

Unit	Time Frame	Unit Name/Concepts	Texas Essential Knowledge and Skills
1/4	<i>First/ Fourth Six Weeks</i>	<p>Computer Science First - Google</p> <ul style="list-style-type: none"> ● Decomposition ● Pattern Recognition ● Iteration Benefits ● Defining Variables ● Resolving Design Challenges ● Implementing Design Processes ● Troubleshooting ● Technology Terminology <p>3D Design</p> <ul style="list-style-type: none"> ● Decomposition ● Pattern Recognition ● Abstraction ● Collaborative Planning ● Iteration Benefits ● Defining Variables ● Resolving Design Challenges ● Implementing Design Processes ● Understanding Design in Industries ● Impact of Technology Changes ● Global Trends and Technology Development ● Transferring Knowledge to New Technologies ● Transforming Data ● Collaboration on Digital Platforms ● Troubleshooting ● Creating and Designing Files ● Technology Terminology ● Platform and Tool Selection ● Data Storage ● Productivity Tools 	<p>(1) Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms.</p> <p>(2) Computational thinking--applications. The student applies the fundamentals of computer science.</p> <p>(3) Creativity and innovation--innovative design process. 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.</p> <p>(4) Creativity and innovation--emerging technologies. The student demonstrates a thorough understanding of the role of technology throughout history and its impact on societies.</p> <p>(5) Data literacy, management, and representation--collect data. The student uses advanced digital strategies to collect and represent data.</p> <p>(6) Data literacy, management, and representation--organize, manage, and analyze data. The student uses digital tools to transform data, make inferences, and predictions. The student is expected to use digital tools to transform data in order to identify and discuss trends and make inferences.</p> <p>(7) Data literacy, management, and representation--communicate and publish results. The student creates digital products to communicate data to an audience for an intended purpose. The student is expected to use digital tools to communicate and display data from a product or process to inform an intended audience.</p> <p>(12) Practical technology concepts--skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts.</p>

<p>2/5</p>	<p><i>Second/ Fifth Six Weeks</i></p>	<p>LEGO Spike Coding</p> <ul style="list-style-type: none"> • Learn how to execute controlled movements (e.g., straight move, point turn, curved move, turn with sensor, drive in a shape) using a Driving Base • Use estimation to stop at an object • Use the Distance Sensor to detect an object and respond • Program their Driving Base to stop at a black line • Program their Driving Base to follow a black line • Complete their first FIRST® LEGO® League mission • Have their robot interact with the game field 	<p>(1) Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms.</p> <p>(2) Computational thinking--applications. The student applies the fundamentals of computer science.</p> <p>(3) Creativity and innovation--innovative design process. 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.</p>
<p>3/6</p>	<p><i>Third/ Sixth Six Weeks</i></p>	<p>FIRST LEGO League Robot Competition</p> <ul style="list-style-type: none"> • Students will use all the knowledge they have learned so far to build a robot and attachments that will complete many FIRST LEGO League missions in a time-efficient manner 	<p>(1) Computational thinking--foundations. The student explores the core concepts of computational thinking, a set of problem-solving processes that involve decomposition, pattern recognition, abstraction, and algorithms.</p> <p>(2) Computational thinking--applications. The student applies the fundamentals of computer science.</p> <p>(3) Creativity and innovation--innovative design process. 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.</p>