

| Catholic Identity Standards                                                                                       |      |                                                                                                           |
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| <b>8.0</b> The student understands and integrates the content of what is learned into their faith and daily life. |      |                                                                                                           |
| <b>Ways to Grow</b>                                                                                               | 8.0A | recognize that every human life is sacred because each person is created and loved by God                 |
|                                                                                                                   | 8.0B | describe ways to take part in/be responsible to the community by discerning and using our God-given gifts |
|                                                                                                                   | 8.0C | recognize and oppose unjust social structures and work toward justice for all                             |
|                                                                                                                   | 8.0D | see God at work in all things and as expressed in the sacraments                                          |
|                                                                                                                   | 8.0E | connect scripture, tradition, and the models of Mary and the saints to guide, grow, and deepen faith      |

| Computational Thinking                                                                                                                                                                        |                                                                                                                                                            |                                                                                        |
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| <b>8.1</b> The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms. |                                                                                                                                                            |                                                                                        |
| Applied Standards                                                                                                                                                                             |                                                                                                                                                            | Supporting Standards                                                                   |
| 8.1A                                                                                                                                                                                          | decompose real-world problems into structured parts using pseudocode                                                                                       | 8.1B analyze the patterns and sequences found in pseudocode and identify its variables |
| 8.1C                                                                                                                                                                                          | practice abstraction by developing a generalized algorithm that can solve different types of problems                                                      |                                                                                        |
| 8.1D                                                                                                                                                                                          | design a plan collaboratively using pseudocode to document a problem, possible solutions, and an expected timeline for the development of a coded solution |                                                                                        |
| 8.1E                                                                                                                                                                                          | develop, compare, and improve algorithms for a specific task to solve a problem                                                                            |                                                                                        |
| 8.1F                                                                                                                                                                                          | analyze the benefits of using iteration (code and sequence repetition) in algorithms                                                                       |                                                                                        |

| Computational Thinking                                               |                                                                                                                                              |  |
|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|--|
| <b>8.2</b> The student applies the fundamentals of computer science. |                                                                                                                                              |  |
| 8.2A                                                                 | construct named variables with multiple data types and perform operations on their values                                                    |  |
| 8.2B                                                                 | use a software design process to create text-based programs with nested loops that address different subproblems within a real-world context |  |
| 8.2C                                                                 | modify and implement previously written code to develop improved programs                                                                    |  |

| Creativity and Innovation                                                                                                                                                                          |                                                                                                                                                                             |                                                                                                                                                                |
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| <b>8.3</b> The student takes an active role in learning by using a design process and creative thinking to develop and evaluate solutions, considering a variety of local and global perspectives. |                                                                                                                                                                             |                                                                                                                                                                |
| 8.3B                                                                                                                                                                                               | discuss and implement a design process that includes planning, selecting digital tools to develop, test, and evaluate design limitations, and refining a prototype or model | 8.3A demonstrate innovation in a design process using goal setting and personal character traits, including demonstrating calculated risk-taking and tolerance |
|                                                                                                                                                                                                    |                                                                                                                                                                             | 8.3C identify how the design process is used in various industries                                                                                             |

| Creativity and Innovation                                                                                                              |                                                                                            |  |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------|--|
| <b>8.4</b> The student demonstrates a thorough understanding of the role of technology throughout history and its impact on societies. |                                                                                            |  |
| 8.4A                                                                                                                                   | evaluate how changes in technology throughout history have impacted various areas of study |  |
| 8.4B                                                                                                                                   | evaluate and predict how global trends impact the development of technology                |  |
| 8.4C                                                                                                                                   | transfer current knowledge to the learning of newly encountered technologies               |  |

## Data Literacy, Management, and Representation

**8.5** The student uses advanced digital strategies to collect and represent data.

8.5A compare and contrast data types, including binary, integers, real numbers, Boolean data, and text-based representations

8.5B apply appropriate search strategies, including keywords, Boolean operators, and limiters, to achieve a specified outcome that includes a variety of file formats

## Data Literacy, Management, and Representation

**8.6** The student uses digital tools to transform data, make inferences, and predictions.

8.6A use digital tools in order to transform data, analyze trends, and predict possibilities and develop steps for the creation of an innovative process or product

## Data Literacy, Management, and Representation

**8.7** The student creates digital products to communicate data to an audience for an intended purpose.

8.7A use digital tools to communicate and publish data from a product or process to persuade an intended audience

## Digital Citizenship

**8.8** The student understands different styles of digital communication and that a student's actions online can have a long-term impact.

8.8A analyze the importance of managing a digital footprint and how a digital footprint can affect the future

8.8C collaborate and publish for a global audience on digital platforms such as recording and editing videos using appropriate formal and informal digital etiquette

8.8B create and publish a formal digital communication for a global audience using appropriate digital etiquette

## Digital Citizenship

**8.9** The student recognizes and practices responsible, legal, and ethical behavior while using digital tools and resources.

8.9A adhere to local acceptable use policy (AUP) and practice and advocate for safe, ethical, and positive online behaviors

8.9C create citations and cite sources for a variety of digital forms of intellectual property

8.9D evaluate the bias of digital information sources, including websites

8.9B adhere to appropriate intellectual property law when creating digital products

## Digital Citizenship

**8.10** The student practices safe, legal, and ethical digital behaviors to become a socially responsible digital citizen.

8.10A analyze real-world scenarios to identify cybersecurity threats and propose ways to prevent harm

8.10B evaluate scenarios or case studies to identify warning signs of a cyberbullying victim such as withdrawal or lack of sleep and predict the outcomes for both the victim and the bully

## Practical Technology Concepts

**8.11** The student evaluates and selects appropriate methods or techniques for an independent project and identifies and solves common hardware and software problems using troubleshooting strategies.

# Snapshot – Grade 8 Technology Applications

|       |                                                                                                                         |  |
|-------|-------------------------------------------------------------------------------------------------------------------------|--|
| 8.11A | combine various file formats for a specific project or audience                                                         |  |
| 8.11B | share and seek feedback on files in various formats, including text, raster and vector graphics, video, and audio files |  |

| Practical Technology Concepts |                                                                                                                                                                                                                                         |                                                                                                                                                                    |
|-------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8.12                          | The student leverages technology systems, concepts, and operations to produce digital artifacts.                                                                                                                                        |                                                                                                                                                                    |
| 8.12A                         | integrate use of appropriate technology terminology in scholarly inquiry and dialogue such as classroom discussion and written samples                                                                                                  |                                                                                                                                                                    |
| 8.12B                         | implement effective file management strategies independently, including file naming conventions, local and remote locations, backup, hierarchy, folder structure, file conversion, tags, and emerging digital organizational strategies | 8.12G compare types of local and remote data storage such as cloud architecture or local server and select the appropriate type of storage to store and share data |
| 8.12C                         | select and use appropriate platform and tools, including selecting and using software or hardware to transfer data                                                                                                                      |                                                                                                                                                                    |
| 8.12D                         | demonstrate improvement in speed and accuracy as measured by words per minute when applying correct keyboarding techniques                                                                                                              | 8.12E select and use appropriate shortcuts within applications                                                                                                     |
| 8.12F                         | apply appropriate troubleshooting techniques and seek technical assistance as needed                                                                                                                                                    |                                                                                                                                                                    |
| 8.12H                         | select and use productivity tools found in spread sheet, word processing, and publication applications to create digital artifacts, including reports, graphs, and charts, with increasing complexity                                   |                                                                                                                                                                    |