



**Karen B. Salmon, Ph.D.**  
State Superintendent of Schools

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TO: Members of the State Board of Education  
FROM: Karen B. Salmon, Ph.D.  
State Superintendent of Schools  
DATE: May 21, 2019  
SUBJECT: **Maryland Digital Learning Standards**

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**PURPOSE:**

The purpose of this agenda item is to present to the State Board for feedback, the Maryland Digital Learning Standards (ATTACHMENT I). Stakeholder feedback has been incorporated into the Digital Learning Standards. These standards would replace the existing Maryland Technology Literacy Standards for Students (MTLSS) that were accepted by the Maryland State Board of Education on February 27, 2007. Attached are the revised standards for the Board's review.

**STANDARDS REVISION PROTOCOL:**

There are three main phases of the standards revision protocol (ATTACHMENT II). During this first phase, Review, a survey is created and disseminated to collect feedback. In addition, a review panel is assembled consisting of key stakeholders. Based upon survey feedback, the panel makes initial recommendations for edits to the current standards. These recommended edits are being presented to the State Board of Education.

**BACKGROUND/HISTORICAL PERSPECTIVE:**

When effectively integrated into education, digital resources can be a powerful tool for transforming learning and differentiating instruction to meet the needs of all students. Since the existing technology standards were published in 2007, there have been significant digital innovations and advancements. This evolution has impacted the use of technology in teaching and learning. In order to ensure the continual success of Maryland students, it is necessary to update the 2007 digital learning skill-based standards. The new standards focus on 21st century skills; critical thinking, creativity, collaboration, communication, information literacy, media literacy, technology literacy, and flexibility. They create a vision for equity, authentic learning experiences, and active use of devices. Effectively integrating digital resources in teaching and learning will empower students to own their learning in preparation for future college and career success.

The current National Education Technology Plan (NETP) and the International Society for Technology in Education (ISTE) Standards 2016 were the foundations from which the proposed Maryland Digital Learning Standards were developed. The principles and examples within the NETP align to the Activities to Support the Effective Use of Technology (Title IV A) of the Every Student Succeeds Act. Maryland chose to revise the NETP and ISTE standards to ensure that they met the needs of our students. Maryland's revision process was

Spearheaded by the Maryland Instructional Advisory Council (MITAC) and received feedback and assistance from local school system educators and administrators, parents, students, affiliate representatives, and other stakeholders. The draft standards were also posted for three months on the Instructional Technology and School Library Media section of the Maryland Public Schools website for the community to view. A survey link was provided that included the standards draft to allow for public comment.

### **EXECUTIVE SUMMARY:**

The new standards ensure that our students are college and career-ready, have equitable access to resources, are provided learning opportunities to meet their individual needs, and become responsible digital citizens. The advancement and empowerment of our students is dependent upon the effective integration of digital resources by the local school systems into teaching and learning. These forward-thinking digital standards were modified to meet technological advancements while supporting Maryland's students, educators, and administrators in this ever-changing digital age.

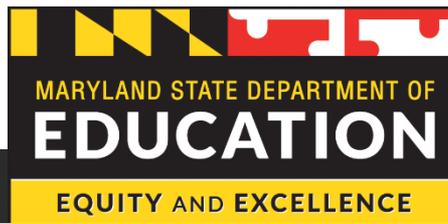
### **ACTION:**

Permission to proceed to Phase II of Protocol for Developing and Revising Standards

### **Attachments (3)**

Attachment I- Maryland Digital Learning Standards  
Attachment II – Standards Revision Protocol  
Attachment III - Scenario (Example)

# Maryland Digital Learning Standards



STATE BOARD MEETING

May 21, 2019

## International Technology Standards

- 2016 International Society for Technology Education (ISTE) Student Standards
- Empower students to assume ownership of their learning

# Developing Maryland Digital Learning Standards

The Maryland Instructional Technology Advisory Council (MITAC) and statewide Instructional Technology Supervisors met for over a year.

The process followed was:

- Reviewed the ISTE Student standards
- Edited to align with Maryland student learning needs and goals
- Created a draft of the Maryland Digital Learning Educator and Student Standards
- Posted the draft on <http://marylandpublicschools.org> for over six months

# Contributors

## Contributors

### MSDE & Local School Systems (LSS)

Educators from 24 LSS

Instructional Technology Liaisons

LSS Chief Information Officers

LSS Administrators

MSDE Instructional Technology  
Staff

### External Stakeholders

Maryland Public Television (MPT)

Parents

National Initiative for Cybersecurity  
Education (NICE)

University of Maryland

Maryland State Education Association (MSEA)

Non-public schools

# Maryland Digital Learning Standards for Students

- 1. Empowered Learner**
- 2. Digital Citizen**
- 3. Knowledge Constructor**
- 4. Innovative Designer**
- 5. Computational Thinker**
- 6. Creative Communicator**
- 7. Global Collaborator**

## Moving Forward

- Request feedback and review from the State Board
- Share draft revision for feedback and revise as needed
- Present final draft to the State Board for approval



## Maryland Digital Learning Standards

### 1. Empowered Learner

Students leverage technology to take an active role in choosing, achieving, and demonstrating competency in their learning goals, informed by research. Students:

- a. articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.
- b. build networks and customize their learning environments in ways that support the learning process.
- c. use technology to seek feedback to inform, improve and demonstrate learning in a variety of ways.
- d. understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.

### 2. Digital Citizen

Students recognize the rights, responsibilities and opportunities of living, learning and working in an interconnected digital world safe, legal and ethical. Students:

- a. manage their digital identity being aware of the permanence of their actions in the digital world.
- b. engage in positive, safe, legal and ethical behavior when using technology and online social interactions.
- c. demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.
- d. manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their online presence.

### 3. Knowledge Constructor

Students curate (select and evaluate) a variety of digital resources to construct knowledge, produce creative artifacts to make meaningful learning experiences for themselves and others. Students:

- a. plan and employ effective research strategies to locate information and other resources.
- b. evaluate the accuracy, perspective, bias, credibility and relevance of information, media, data or other resources.
- c. curate (select and evaluate) information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.
- d. build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.

## ATTACHMENT I

### **4. Innovative Designer**

Students use a variety of technologies within a design process to identify and solve problems by creating new, useful, or imaginative solutions. Students:

- a. know and use a design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.
- b. select and use digital tools to plan and manage a design process that considers possible constraints and risks.
- c. develop test and refine prototypes (models) as part of a cyclical design process.

### **5. Computational Thinker**

Students develop processes and employ strategies for understanding and solving problems in ways that leverage the power of technology. Students:

- a. identify problems that can be solved using data analysis, abstract models and/or algorithmic thinking.
- b. collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.
- c. break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.
- d. understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.

### **6. Creative Communicator**

Students communicate clearly and express themselves creatively using the platforms, tools, styles, formats and digital media appropriate to their goals. Students:

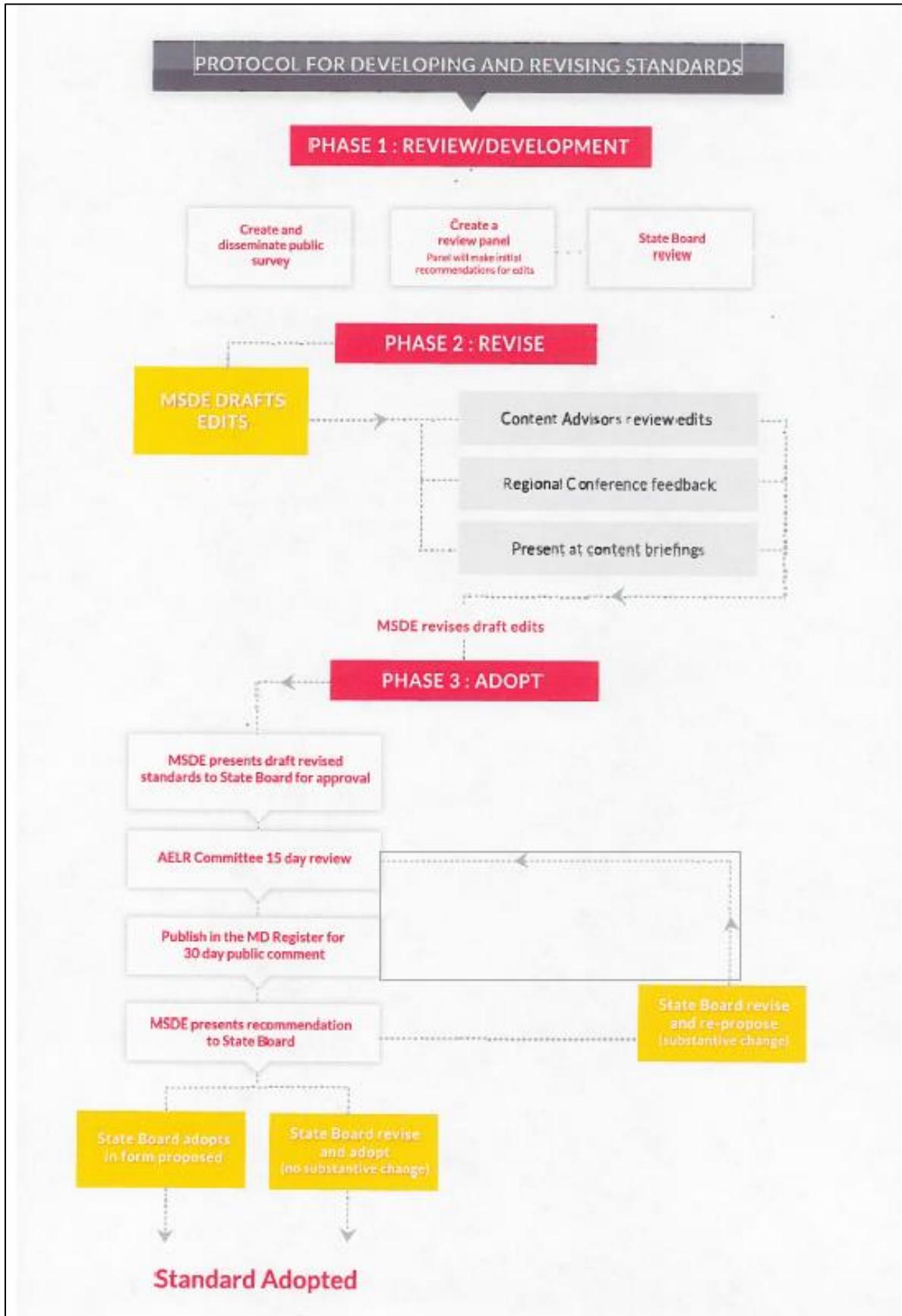
- a. choose the appropriate approved platforms and tools for meeting the desired objectives of their creation and/or communication.
- b. create original works or responsibly repurpose or remix digital resources.
- c. communicate complex ideas clearly and effectively by creating or using a variety of digital content such as visualizations, models or simulations.
- d. publish or present content that customizes the message and medium for their intended audiences.

### **7. Global Collaborator**

Students use digital tools to broaden their perspectives and enrich their learning by collaborating with others and working effectively in teams locally and globally. Students:

- a. use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.
- b. use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.
- c. contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.
- d. explore local, state, regional, and global issues and use collaborative technologies to work with others to investigate solutions.

# Attachment II



# Scenarios for Ages 8–11

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## Scenario 1

### Newton's Laws of Motion

Nine- and 10-year-old students increase writing and speaking skills as they demonstrate their understanding of Newton's Laws of Motion.

**Age Level:** 9- to 10-year-olds

**Content Area:** Physical science, language arts, video production

**Learning Environment:** 1:1 laptops, tablets

**Technology:** Any device that can record video (digital camera, tablet, smartphone, etc.), laptops

It's one thing to rattle off one of Newton's Laws of Motion such as, "An object in motion stays in motion and an object at rest stays at rest unless they are acted upon by an outside force." It's quite another thing to really understand what the laws mean, explain one and be able to cite original real-world examples — particularly if you are 8 or 9 years old. But that's exactly what a group of elementary students have done.

The students were provided instruction and engaged in hands-on explorations in an instructional unit that covered forces and motion. As they worked through each part of the unit, students were provided ample time to grasp the content. The culminating activity for the unit was for students to work in three-person teams to make a 3- to 5-minute video explaining their choice of one of the three laws of motion. Each video was required to include an explanation of the concept, an experiment to illustrate the law and a demonstration of a real-world example of the law.

Teachers in this school are committed to regularly offering students opportunities to use various technologies for creating original products to demonstrate their understanding of complex concepts presented in class. In the process of doing this, skills from additional content areas are incorporated into activities, as appropriate. In this example, skills in language arts and video production were used to help students demonstrate their learning of concepts in physical science. As a result, between seven and eight hours of additional class time was devoted to recording and producing the videos. Skills covered included writing a script, creating a detailed online storyboard, and shooting and editing the video. Students were also responsible for completing pre-production tasks such as gathering props and materials for experiments, finding a suitable location for shooting, and scheduling and conducting rehearsals. All students had laptop computers which they used to research their topics, work collaboratively on scripts and create their storyboards. Each team had access to tablet devices to shoot and edit their videos.

The initial audience for their work is the teachers who use the videos to assess students' understanding of the content. However, once assessed for accuracy, videos that met the required criteria were posted online in a project blog for use by other teachers and students as tools for learning, and for viewing by family members and friends.

## ATTACHMENT III

### What is the connection to the Student Standards?

**Empowered Learner** — Although teachers select the type of technology that is used for this activity, students are making the videos to create artifacts that demonstrate their learning.

**Knowledge Constructor** — Students use multiple sources for the research conducted prior to developing a script, including online materials, which helps them expand their understanding of the material they will present in the video.

**Creative Communicator** — The project requirements for sharing experiments and including demonstrations as content is developed to document their understanding of concepts presented during the instructional unit helps students become more creative communicators.