

# Introduction to Computer Science

Students create an understanding of computer science, in general, and learn how it impacts their everyday lives.

- 1 Create a definition of computer science ICS-1.1
- 2 Define computational thinking ICS-1.2
- 3 Examine the history of computers and computer science ICS-1.3
- 4 Investigate trends in computer science ICS-1.4
- 5 Summarize ethical issues within computer science ICS-1.5

Students connect the process of developing a computer application with the skills needed during the development process to have better understanding of what it takes to build an computer application.

- 1 Identify the careers in computer science CS-2.1
- 2 Analyze conditional decision making and iteration ICS-2.2
- 3 Use loops and object oriented concepts ICS-2.3
- 4 Formulate algorithms using programming structures ICS-2.4
- 5 Assess a program by testing and verifying accuracy ICS-2.5
- 6 Construct a user interface for a program through coding ICS-2.6
- 7 Evaluate the use of graphics within a program ICS-2.7
- 8 Examine the development of websites, mobile applications, and games ICS-2.8

Students critique the types of data and how it is created, stored, and used by computers

- 1 Identify types of data ICS- ICS-3.1
- 2 Differentiate between structures of data ICS-3.2
- 3 Use a database in the creation of a program ICS-3.3

Students analyze computer, devices, and other technologies to build an understanding of their impact of society and how to use them appropriately

- 1 Recall the features of computers ICS-4.1
- 2 Identify mobile devices and how to use them appropriately ICS-4.2
- 3 Recognize the impact of the Internet on society ICS-4.3

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**4 Investigate the use of artificial intelligence by individuals and society** ICS-4.4

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**5 Examine the development of robotics** ICS-4.6

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**6 Examine computer security issues and the field of cryptography** ICS-4.7

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**Students apply concepts of collaboration to complete various tasks. Standards**

**1 Design a solution to a problem by working in a team** ICS-5.1

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**2 Compare tools that can be used to collaborate** ICS-5.2