

# Middle School CTE: Information and Communications Technology (ICT) Essentials 2 (2024)

Demonstrate knowledge of safety and privacy practices for online communication. The student will be able to: [9.0](#)

- 1 Define “privacy” and relate it to the term “digital footprint.” [9.1](#)
- 2 Describe the risks of communicating on social networking sites (e.g. Facebook, Twitter, Instagram) and identify ways to communicate safely. [9.2](#)
- 3 Distinguish between copyright infringement, plagiarism and fair use in an educational setting and in relation to school projects, especially with music and pictures. [9.3](#)
- 4 Describe online communication practices that contribute to cyberbullying. [9.4](#)
- 5 Practice safe online communication techniques with Internet searches, email, chat rooms, and other social network websites. [9.5](#)
- 6 Follow an Acceptable Use Policy (AUP) when accessing the Internet. [9.6](#)

Develop and apply fundamental spreadsheet skills. The student will be able to: [10.0](#)

- 1 Define “spreadsheet” and describe ways it may be used. [10.1](#)
- 2 Identify the parts of the spreadsheet display, including cells, columns and rows, cell references, cell range. [10.2](#)
- 3 Create and navigate through multiple spreadsheets in a file. [10.3](#)
- 4 Insert and format various types of data (text, numeric, date/time) in a spreadsheet cells. [10.4](#)
- 5 Select multiple cells, including adjacent and non-adjacent ranges, using mouse and keyboard techniques. [10.5](#)
- 6 Cut, copy, and paste information from one or more cells to another part of the spreadsheet. [10.6](#)
- 7 Use the undo and redo tools in a spreadsheet. [10.7](#)

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- 8 Apply and modify cell formatting for currency, date and percentage values.** 10.8

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  - 9 Resize column width and row height in a spreadsheet.** 10.9

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  - 10 Insert and delete columns and rows in a spreadsheet.** 10.10

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  - 11 Merge and unmerge cells in a spreadsheet.** 10.11

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  - 12 Apply shading and borders to a spreadsheet.** 10.12

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  - 13 Describe the purpose of a table and how it relates to a spreadsheet.** 10.13

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  - 14 Create and print a table and/or range that displays and sums the values of different data types.** 10.14

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  - 15 Identify various types of charts (e.g., line, bar, pie, scatter) and common chart components (e.g., vertical axis, horizontal axis, legend), and explain when to use each chart type.** 10.15

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  - 16 Create a chart from existing data and format the pieces (data set), change the background color, and add appropriate titles and a legend.** 10.16

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  - 17 Use the auto sum function to calculate the values of multiple cells.** 10.17

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  - 18 Insert common functions (SUM, AVERAGE, COUNT, MAX, MIN) and simple mathematical formulas which include addition, subtraction, multiplication, or division into a spreadsheet.** 10.18

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  - 19 Distinguish between absolute and relative cell references in a spreadsheet.** 10.19

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  - 20 Use the sort function to organize information numerically or alphabetically, including multiple levels of sorting.** 10.20

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  - 21 Use the filter function to display spreadsheet data based on specific criteria.** 10.21

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  - 22 Use conditional formatting to highlight text in a spreadsheet.** 10.22
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**Develop and apply database skills. The student will be able to:** 11.0

- 1 Define database and describe real-world uses (e.g. search engines, schools, drivers licenses & car registrations, hospitals, retail, law enforcement).** 11.1

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- 2 Distinguish between databases and spreadsheets.** 11.2

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- 3 Identify advantages of using a database instead of alternatives (e.g., spreadsheets, electronic documents, paper).** 11.3

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- 4 Define “Big Data” and describe how it is used in advertising.** 11.4

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- 5 Identify the components of a database.** 11.5

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- 6 Distinguish between fields and records in a database. 11.6**

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  - 7 Describe the basic data types and formats used in a database. 11.7**

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  - 8 Distinguish between a table and a query. 11.8**

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  - 9 Identify database keys, including primary and foreign. 11.9**

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  - 10 Identify the relationships between tables in databases (i.e., one-to-one, one-to-many, many-to-many). 11.10**

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  - 11 Distinguish between a query and a report. 11.11**

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  - 12 Identify various report types. 11.12**

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  - 13 Describe Structured Query Language (SQL) and discuss its use with databases. 11.13**

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  - 14 Identify and compare various database applications, including Microsoft Access, MySQL, Oracle. 11.14**

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  - 15 Create a database table that uses multiple data types. 11.15**

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  - 16 Add, Edit, and Delete records from a database table. 11.16**

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  - 17 Sort records in a database query or table. 11.17**

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  - 18 Troubleshoot common database errors, including data type errors, query syntax errors. 11.18**

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  - 19 Create a basic select query in one table. 11.19**

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  - 20 Create an action query to manipulate data. 11.20**

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  - 21 Create a query using primary and foreign keys. 11.21**

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  - 22 Create a simple table join. 11.22**

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  - 23 Import and export data from a database into a spreadsheet. 11.23**

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  - 24 Create relevant reports from a database. 11.24**

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**Demonstrate skill in using video editing software and equipment. The student will be able to: 12.0**

- 1 Demonstrate ability to operate a video camera (e.g., Flip camera, cell phone). 12.1**

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- 2 Write storyboards to depict a one minute video segment. 12.2**

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- 3 Determine appropriate lighting needs. 12.3**

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- 4 Create video shots sufficient to produce a one minute video. 12.4**

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**5 Identify the functions and benefits of the digital video software interface.** 12.5

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**6 Demonstrate ability to edit, cut, erase, and insert video.** 12.6

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**7 Edit video as needed to achieve desired message and length** 12.7

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**8 Describe a first complete run-through of the video production process.** 12.8

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**9 Characterize the qualities of effective communication in a completed video.** 12.9

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**10 Upload finished video files to a website.** 12.10

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**Demonstrate proficiency in using audio editing software (e.g., Audacity). The student will be able to:** 13.0

**1 Identify the functions and benefits of the audio editing software interface.** 13.1

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**2 Demonstrate ability to edit, cut, erase, and insert audio.** 13.2

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**4 Prepare a 30 second to 1 minute audio commercial project.** 13.4

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**3 Edit audio as needed to achieve desired message and length.** 13.3

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**Demonstrate proficiency locating, gathering, and preparing textual, graphical, and image-based web content. The student will be able to:** 14.0

**1 Define the elements of a webpage and what makes a good webpage.** 14.1

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**2 Describe effective text and image content for webpages based on how visitors use the web.** 14.2

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**3 List guidelines and conventions for effective text on webpage.** 14.3

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**4 Explain the inverted pyramid model of newspaper journalism and how it applies to web content.** 14.4

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**5 Use word-processing software to create effective written content for a webpage.** 14.5

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**6 Create and/or edit message-driven image content for a webpage using graphics software.** 14.6

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**7 Access graphics through various recourses (e.g., scanner, digital camera, CD-ROM, clipart, copyright-free online graphics).** 14.7

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**8 Plan the content and design of a basic webpage using strategies for effective Web communication, including brainstorming, determining audience, choosing content and media types, using white space.** 14.8

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