

# Reading Public Schools

*Instilling a joy of learning and inspiring the innovative leaders of tomorrow*



## Curriculum Guide

## Digital Literacy and Computer Science Grade K-5

### Priority Areas

Digital Literacy and Computer Science (DLCS) knowledge, reasoning and skills are essential to prepare students for personal and civic efficacy in the twenty-first century and The DLCS curriculum prepares, inspires and encourages all students to pursue innovative and creative careers for the future.

Key Features:

- 1.) Reasoning
- 2.) Creation
- 3.) Problem Solving
- 4.) Skills to successfully use and create technology

Adapted from *Digital Literacy and Computer Science Curriculum Standards for all students. 2016*



### Practice Standards

Connecting, Creating, Abstracting, Analyzing, Communicating, Collaborating, Research

### Content Standards

#### CAS: Computing & Society

- a. Safety and Security
- b. Ethics and Laws
- c. C. Interpersonal and Societal Impact

#### DTC: Digital Tools & Collaboration

- a. Digital Tools
- b. Collaboration and Communication
- c. Research

#### CS: Computing Systems

- a. Computing Devices
- b. Human and Computer Partnerships
- c. Networks
- d. Services

#### CT: Computational Thinking

- a. Abstraction
- b. B. Algorithms
- c. C. Data
- d. Programming and Development
- e. Modeling and Simulation



<b>Concepts</b>	<b>Essential Questions</b>	<b>Resources</b>
<p><b>CAS: Computing and Society</b></p> <ul style="list-style-type: none"> <li>a. Safety and Security</li> <li>b. Ethics and Laws</li> <li>c. Interpersonal and Societal Impact</li> </ul>	<ul style="list-style-type: none"> <li>• What are characteristics of a responsible digital citizen?</li> <li>• How do we use technology responsibly and safely?</li> <li>• What are your rights as a digital citizen?</li> <li>• What are the laws protecting digital and copyright use?</li> </ul>	<ul style="list-style-type: none"> <li>• Commonsense Media</li> <li>• Digital Passport</li> <li>• Interland “Be Internet Awesome”</li> <li>• FBI Safe Online Surfing</li> <li>• Technology User Agreement</li> </ul>
<p><b>DTC: Digital Tools and Collaboration</b></p> <ul style="list-style-type: none"> <li>a. Digital Tools</li> <li>b. Collaboration and Communication</li> <li>c. Research</li> </ul>	<ul style="list-style-type: none"> <li>• How do you evaluate digital resources for credibility and bias?</li> <li>• How do you communicate and collaborate using a variety of digital platforms with others in your online community?</li> <li>• What are your rights as a digital citizen?</li> <li>• What are the laws protecting digital and copyright use?</li> </ul>	<ul style="list-style-type: none"> <li>• Gale Databases</li> <li>• Britannica</li> <li>• Pebble Go</li> <li>• Pebble Go Next</li> <li>• Kids Infobits</li> <li>• Reading Public Library</li> <li>• National Geographic Kids</li> <li>• Google Classroom and Google Suite</li> </ul>
<p><b>CS: Computing Systems</b></p> <ul style="list-style-type: none"> <li>a. Computing Devices</li> <li>b. Human and Computer Partnerships</li> <li>c. Networks</li> <li>d. Services</li> </ul>	<ul style="list-style-type: none"> <li>• How do humans and technology work together to support society?</li> <li>• How do you know which tools are best to solve different problems?</li> <li>• What careers are available in a 21 century global environment?</li> </ul>	<ul style="list-style-type: none"> <li>• Commonsense Media</li> <li>• Robots– Code-apillar, Dot, Dash, MIP, Beebots, I-Robot Root</li> <li>• Pebble Go</li> <li>• Typing Programs</li> </ul>
<p><b>CT: Computational Thinking</b></p> <ul style="list-style-type: none"> <li>a. Abstraction</li> <li>b. Algorithms</li> <li>c. Data</li> <li>d. Programming and Developing</li> <li>e. Modeling and Simulation</li> </ul>	<ul style="list-style-type: none"> <li>• How do you program a device to complete a certain task?</li> <li>• What is the definition of an algorithm and how does it apply to our daily life?</li> <li>• How do you organize, share and read data in an understandable way?</li> </ul>	<ul style="list-style-type: none"> <li>• Code.org</li> <li>• Hour of Code.com</li> <li>• Scratch</li> <li>• Scratch Jr.</li> <li>• Kodables</li> <li>• Tynker</li> </ul>

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## Curriculum Guide Overview

### Curriculum Guide

Curriculum guides are public documents aligned with the Massachusetts Department of Education Curriculum Frameworks. They focus on the set of standards that students will learn within certain disciplines at appropriate grade levels. Each area of the curriculum is divided into general strands (broad categories) under which the standards fall. When we discuss “standards-based education” we mean that students are measured against their proficiency and growth towards meeting these standards. Curriculum Guides are intended for teachers, parents, and the wider school community as an overview document of the course of study for the year.

### Curriculum Map

Curriculum maps are internal documents utilized as planning tools for teachers. Curriculum maps keep a focus on the end-of-year standards and chart a course for the teaching and learning over the year. They are typically organized in a grade-level overview organized by month or marking period. Curriculum maps typically include; standards and expectations for the grade/content, essential skills/concepts, methods of assessment, and major content resources. Maps are never “done” as ongoing work of educators include revisions, additions, and revisits to the maps. They provide an overview for the year while also allowing educators to see a vertical picture of how the content develops as students progress through each grade.

### Standards

The standards used as the foundation of our curriculum come directly from the Massachusetts Department of Education Curriculum Frameworks. State standards may be viewed here: <http://www.doe.mass.edu/frameworks/>

### Priority Areas

Priority areas are defined by the state of Massachusetts as the most critical areas in each grade level on which instructional time should focus.

### Mathematical Practice Standards

Mathematical Practice Standards are a set of skills/behaviors that are replicated in grades preK-12. These standards describe ways in which students engage with the mathematical content and the level of application grows increasingly complex as students progress vertically throughout their education.

### Content Standards

The Content Standards describe what students should know and be able to do once within the area of mathematics.

### Essential Questions

Essential questions are questions that are not answerable with an easy answer or a simple instruction. The purpose of essential questions is to provide opportunities for inquiry into the learning and act as an umbrella to anchor the unit/lesson.

### Resources

Resources identified in Curriculum Guides are not intended to be exhaustive, nor are they intended to be prescriptive. The resources identified may function as a menu of curriculum resources from which educators identify the most appropriate tools to utilized in their classrooms. More specifics about identified resources are identified within the curriculum map documents.