Kindergarten: Computer Science

In Kindergarten, students explore the basics of computing and technology, gaining an understanding of fundamental components. They learn how information is transmitted electronically through devices and the Internet. Both independently and collaboratively, students develop the ability to identify and troubleshoot issues with computing devices, emphasize responsible behaviors, and know the importance of safeguarding online information. The standards also introduce computational thinking as a foundational problem-solving approach in computer science, encouraging students to recognize patterns, categorize items, create visual representations, and design algorithms. The iterative design process is used to plan, implement, and test algorithms in a sequential order. Additionally, students examine the societal impact of computing technologies in various settings, including homes, schools, and future careers.

Algorithms and Programming (AP)

K.AP.1 **The student will apply computational thinking to identify patterns and sort items into categories based on an attribute.**

a. Identify attributes of a set of objects.
b. Compare two objects and list attributes they have in common.
c. Sort and classify concrete objects based on one attribute.

K.AP.2 **The student will plan and implement algorithms that include sequential order.**

a. Identify tasks that are completed using sequential step-by-step instructions.
b. Recall and state thoughts, ideas, and stories in the form of sequential steps.
c. Create a design document to illustrate thoughts, ideas, and stories in a sequential manner.
d. Create and test a sequential algorithm emphasizing beginning, middle, and end.
e. Create and test a sequential algorithm to accomplish a predetermined task.

Computing Systems (CSY)

K.CSY.1 **The student will identify the purpose and components of a computing device.**

a. Identify and locate parts of a computing device, including sensors.
b. Describe the function of common components in a computing device.
c. Identify different types of computing devices with screens.
d. Identify tasks and activities at home and at school that use screens.
e. Demonstrate proper use of computing devices.

K.CSY.2 The student will identify when a computing device might not work as expected.

a. Identify a problem with a computing device when it is not working as expected.
b. Explain what to do when a computing device is not working as expected.

Cybersecurity (CYB)

K.CYB.1 The student will demonstrate safe and responsible use of computing technologies.

a. Identify safe and responsible uses of computing technologies based on the school rules and acceptable use policy (AUP).
b. Demonstrate safe and responsible uses of computing technologies.
c. Communicate the process(es) for reporting behaviors that do not comply with school rules or acceptable use policy.

K.CYB.2 The student will describe the importance of protecting personal information online.

a. Describe what personal information should be shared and not shared.
b. Determine to whom personal information should be shared.
c. Identify safe practices to keep personal information private.

Data and Analysis (DA)

K.DA.1 The student will gather and record data with or without a computing device.

a. Discuss the importance of data.
b. Identify numeric and non-numeric data.
c. Record data and communicate possible patterns.

K.DA.2 The student will create representations of data to make predictions and draw conclusions.

a. Create tables, object graphs, picture graphs, and/or models.
b. Describe the information from a given data visualization.
c. Use data to answer questions, make predictions, and draw conclusions.

Impacts of Computing (IC)

K.IC.1 The student will identify and discuss how computing technologies impact people's lives.

a. List computing technologies found in the classroom, home, and the community.
b. Identify how computing technologies are used in daily tasks.

c. Discuss healthy habits for using computing technologies.

K.IC.2 The student will discuss and describe how different careers use computing technologies.

a. Describe how computing technologies are used in various careers.
b. Discuss the advantages of using computing technologies in different careers.
c. Identify local jobs that utilize computing technologies.

Networks and the Internet (NI)

K.NI.1 The student will describe how people can communicate with others by using connected computing devices and the Internet.

a. Identify ways to communicate with others using connected computing devices and the Internet.
b. Describe the benefits of communicating with others using connected computing devices and the Internet.