Networks & the Internet: Network Communication & Organization   Grade Band: K-2

Grade	Standard Networks & the Internet: Network Communication & Organization
K	Recognize that basic **computing devices** and **components** can be connected to one another.
1	Recognize that computing devices can be connected through physical or **wireless** pathways.
2	Recognize that by connecting computing devices together they can share information (e.g., printers, scanners, internet, display devices).

Grade	Essential Skills
K	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	Describe or show how **computing components**, such as monitors and keyboards are connected via physical or **wireless** pathways,
2	Utilize a network to perform specific functions such as printing or sharing documents by sharing information among computing devices.

Explanation

Students will demonstrate an understanding that **computing devices** can transmit information and cause other devices to produce outputs (such as displays and printouts) if connected by wired or **wireless** connections. Computers are linked by **networks** that allow communication, exchange of ideas, and access to information locally, nationally and around the world.

Think of this as similar to….

You can talk to people who are far away on a telephone.

Essential Questions

How does a **network** allow us to exchange information and ideas with others?

What tasks does a network allow us to perform?

Implementation Examples—What would this look like in the classroom?

Grade(s)	Title	Description	Link	Content Connection & Notes
K	**Book Review**	**Grade K**--Students dictate, write and/or draw a book review including the topic or name of a book they have read and give their opinion of the book with assistance as appropriate. This can be done as a whole class or in groups. The review can be shared via email, a shared document, or another platform with parents, other teachers, etc. A document can be created that has a URL and a QR code created. The QR code could be placed with the book, so the review is available to others that are considering reading that book..		This lesson also aligns with **ELA** W.K.1, W.K.6
K-2	**Communicating**	**Grade K**--Students send messages using light or sound (blinking light, paper cup and string telephone, pattern of drumbeats). They compare those methods to sending messages over the internet. **Grade 1**--Students note that some of the messages (blinking light, drumbeats) are sent through the air, while others (paper cup and string telephone) are physically connected. Have students think of other examples and arrive at wired and wireless connections (such as keyboards, mice, headphones, etc.) **Grade 2**--Create a network combining the light and sound devices to transmit a message and describe how the network could be used to build connections. and aid communication across distances.		This lesson could align with **Social Studies** standards and the activity requires various supplies such as flashlights, paper clips, etc.
1	**Computer Maps**	**Grade 1**--Students make a "map" of how what they type on a keyboard moves through the CPU, arrives at the monitor, and then possibly at a printer, projector or other device. This should be relevant to the students' own classroom and/or home and try to find both wired and wireless connections. Students can take a "field trip" to the office or other areas where connections may be different from what is in their classrooms.		
2	**Collaborating on a Network**	**Grade 2**--Students utilize a cloud-based platform, such as Google Docs, to access shared documents or note-taking applications for group research projects. They could also include video meeting technology to have an expert visit their class virtually. They create a model (e.g., a picture or 3D model) to illustrate how this network aids their research and/or collaboration. They can add printers, projectors or other devices to their model as appropriate.		This lesson also aligns with **ELA** W.2.7

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These annotations are a collaboration between [Maryland Center for Computing Education](#) and the [Maryland State Department of Education](#).