**Semester: 1** **2025 – 2026**

| **Grade Level** | 8 | **Subject: Computer** |
|---|---|---|
| **Teacher(s) Name** | Nader Madi | |
| **Textbook** | Our Digi World | |

| **Week #** | **Dates** | | **Lesson Title / Pages** | **CCSS / NGSS Code / MOE** |
|---|---|---|---|---|
| 1 | Aug.25th | Aug.29th | Theory:<br>• Understanding and implementing the working of cryptography | 6-8.NI.6<br>Apply multiple methods of information protection to model the secure transmission of information. |
| | | | Practical:<br>• Use print function in Python<br>• Create a simple program that outputs texts on the console.<br>• Save a program. | 2-AP-11<br>Create clearly named variables that represent different data types and perform operations on their values. |
| 2 | Sept. 1st | Sept. 5th | Theory:<br>• Understanding mechanism of social engineering<br>• Types of social engineering attacks<br>• Tips to stay protected against social engineering attacks | 6-8.IC.20<br>Compare tradeoffs associated with computing. Technologies that affect people's everyday activities and career options. |
| | | | Practical:<br>• Use variables.<br>• Receive input from the user.<br>• Explore data types.<br>• Assign values to a variable.<br>• Learn variable naming conventions. | 2-AP-11<br>Create clearly named variables that represent different data types and perform operations on their values. |
| 3 | Sept.8th | Sept.12th | Theory:<br>• Effects of social media on human life<br>• Understanding digital footprint<br>• Building a positive digital footprint reputation | 6-8.IC.21<br>Discuss issues of bias and accessibility in the design of existing technologies. |
| | | | Practical:<br>• Use different operators in Python. | 2-AP-10 |

| | | | | |
|---|---|---|---|---|
| | | | • Understand the order of operation.<br>• Create a flowchart.<br>• Utilize PEMDAS rule.<br>• Compare two fractions using comparison operators. | Use flowcharts and/or pseudocode to address complex problems as algorithms. |
| 4 | Sept. 15th | Sept.19th | Theory:<br>• Differentiating between active and passive digital footprint<br>• Understanding how cookies work and control cookies | 6-8.NI.4<br>Model the role of protocols in transmitting data across networks and the Internet. |
| | | | Practical:<br>• Control the flow of Python code based on conditions.<br>• Use if and if-else statements.<br>• Round off the number to its nearest 10s. | 2-AP-12<br>Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| 5 | Sept.22nd | Sept.26th | Theory:<br>• Computing Logic and Digital Equity | 6-8.AP.1<br>Decompose problems into smaller components through systematic analysis, using logic and structured programming concepts.<br>6-8.IC.22<br>Describe issues of equity, access, and influence associated with computing and the internet. |
| | | | Practical:<br>• Use if-elif statements.<br>• Apply Boolean variables and logical operators in conditions.<br>• Utilize logical operators with conditional statements. | 2-AP-12<br>Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| 6 | Sept. 29th | Oct.3rd | Theory:<br>• Factors Affecting Computer Performance and Cost<br>• Setting Up a computer and choosing an Operating System<br>• Connecting Devices.<br>• Protecting a Computer from Theft | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | • Access string characters.<br>• Use and modify strings.<br>• Format strings.<br>• Define a string.<br>• Format a string using 'format()' method and '%' operator.<br>• Work on strings with in-built methods and operators.<br>• Utilize the methods to modify a single string. | 2-AP-11<br>Create clearly named variables that represent different data types and perform operations on their values. |
| 7 | Oct.6th | Oct.10th | Theory:<br>• Troubleshooting Common Hardware Problems.<br>• Identifying Common Hardware Problems. | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |

| | | | | |
|---|---|---|---|---|
| | | | Practical:<br>• Use lists to store ordered groups of data.<br>• Modify lists using built-in functions.<br>• Explore examples of programs with lists<br>• Modify and sort lists.<br>• Use list functions in a Python program | 2-AP-11<br><br>Create clearly named variables that represent different data types and perform operations on their values. |
| 8 | Oct.13th | Oct.17th | Theory:<br><br>• Performing Routine Maintenance Tasks.<br>• Clean Up<br>• Check Disk<br>• Disk Defragmentation | 6-8.CS.1<br><br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | Practical:<br>• Identify common mistakes in coding.<br>• Debug the programs.<br>• Identify syntax error, type error, value error, index error and<br>• name error in different programs<br>• Identify the errors in a program and debug it | 2-AP-12<br><br>Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| 9 | Oct.20th | Oct.24th<br>**Oct 24 End of Quarter 1** | Theory:<br><br>• Understanding Operating Systems.<br>• Functions Provided by Operating Systems<br>• Types of Operating Systems. | 6-8.CS.1<br><br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | Practical:<br>• Work with for loop<br>• Use range( ) function.<br>• Explore 'in' operator.<br>• Demonstrate nested loops.<br>• Display using end parameter of print( ) function.<br>• Use a 'for' loop to repeat the instructions.<br>• Iterate over a sequence of numbers using range() function | 2-AP-12<br><br>Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| 10 | Oct.27th | Oct.31st | Theory:<br><br>• Network Mastery | 6-8.NI.2<br><br>Model how data is sent and received across a network using protocols and addressing.<br><br>6-8.NI.4<br><br>Model the role of protocols in transmitting data across networks and the Internet. |
| | | | Practical:<br><br>• Use while loop.<br>• Use a 'while' loop to add a condition that allows the user to | 2-AP-12<br><br>Design and iteratively develop programs that combine control structures, including nested loops and compound conditionals. |
| | Nov.3rd | Nov.7th | Theory: | 6-8.CS.1 |

| | | | | |
|---|---|---|---|---|
| 11 | | | • Software Usage<br>• Using Application Software<br>• Using Software Tools | Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | Practical:<br>• continue or stop adding students' details | 6-8.CT.d.4<br>Implement problem solutions using a programming language, including all the following: looping behavior, conditional statements, expressions, variables, and functions. |
| 12 | Nov.10th | Nov.14th | Theory:<br>• Managing Files and Folders<br>• Browsing Locations<br>• Working with File Properties | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | Practical:<br>• Use built-in functions. | 6-8.CT.d.4<br>Implement problem solutions using a programming language, including all the following: looping behavior, conditional statements, expressions, variables, and functions. |
| 13 | Nov.17th | Nov.21st | Theory:<br>• Troubleshooting Common File Management Problems.<br>• Understanding File Properties | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | Practical:<br>• Use built-in functions. | 6-8.CT.d.4<br>Implement problem solutions using a programming language, including all the following: looping behavior, conditional statements, expressions, variables, and functions. |
| 14 | Nov. 24th | Nov.28th | Theory:<br>• Troubleshooting Operating System Problems<br>• Computer Troubleshooting<br>• Approaches to Troubleshooting<br>• Troubleshooting Software<br>• Troubleshooting Peripheral Devices | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | Practical:<br>• Create user-defined functions. | 6-8.CT.d.4<br>Implement problem solutions using a programming language, including all the following: looping behavior, conditional statements, expressions, variables, and functions. |
| 15 | Dec.1st | Dec.5th | Theory:<br>• Data and Hardware Protection<br>• Backing Up and Restoring Files<br>• Protecting Hardware | 6-8.IC.24<br>Compare tradeoffs between allowing information to be public and keeping information private and secure |

| | | | | |
|---|---|---|---|---|
| | | | Practical:<br>• Identify the differences among functions with no arguments, | 6-8.CT.d.4<br>Implement problem solutions using a programming language, including all the following: looping behavior, conditional statements, expressions, variables, and functions. |
| 16 | Dec.8th | Dec.12th | • Understanding the Purpose of Device Driver. | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | • Functions with arguments, and functions with return values | 6-8.CT.e.1<br>Create a model of a real-world system and explain why some details, features and behaviors were required in the model and why some could be ignored. |
| 17 | Jan 12th | Jan 16th | • Installing Applications. | 6-8.CS.1<br>Design modifications to computing devices in order to improve the ways users interact with the devices |
| | | | • Sort a list using the built-in function. | 6-8.CT.e.1<br>Create a model of a real-world system and explain why some details, features and behaviors were required in the model and why some could be ignored. |
| 18 | Jan 19th | Jan 23rd | • Understanding Software Licensing. | 6-8.IC.23<br>Compare tradeoffs associated with licenses for computational artifacts to balance the protection of the creators' rights and the ability for others to use and modify the artifacts |
| | | | • Demonstrate the use of the Text-to-Speech and | 6-8.CT.e.1 |

| | | | | |
|---|---|---|---|---|
| | | | Speech-to-Text component in Thunkable. | Create a model of a real-world system and explain why some details, features and behaviors were required in the model and why some could be ignored. |
| 19 | Jan 26th | Jan 30th | Semester 1 Exams: Jan 22nd to Jan 30th | |
| **Winter Break for Students: Dec 8 to Jan 4** | | | | |