COURSE: Junior High Computers & Technology	GRADE(S): 7 & 8
UNIT: Technology Operation and Understanding	TIMEFRAME: 1-2 class periods

PA STANDARDS:

15.4.8.C: Describe the purpose, use, and care of peripheral devices of computer systems including input, processing, storage, and output devices.

15.4.8.M: Discuss the impact of emerging technologies on a variety of careers.

ISTE STANDARDS:

Technology operations and concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems

d. Transfer current knowledge to learning of new technologies

UNIT OBJECTIVES:

- Describe the importance of computers in today's world
- Identify the main parts of a computer
- Identify the steps for starting and shutting down a computer
- Describe other common computing devices such as laptops, netbooks, tablets, and phones
- Identify the primary hardware components of a computer
- Explain an operating system
- Explain the common functions of an operating system
- Describe a network and the types of networks
- Explain the terms Internet, Cloud, World Wide Web, and intranet
- Manage files and folders
- Perform basic file operations
- Apply basic troubleshooting procedures and techniques

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion

Participation:

- Individual, team, and whole-group
- Technology terminology

ASSESSMENT:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials
Adjustment – length/breadth
Alternative – assignments/projects

Remediation:

- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:

- Research new technologies
- Research technology related careers
- Research and report on technology evolution in past 50 years

COURSE: Junior High Computers & Technology	GRADE(S): 7 & 8
UNIT: Internet Safety & Digital Citizenship	TIMEFRAME: 3 - 4 class periods

STANDARDS:

15.4.8.B: Interpret and apply appropriate social, legal, ethical, and safe behaviors of digital citizenship.
15.3.8.M: Demonstrate proper etiquette when networking either face-to-face or online.
15.3.8.T: Discuss the rules of digital citizenship.

ISTE STANDARDS:

Digital citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Advocate and practice safe, legal, and responsible use of information and technology
b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
c. Demonstrate personal responsibility for lifelong learning
d. Exhibit leadership for digital citizenship

UNIT OBJECTIVES:

- Explain intellectual property and copyright as they apply to computing
- Identify acts of copyright violation and the measures to prevent those acts
- Identify the legal concerns associated with information exchange
- Explain computer security and privacy
- Explain the security settings on your computer
- Identify the options for keeping your computer up-to-date
- Identify guidelines for protecting your computer
- Identify measures that you can use to protect your privacy
- Explain how online predators operate
- Identify guidelines to protect your family from online predators
- Understand the parameters of social media
- Explain how social media sites (Facebook) work
- Explain how blogs and wikis function
- Understand the parameters of sharing media

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion
- View video/movie

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion
- Develop list of rules for responsible digital citizenship

Participation:

- Individual, team, and whole-group
- Digital footprint
- Discussion of consequences of cyberbullying

ASSESSMENT:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials
Adjustment – length/breadth
Alternative – assignments/projects

Remediation:

- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:

- Internet safety plan
- Steps to secure your computer
- Digital Literacy Wiki or Web site development

COURSE: Junior High Computers & Technology	GRADE(S): 7-8
UNIT: Word Processing/Keyboarding	TIMEFRAME: 10-12 periods

STANDARDS:

15.4.8.D: Create projects using emerging input technologies.
15.3.8.E: Choose appropriate print and electronic resources to meet project need.

ISTE STANDARDS:

Technology operations and concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems
b. Select and use applications effectively and productively
c. Troubleshoot systems and applications
d. Transfer current knowledge to learning of new technologies

UNIT OBJECTIVES:

- Identify and locate the home row keys and place their fingers on the keys correctly
- Use the appropriate fingers to reach and strike the correct keys.
- Focus their eyes on the text as opposed to the keyboard when typing.
- Describe the functionality of common word processing applications
- Identify the main components of the application interface
- Identify the menus, toolbars, tabs, groups, and commands
- Use toolbars to perform various tasks
- Edit and format text
- Format paragraphs and pages
- Apply bullets and numbering
- Create and define tables
- Insert and manipulate graphics
- Proofread and review documents
- Print and share word processed documents

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion
- Reports, memos, letters

- Google Docs and Microsoft Word integrated projects
- Content area integration

Participation:
- Individual, team, and whole-group

ASSESSMENTS:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials
Adjustment – length/breadth
Alternative – assignments/projects

Remediation:
- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:
- Create more advanced documents
- Create publications focusing on page layout and paragraph format
- Research and report levels of word processing related to specific careers

COURSE: Junior High Computers & Technology	GRADE(S): 7-8
UNIT: Digital Media & Presentation	TIMEFRAME: 19 - 21 periods

STANDARDS:

15.3.8.E: Choose appropriate print and electronic resources to meet project need.
15.3.8.G: Develop appropriate information and content for presentations, meetings, discussions, and group assignments.
15.3.8.H: Deliver presentations using a variety of techniques and media; employ conventions of language.
15.3.8.U: Identify and employ various electronic communication options related to desired outcomes.
15.3.8.W: Use electronic communication with peers and/or educators to produce a work product.
15.3.8.X: Demonstrate effective techniques for good communication.

ISTE STANDARDS:

Communication and collaboration: Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

a. Interact, collaborate, and publish with peers, experts, or others employing a variety of digital environments and media
b. Communicate information and ideas effectively to multiple audiences using a variety of media and formats

Technology operations and concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems
b. Select and use applications effectively and productively
c. Troubleshoot systems and applications
d. Transfer current knowledge to learning of new technologies

UNIT OBJECTIVES:

- Describe the benefits of multimedia technology
- Explain how multimedia expands the features of technology devices
- Explain the concepts of recording, copying, and working with multiple audio formats
- Identify the characteristics of digital audio
- Identify various formats of digital audio
- Explain how to edit, manage, and convert digital audio
- Explain the concepts of recording, copying, and working with multiple video formats of
- Identify the characteristics of digital video
- Identify various formats of digital video
- Explain how to edit, manage, and convert digital video
- Explain the concepts of recording, copying, and working with multiple image formats
- Identify the characteristics of digital images
- Identify various formats of digital images
- Explain how to edit, manage, and convert digital images

- Identify the features of Web-based audio, video, and image formats
- Describe the functionality of common presentation applications
- Identify the main components of the application interface
- Identify the menus, toolbars, tabs, groups, and commands
- Use toolbars to perform various tasks
- Edit and format slides and templates
- Add content to screens
- Add graphics to screens
- Add video, audio, and animation to screens
- Proofread and review presentations
- Print and share presentations

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion
- Video product
- Audio product
- Integration of images products
- Create curricular multimedia presentations that integrate multiple media formats

ASSESSMENTS:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials
Adjustment – length/breadth
Alternative – assignments/projects

Remediation:

- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:

- Create more advanced multimedia applications
- Research and report levels of multimedia related to specific careers

COURSE: Junior High Computers & Technology	GRADE(S): 7-8
UNIT: Internet & Online Research	TIMEFRAME:

STANDARDS:

15.3.8.E: Choose appropriate print and electronic resources to meet project need..
15.4.8.L: Discuss the characteristics of a credible website.

ISTE STANDARDS:

Research and information fluency: Students apply digital tools to gather, evaluate, and use information.

a. Plan strategies to guide inquiry
b. Locate, organize, analyze, evaluate, synthesize, and ethically use information from a variety of sources and media
c. Evaluate and select information sources and digital tools based on the appropriateness to specific tasks
d. Process data and report results

Digital citizenship: Students understand human, cultural, and societal issues related to technology and practice legal and ethical behavior.

a. Advocate and practice safe, legal, and responsible use of information and technology
b. Exhibit a positive attitude toward using technology that supports collaboration, learning, and productivity
c. Demonstrate personal responsibility for lifelong learning
d. Exhibit leadership for digital citizenship

Technology operations and concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems
b. Select and use applications effectively and productively
c. Troubleshoot systems and applications
d. Transfer current knowledge to learning of new technologies

UNIT OBJECTIVES:

- Describe the uses of the Internet
- Identify the requirements for an Internet connection
- Explain bandwidth
- Describe the components of the Web
- Explain how Web addresses work
- Explain how to connect to the Internet
- Explore Web sites by using a browser
- Describe how to save favorite Web sites
- Search for reliable information on the Web
- Understand how to identify information being sought
- Identify best tools to seek information being sought

- Access various types and sources of information related to information being sought
- Identify primary versus secondary research
- Consider ethical practices related to primary research
- Identify applicable sources through bibliographic citations
- Determine fact, opinion, or propaganda
- Identify objective, bias, or emotional language
- Demonstrate how to check for accuracy
- Determine credibility of source
- Draw conclusions from research

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion
- Review of advanced search process
- Website Evaluation
- Curriculum related research product

ASSESSMENTS:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials
Adjustment – length/breadth
Alternative – assignments/projects

Remediation:

- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:

- Expanded research and higher level integration
- Digital video project to present findings
- Audio podcast outlining the research process
- Research presentation

COURSE: Junior High Computers & Technology	GRADE(S): 7-8
UNIT: Manipulate Data with Spreadsheets	TIMEFRAME: 4 periods

STANDARDS:

15.3.8.E: Choose appropriate print and electronic resources to meet project need.
15.4.8.G: Create an advanced digital project using appropriate software/application for an authentic task.

ISTE STANDARDS:

Technology operations and concepts: Students demonstrate a sound understanding of technology concepts, systems, and operations.

a. Understand and use technology systems
b. Select and use applications effectively and productively
c. Troubleshoot systems and applications
d. Transfer current knowledge to learning of new technologies

UNIT OBJECTIVES:

- Describe the functionality of the common spreadsheet applications
- Identify the main components of the application interface
- Identify the menus, toolbars, tabs, groups, and commands
- Use toolbars to perform various tasks
- Enter data into a spreadsheet
- Perform basic formula and function tasks in a spreadsheet
- Format cells and sheets
- Insert charts and graphs into a spreadsheet
- List and database features in a spreadsheet
- Proofread and review spreadsheets
- Print and share spreadsheets

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion
- Tracking data and resources in spreadsheets

ASSESSMENTS:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials
Adjustment – length/breadth
Alternative – assignments/projects

Remediation:

- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:

- Create more advanced spreadsheets
- Apply more advanced spreadsheet skills: formulas, data analysis, pivot-tables
- Cross application integration: word processor
- Research and report levels of spreadsheets related to specific career

COURSE: Junior High Computers & Technology	GRADE(S): 7-8
UNIT: Understanding Databases	TIMEFRAME: 4 periods

STANDARDS:

15.3.8.B: Produce a variety of business documents and reports; focus on content, style, and format

15.3.8.E: Choose appropriate print and electronic resources to meet project need.

15.4.8.G: Create an advanced digital project using appropriate software/application for an authentic task.

UNIT OBJECTIVES:

- Understand the purpose of a database.
- Identify the parts of a database
- Enter and delete text or numbers into a database.
- Move to a specific cell in a database
- Select a cell or a block of cells in a database.
- The student will be able to change column widths in a database.
- The student will be able to create, edit, store, retrieve, and print a report.

ACTIVITIES:

Practice:

- Topic introduction, presentation, and discussion

Review:

- Concepts, terminology, and skills

Application:

- Hands-on practice, videos, simulations, and discussion
- Manipulate data from online databases
- Students create a database

ASSESSMENTS:

- Pre-Assessment
- Post-Assessment
- Teacher observation
- Daily classwork
- Integrated projects

DIFFERENTIATED INSTRUCTION:

Assistance – Teacher/peer and Web-based tutorials

Adjustment – length/breadth

Alternative – assignments/projects

Remediation:

- Assistance – Teacher/peer and Web-based tutorials
- Adjustment – Length/breadth
- Alternative – Assignments/projects

Enrichment:

- Create more advanced databases
- Integrate data across applications or formats
- Web site database design project