2.PO4: Synthesize research information to create new understanding and innovative solutions

S3.C2.PO5: Apply ethical use of information and media by respecting the principles of copyrights, intellectual freedom and property rights, using information and media technology responsibly, and citing resources appropriately

S4.C2.PO1: Apply ethical use of information and media by respecting the principles of copyrights, intellectual freedom and property rights, using information and media technology responsibly, and citing resources appropriately

S4.C2.PO2: Present defensible solutions and make decisions from multiple perspectives using collected resources and data.

S5.C3.PO1: Develop a possible technological solution for a contemporary issue

S6.C1.PO1: Describe how the components of a system are integrated using appropriate terminology

S6.C1.PO3: Choose technology applications appropriate for the audience and task.

S6.C1.PO4: Recognize and demonstrate ergonomically safe and sound use of equipment.

S6.C1.PO5: Investigate and evaluate physical risks of using digital technology

S6.C2.PO2: Compose a multiple section document that applies the most appropriate media and advanced formatting.

Mathematics

A1.MP1 - Make sense of problems and persevere in solving them.

A1.MP3 - Construct viable arguments and critique the reasoning of others

A1.MP7 - Look for and make use of structure

P.F-IF.C.7 - Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

P.S-IC.B.3 - Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

P.S-IC.B.6 - Evaluate reports based on data.

QR.CR.3: Identify, create, and use appropriate models for bivariate data sets (i.e. linear, exponential) to estimate solutions for contextual questions, identify patterns and identify how changing parameters affect the models

QR.SPR.2: Analyze statistical information and identify limitations, strengths, or lack of information in studies including data collection methods (e.g. sampling, experimental, observational) and possible sources of bias. Identify errors or misuses of statistics to justify particular conclusions

Computer Science

HS.AP.A.1: Create prototypes that use algorithms for practical intent, personal expression, or to address a societal issue

HS.AP.C.1: Justify the selection of specific control structures and explain the benefits and drawbacks of choices made, when tradeoffs involve readability and program performance

HS.AP.C.2: Use events that initiate instructions to design and iteratively develop computational artifacts

HS.AP. PD.1: Evaluate and refine computational artifacts to make them more usable and accessible.

HS.AP. PD.2: Use team roles and collaborative tools to design and iteratively develop computational artifacts.

HS.AP. PD.3: Document design decisions using text, graphics, presentations, and/or demonstrations in the development of complex programs.

HS.IC.C.1: Evaluate the ways access to computing impacts personal, ethical, social, economic, and cultural practices.

HS.IC.C.2: Test and refine computational artifacts to reduce bias and equity deficits.

HS.IC. SLE.2: Explain the privacy concerns related to the collection and generation of data through automated processes that may not be evident to users

HS.IC. SLE.3: Evaluate the social and economic implications of privacy in the context of safety, law, or ethics.

ELA

9-12.RL.1 - Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

9-10.RL.7 - Analyze various accounts of a subject told in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.

9-10.W.2 - Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

a. Introduce a topic; organize complex ideas, concepts, and information to make important connections and distinctions; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic with well-chosen, relevant, and sufficient facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.

c. Use appropriate and varied transitions to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.

d. Use precise language and domain-specific vocabulary to manage the complexity of the topic.

e. Establish and maintain a formal style and an appropriate tone while attending to the norms and conventions of the discipline in which they are writing.

f. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

9-10.W.7- Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

9-10.W.8 - Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the usefulness of each source in answering the research question; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and following a standard format for citation.

9-10.W.9 -Draw evidence from literary or informational texts to support analysis, reflection, and research.

9-10.SL.1 -Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grades 9–10 topics, texts, and issues, building on others' ideas and expressing their own clearly and persuasively.

- a. Come to discussions prepared having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well- reasoned exchange of ideas.
- c. Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.
- d. Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections based on the evidence and reasoning presented.

9-10.SL.2 - Integrate multiple sources of information presented in diverse media and formats, evaluating the credibility and accuracy of each source.

9-10.SL.4 - Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task; use appropriate eye contact, adequate volume, and clear pronunciation.

9-10.SL.5 - Make strategic use of digital media in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

Middle School

Educational Technology

S1.C1.PO1 - Analyze and evaluate information to generate new ideas, processes or products.

S1.C3.PO1: Analyze patterns and trends and their logical links to form inferences, and forecast possibilities

S1.C4.PO1: Create innovative products or projects using digital tools to express original ideas

S1.C4.PO2:

(8) Use digital tools to collaborate with a group to communicate original ideas, products, or projects effectively in a creative or innovative style.

(7) Use digital collaborative tools to synthesize information, produce original works, and express ideas.

(6) Use digital collaborative tools to analyze information to produce original works and express ideas.

S2.C1.PO1: . Collaborate with peers, experts, or others in the global community employing a variety of digital tools to share findings and/or publish in a variety of ways

S2.C2.PO1: Communicate and collaborate for the purpose of producing original works or solving problems

S2.C3.PO1: Independently locate and interact with teacher approved global communities

S3.C2.PO1: Locate and synthesize information utilizing advanced search strategies.

S3.C2.PO2:

(8) Evaluate and use authoritative primary and/or secondary sources.

(6, 7) Use authoritative primary and/or secondary sources.

S3.C2.PO4:

(8) Synthesize research information to create new understanding.

(7) Synthesize research information to create new understanding or develop new ideas

(6). Use appropriate digital tools to synthesize research information to develop new ideas and/or create new understanding.

S3.C2.PO5: Apply ethical use of information and media by respecting copyrights, intellectual property rights, using information and media responsibly, and citing resources appropriately.

S4.C1.PO1: Write essential questions to investigate a topic or issue using digital tools and resources

S4.C2.PO1: Plan, conduct and manage research using appropriate digital resources to develop solutions for a question

S4.C2.PO2: Present defensible solutions and make decisions from multiple perspectives using collected resources and data.

S5.C3.PO1: Analyze current economic, environmental, health, political, scientific, or social problems that have technological solutions and propose potential solutions for the problems.

S6.C1.PO3: Choose technology applications appropriate for the audience and task.

S6.C2.PO5: Create and edit visual and audio material to generate a stand-alone multimedia product

S6.C4.PO1: Transfer understanding of current technologies to new and novel learning situations.

Mathematics

A1.MP1 - Make sense of problems and persevere in solving them.

A1.MP3 - Construct viable arguments and critique the reasoning of others

A1.MP7 - Look for and make use of structure

Computer Science

6-8.APA.1: Identify planning strategies such as flowcharts or pseudocode, to simulate algorithms that solve problems

6-8.APC.1: Design programs that combine control structures, including nested loops and compound conditionals.

6-8.APM.1 Decompose problems into parts to facilitate the design, implementation, and review of programs

6-8.APM.2 Use procedures to organize code and make it easier to reuse

6-8.APD.1: Seek and incorporate feedback from team members and users to refine a solution that meets user needs.

6-8.APD.2 Incorporate existing code into programs and give attribution.

6-8.APD.3 Test programs using a range of inputs and identify expected outputs.

6-8.APD.4 Maintain a timeline with specific tasks while collaboratively developing computational artifacts.

6-8.APD.5 Document programs in order to make them easier to follow, test, and debug.

6-8.IC.C.2 Identify issues of bias and accessibility in the design of existing technologies.

ELA

6-8.RI.1:Cite the textual evidence that most strongly supports an analysis of what the text says explicitly as well as inferences drawn from the text.

6-8.RI.2: Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.

*.RI.3:

(8)Analyze how a text makes connections among and distinctions between individuals, ideas, or events (e.g., through comparisons, analogies, or categories)

(7)Analyze the interactions between individuals, events, and ideas in a text (e.g., how ideas influence individuals or events, or how individuals influence ideas or events).

(6)Analyze in detail how a key individual, event, or idea is introduced, illustrated, and developed in a text (e.g., through examples or anecdotes).

6-8.W.2:Write informative/explanatory texts to examine a topic and convey ideas, concepts, and information through the selection, organization, and analysis of relevant content.

a. Introduce a topic clearly, previewing what is to follow; organize ideas, concepts, and information, using strategies such as definition, classification, comparison/contrast, and cause/effect; include formatting (e.g., headings), graphics (e.g., charts, tables), and multimedia when useful to aiding comprehension.

b. Develop the topic with relevant facts, definitions, concrete details, quotations, or other information and examples.

c. Use appropriate transitions to create cohesion and clarify the relationships among ideas and concepts.

d. Use precise language and domain-specific vocabulary to inform about or explain the topic.

e. Establish and maintain a formal style.

f. Provide a concluding statement or section that follows from and supports the information or explanation presented.

6-8.W.7:Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation.

6-8.W.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.

6-8.W.9:Draw evidence from literary or informational texts to support analysis, reflection, and research.

a. Apply grade 6-8 Reading standards to literature.

b. Apply grade 6-8 Reading standards to literary nonfiction. Range of Writing

6-8.W.10:Write routinely over extended time frames (time for research, reflection, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes, and audiences.

6-8.SL.4:Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, appropriate vocabulary, facts, details, and examples; use appropriate eye contact, adequate volume, and clear pronunciation.

6-8.SL.5: Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points.

6-8.SL.6: Adapt speech to a variety of contexts and tasks, demonstrating command of formal English when indicated or appropriate