

**Trinity Area School District  
Programming 7 Curriculum Mapping**

<b>Course: Programming 7</b> <b>Grade: 7</b>	<b>Overview of Course:</b> In this 30 day course students will build a foundation regarding the fundamental aspects of computer programming. Emphasis will be placed on many different programs and forms of software that can be used in programming.		
<b>Overarching Big Ideas, Enduring Understandings, and Essential Questions</b> (These “spiral” throughout the entire curriculum.)			
Big Idea	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)
Technology	15.4.8.A Interpret and apply appropriate social, legal, ethical, and safe behaviors of digital citizenship.  15.4.8.E Explain the different operating systems  15.4.8.G Create an advanced digital project using appropriate software/application for an authentic task.  15.4.8.F Identify network communication technologies  15.4.8.K Create a multimedia project using student-created digital media	Computer technology is a data management and communication tool essential for business and personal productivity, problem solving, and decision making in the global world.	What are the considerations when selecting a technology tool to solve a problem, complete a task, or manage information?  How do emerging technologies impact the quality of life?
Creativity	15.4.8.G	The type of digital software used depends on the task to be completed.	What examples will you use for a specific computer program for a task in the world?

	Create a digital project using appropriate software/application for an authentic task.  15.4.8.D Create a project using emerging input technologies	Computer programming allows the user to create a variety of projects	What are the various software and programs that be can be used to program a computer?
Digital Citizenship	15.4.8.B  Interpret and apply appropriate social, legal, ethical, and safe behaviors of digital citizenship.	The Internet has many practical functions to be used in the global world.	Can technology be harmful and why?  What kind of technology is most important and why?
Independent Exploratory	15.4.8.G  Create an advanced digital project using appropriate software/application for an authentic task.	The type of digital software used depends on the task to be completed.	What apps will you use for a specific device/operating system for a task in the world?

**Big Ideas, Enduring Understandings, and Essential Questions Per Unit of Study**  
(These do NOT “spiral” throughout the entire curriculum, but are specific to each unit.)

Month of Instruction	Title of Unit	Big Idea(s)	Standard(s) Addressed	Enduring Understanding(s)	Essential Question(s)	Common Assessment(s)*	Common Resource(s)* Used
Three Days	Hour of Code	<b>Coding/ JavaScript</b>	15.4.8.A. Analyze the influence of emerging technologies on daily life.  15.4.8.D. Create projects using emerging input technologies.  15.4.8.E.	There are numerous programming languages and software that can be utilized in coding and programming.	How can use programming to manipulate the movement of objects?  What kind of projects can you create by using drag and drop programming?		

			<p>Explain the different operating systems.</p> <p>15.4.8.F. Identify network communication technologies and their own.</p> <p>15.4.8.K Create a multimedia project using student-created digital media.</p>				
7 days	Scratch	<b>Animation Design</b>	<p>15.4.8.A. Analyze the influence of emerging technologies on daily life.</p> <p>15.4.8.D. Create projects using emerging input technologies.</p> <p>15.4.8.E. Explain the different operating systems.</p> <p>15.4.8.F. Identify network communication technologies.</p> <p>15.6.8.I</p>	Scratch is software that can be used to animate objects in various ways through parameters, conditions, and Boolean expressions.	<p>How is Scratch related to programming?</p> <p>What is meant by drag and drop programming?</p> <p>How can you insert motion into a Scratch animation?</p> <p>How can you insert conditionals into a Scratch animation?</p> <p>What mathematical operators can be utilized in the Scratch environment?</p> <p>How are sprites, costumes, and backdrops</p>		

			Solve a problem with an algorithm		manipulated within the Scratch environment?		
7 days	Zulama	<b>GameSalad Creator</b>	<p>15.4.8.A. Analyze the influence of emerging technologies on daily life.</p> <p>15.4.8.B. Interpret and apply appropriate social, legal, ethical, and safe behaviors of digital citizenship.</p> <p>15.4.8.D. Create projects using emerging input technologies.</p> <p>15.4.8.E. Explain the different operating systems.</p> <p>15.4.8.F. Identify network communication technologies.</p>	GameSalad is a game-making software that allows students to create their own games. Students will modify an existing game and then use those strategies to add levels and create their own games.	<p>What game design principles are found in many mobile games?</p> <p>How can an unbalanced game be balanced effectively?</p> <p>How can a game be playtested in an effective way?</p> <p>How can progression and feedback be applied to a game?</p>		
5 days	KODU	<b>3-D Animation/Coding</b>	15.4.8.A. Analyze the influence of emerging technologies on daily life.	The KODU Game Lab is a software that allows students to create their own games. Students design their own rules,	How do you create a new world in KODU?		

			<p>15.4.8.D. Create projects using emerging input technologies.</p> <p>15.4.8.G. Create an advanced digital project using appropriate software/application for an authentic task.</p> <p>15.4.8.H. Explain the differences between a scripting language and a coding language.</p> <p>15.4.8.I. Solve a problem with an algorithm.</p>	<p>characters, background environments, point systems, and much more. KODU will teach students real-life skills that will help them through their education and into their future careers.</p>	<p>How can you paint a new surface within KODU?</p> <p>How can you add new characters to a world?</p> <p>How can you change the camera angle to show a world from different points of view?</p> <p>How can you add points to a game within KODU?</p>		
8 days	KHAN Academy	Coding with JavaScript	<p>15.4.8.A. Analyze the influence of emerging technologies on daily life.</p> <p>15.4.8.D. Create projects using emerging input technologies.</p> <p>15.4.8.E. Explain the different operating systems.</p> <p>15.4.8.F.</p>	<p>JavaScript is one of the most widely used programming languages in today's society. Students will learn how to use the JavaScript language to create fun drawings and animations</p>	<p>What is JavaScript?</p> <p>How can JavaScript be used to draw shapes?</p> <p>How can colors be added using JavaScript?</p> <p>How can variables be added using JavaScript?</p>		

			<p>Identify network communication technologies. 15.4.8.G. Create an advanced digital project using appropriate software/application for an authentic task.</p> <p>15.6.8.M. Explore and describe how emerging technologies are used across different career paths.</p>		<p>How can animations be added using JavaScript?</p>		