

# Unit 1-4B Communication and Collaboration

Content Area: **Technology**  
Course(s): **Technology 6**  
Time Period: **MP1-4**  
Length: **Once per week**  
Status: **Published**

## Essential Questions

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- How has the use of digital tools improved opportunities for communication and collaboration?
- What appropriate tools do you use to upload certain file formats?
- What can I add and not add to Google Sites?
- What file formats are needed to upload to certain applications?

## Big Ideas

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- People use digital devices and tools to automate the collection, use, and transformation of data.
- The manner in which data is collected and transformed is influenced by the type of digital device(s) available and the intended use of the data.
- Software and hardware determine a computing system's capability to store and process information.
- The design or selection of a computing system involves multiple considerations and potential tradeoffs.
- Individuals design algorithms that are reusable in many situations. Algorithms that are readable are easier to follow, test, and debug.

## Cross-Curricular Integration

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### English Language Arts

- RST.6-8.3 Follow precisely a multistep procedure when carrying out experiments, taking measurements, or performing technical tasks
- RST.6-8.4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 6-8 texts and topics.
- RST.6-8.7 Integrate quantitative or technical information expressed in words in a text with a version of that information expressed visually (e.g., in a flowchart, diagram, model, graph, or table).
- RST.6-8.10 By the end of grade 8, read and comprehend science/technical texts in the grades 6-8 text complexity band independently and proficiently.
- SL.6.1. Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 6 topics, texts, and issues, building on others' ideas and expressing their own clearly.

- SL.6.2. Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study
- W.6.10. Write routinely over extended time frames (time for research, reflection, metacognition/self correction, and revision) and shorter time frames (a single sitting or a day or two) for a range of discipline-specific tasks, purposes

## Science

- MS-ETS1-1 Define the criteria and constraints of a design problem with sufficient precision to ensure a successful solution, taking into account relevant scientific principles and potential impacts on people and the natural environment that may limit possible solutions.

## Career Readiness, Life Literacies and Key Skills Integration

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### Performance Expectations

- 9.4.8.CI.3: Examine challenges that may exist in the adoption of new ideas (e.g., 2.1.8.SSH, 6.1.8.CivicsPD.2).
- 9.4.8.CI.4: Explore the role of creativity and innovation in career pathways and industries.
- 9.4.8.CT.2: Develop multiple solutions to a problem and evaluate short- and long-term effects to determine the most plausible option (e.g., MS-ETS1-4, 6.1.8.CivicsDP.1)
- 9.4.8.DC.3: Describe tradeoffs between allowing information to be public (e.g., within online games) versus keeping information private and secure.
- 9.4.8.DC.4: Explain how information shared digitally is public and can be searched, copied, and potentially seen by public audiences.
- 9.4.8.DC.5: Manage digital identity and practice positive online behavior to avoid inappropriate forms of self-disclosure.
- 9.4.8.DC.6: Analyze online information to distinguish whether it is helpful or harmful to reputation.
- 9.4.8.GCA.1: Model how to navigate cultural differences with sensitivity and respect (e.g., 1.5.8.C1a).
- 9.4.8.GCA.2: Demonstrate openness to diverse ideas and perspectives through active discussions to achieve a group goal.
- 9.4.8.IML.1: Critically curate multiple resources to assess the credibility of sources when searching for information.
- 9.4.8.IML.3: Create a digital visualization that effectively communicates a data set using formatting techniques such as form, position, size, color, movement, and spatial grouping (e.g., 6.SP.B.4, 7.SP.B.8b)
- 9.4.8.IML.7: Use information from a variety of sources, contexts, disciplines, and cultures for a

specific purpose (e.g., 1.2.8.C2a, 1.4.8.CR2a, 2.1.8.CHSS/IV.8.AI.1, W.5.8, 6.1.8.GeoSV.3.a, 6.1.8.CivicsDP.4.b, 7.1.NH. IPRET.8).

- 9.4.8.IML.12: Use relevant tools to produce, publish, and deliver information supported with evidence for an authentic audience.
- 9.4.8.TL.2: Gather data and digitally represent information to communicate a real-world problem (e.g., MS-ESS3-4, 6.1.8.EconET.1, 6.1.8.CivicsPR.4).
- 9.4.8.TL.3: Select appropriate tools to organize and present information digitally.
- 9.4.8.TL.4: Synthesize and publish information about a local or global issue or event (e.g., MSLS4-5, 6.1.8.CivicsPI.3).
- 9.4.8.TL.6: Collaborate to develop and publish work that provides perspectives on a real-world problem.

## **Practices**

- Act as a responsible and contributing community member and employee.
- Consider the environmental, social and economic impacts of decisions.
- Demonstrate creativity and innovation
- Utilize critical thinking to make sense of problems and persevere in solving them
- Model integrity, ethical leadership and effective management.
- Plan education and career paths aligned to personal goals
- Use technology to enhance productivity, increase collaboration and communicate effectively.
- Work productively in teams while using cultural/global competence.

## **Enduring Understandings**

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- 8.1.8.DA.1: Organize and transform data collected using computational tools to make it usable for a specific purpose.
- 8.1.8.CS.2: Design a system that combines hardware and software components to process data.
- 8.1.12.AP.1: Design and illustrate algorithms that solve complex problems using flowcharts and/or pseudocode.

## Activities and Assessments

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- Podcasting
- Blogging

## Additional Resources

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- Video: 21st Century Learning: <https://ny.pbslearningmedia.org/resource/2a54d422-5ad2-4d2d-a093-1eccc579d4/21st-century-learning/>
- How to Create a Wiki: <https://www.surfnetkids.com/resources/how-to-create-a-wiki/>
- SciGirls | High Tech Fashion 01: Brainstorm & Research: <https://ny.pbslearningmedia.org/resource/d2ab5641-6cdd-4f4c-b5df-d06f914a022f/high-tech-fashion-01-brainstorm-research/>
- Creating Podcasts | Media Arts Toolkit: [https://ny.pbslearningmedia.org/resource/media\\_arts\\_classroom7/creating-podcasts/](https://ny.pbslearningmedia.org/resource/media_arts_classroom7/creating-podcasts/)
- P.Z. Myers on the Power of Science Blogging: <https://ny.pbslearningmedia.org/resource/ec1378cf-c85d-4e9e-9aab-ce37c756a805/pz-myers-on-the-power-of-science-blogging/>