

Essential Skills: Networks & the Internet: Network Communication & Organization

Grade	Standards: NI.NCO.01	Essential Skills
K	Recognize that basic computing devices and components can be connected to one another.	Provide examples of networks of devices and uses of the internet. Describe communication with others via email, video chat, etc. in the context of a network of devices.
1	Recognize that computing devices can be connected through physical or wireless pathways.	Describe or show how computing components , such as monitors and keyboards are connected via physical or wireless pathways,
2	Recognize that by connecting computing devices together they can share information (e.g., printers, scanners, internet, display devices).	Utilize a network to perform specific functions such as printing or sharing documents by sharing information among computing devices.
3	Recognize how information is sent and received over physical and wireless pathways.	Explain that information moves over the internet along physical wires and wireless connections.
4	Summarize how information is sent and received over physical and wireless pathways (e.g., information is deconstructed in smaller pieces called packets , transmitted to final destination, and reassembled).	Examine the reasons for deconstructing information into packets . Describe the role of packets in transmitting information efficiently over the internet.
5	Model how information is deconstructed into packets (smaller pieces), transmitted through multiple computing devices over the internet and networks , and reassembled at the final destination.	Illustrate (in words, pictures, dramatization and/or animation) how the transmission of packets occurs through multiple devices over the Internet.

Skills for Standard: NI.NCO.01 Grades K-5

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Essential Skills for Standard: Networks & the Internet: Cybersecurity (1)

Grade	Standard	Essential Skills
K	Identify and use passwords and discuss why they are not shared with others.	Use passwords to log in to computing devices and/or programs Exhibit understanding that passwords should not be shared with most others
1	Recognize what passwords are, why they are used, and why they are not shared.	Explain the purpose of passwords Demonstrate good practices for keeping passwords private.
2	Identify differences between strong and weak passwords and explain the importance of choosing strong passwords to protect devices and information from unauthorized users.	Differentiate between strong and weak passwords and create a strong password. Explain the importance of strong passwords in protecting privacy, devices, and files.
3	Discuss basic issues that relate to responsible use of computing devices and describe consequences of inappropriate use in a variety of locations.	Provide examples of how to use computing devices responsibly in public places. Outline some of the problems that may result from using public internet access and/or public devices.
4	Identify problems that relate to unsecure networks and inappropriate use of computing devices and potential subsequent consequences.	Describe the consequences of using unsecure networks and inappropriate use of computing devices.
5	Define personal identifiable information (e.g., digital footprint) and why it should be protected as related to real-world cyber security problems.	Compare and contrast personal identifiable information and digital footprint and provide examples of each. Identify cybersecurity issues that can result from not protecting personally identifiable information.

Skills for Standard: NI.C.01 Grades K-5

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Essential Skills for Standard: Networks & the Internet: Cybersecurity (2)

Grade	Standard	Essential Skills
K	Not addressed at this level	
1	Not addressed at this level	
2	Not addressed at this level	
3	Not addressed at this level	
4	Not addressed at this level	
5	Discuss real-world cybersecurity problems and explain how personal information can be protected (e.g., antivirus software , backing up data, strong passwords).	Describe examples of cybersecurity issues. Outline ways personal identifiable information can be protected.

Skills for Standard: NI.C.02 Grades K-5

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