

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

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- 1 Define database and describe real-world uses (e.g. search engines, schools, drivers licenses & car registrations, hospitals, retail, law enforcement).** 11.
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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
 - 7 Describe the basic data types and formats used in a database.** 11.7
 - 8 Distinguish between a table and a query.** 11.8
 - 9 Identify database keys, including primary and foreign.** 11.9
 - 10 Identify the relationships between tables in databases (i.e., one-to-one, one-to-many, many-to-many).** 11.10
 - 11 Distinguish between a query and a report.** 11.11
 - 12 Identify various report types.** 11.12
 - 13 Describe Structured Query Language (SQL) and discuss its use with databases.** 11.13
 - 14 Identify and compare various database applications, including Microsoft Access, MySQL, Oracle.** 11.14
 - 15 Create a database table that uses multiple data types.** 11.15
 - 16 Add, Edit, and Delete records from a database table.** 11.16
 - 17 Sort records in a database query or table.** 11.17
 - 18 Troubleshoot common database errors, including data type errors, query syntax errors.** 11.18
 - 19 Create a basic select query in one table.** 11.19
 - 20 Create an action query to manipulate data.** 11.20
 - 21 Create a query using primary and foreign keys.** 11.21
 - 22 Create a simple table join.** 11.22
 - 23 Import and export data from a database into a spreadsheet.** 11.23
 - 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
- 2 Write storyboards to depict a one minute video segment.** 12.2
- 3 Determine appropriate lighting needs.** 12.3
- 4 Create video shots sufficient to produce a one minute video.** 12.4

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

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

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

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

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

10 Upload finished video files to a website. 12.10

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

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

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

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

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

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

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

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

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

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

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

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
