



Python with Robotics (CodeBot) – TEKS Technology Applications Grade 6 Curriculum

Updated 06/03/2024 by Jill Jones

KNOWLEDGE & SKILLS	Technology Applications Grade 6 No prerequisite	Project / Lesson
<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>(A) decompose real-world problems into structured parts by using visual representation</p>	<p>Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i></p>
	<p>(B) analyze the patterns and sequences found in visual representations such as learning maps, concept maps, or other representations of data</p>	<p>Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i></p>
	<p>(C) define abstraction and distinguish between generalized information and specific information in the context of solving a problem or completing a task</p>	<p>Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i></p>
	<p>(D) design a plan collaboratively using visual representation to document a problem, possible solutions, and an expected timeline for the development of a coded solution</p>	<p>Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i></p>
	<p>(E) analyze different techniques used in debugging and apply them to an algorithm</p>	<p>Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6</p>

		<i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
	(F) analyze the benefits of using iteration (code and sequence repetition) in algorithms	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(2) Computational thinking - applications. The student applies the fundamentals of computer science.	(A) define and label variables that relate to their programming or algorithm	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
	(B) use a design process to create block-based and text-based programs that include sequences, loops, conditionals, and events to solve an everyday problem	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(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.	(A) resolve challenges in design processes independently using goal setting and personal character traits such as demonstrating courage and confidence	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
	(B) discuss and implement a design process using digital tools to compare, contrast, and evaluate student-generated outcomes	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Design Process <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>

	(C) identify how the design process is used in various industries	Technology & Trends Design Process
(4) Creativity and innovation - emerging technologies. The student demonstrates a thorough understanding of the role of technology throughout history and its impact on societies.	(A) discuss how changes in technology throughout history have impacted various areas of study	What is Computer Science? Technology & Trends
	(B) discuss how global trends impact the development of technology	What is Computer Science? Technology & Trends
	(C) transfer current knowledge to the learning of newly encountered technologies	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Data & Trends, Cybersecurity <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(5) Data literacy, management, and representation - collect data. The student uses advanced digital strategies to collect and represent data.	(A) demonstrate how data can be represented in Boolean expression	Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Searches
	(B) discuss and use advanced search strategies, including keywords, Boolean operators, and limiters	Searches
(6) Data literacy, management, and representation - organize, manage, and analyze data. The student uses digital tools to transform data, make inferences, and predictions.	(A) use digital tools to transform data in order to identify and discuss trends and make inferences	Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Data & Trends, Searches <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(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.	(A) use digital tools to communicate and display data from a product or process to inform an intended audience	Project 1, Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 What is Computer Science? Technology & Trends Data & Trends, Searches Digital Citizenship, Cybersecurity Intellectual Property <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(8) Digital citizenship - social interactions. The student understands different styles of digital communication and that a student's	(A) identify the impact of a digital footprint	Digital Citizenship
	(B) create formal and informal digital communications using appropriate digital etiquette	Digital Citizenship
	(C) collaborate on digital platforms such as recording a video conference presentation using	Digital Citizenship

actions online can have a long-term impact.	appropriate formal and informal digital etiquette	
(9) Digital citizenship - ethics and laws. The student recognizes and practices responsible, legal, and ethical behavior while using digital tools and resources.	(A) adhere to local acceptable use policy (AUP) and practice safe, ethical, and positive online behaviors	Digital Citizenship Cybersecurity
	(B) discuss and define intellectual property and associated terms, including copyright law, permission, fair use, creative commons, open source, and public domain	Intellectual Property
	(C) create citations and cite sources for a variety of digital forms of intellectual property	Intellectual Property
	(D) describe how information can be exaggerated or misrepresented online	Intellectual Property
(10) Digital citizenship - privacy, safety, and security. The student practices safe, legal and ethical digital behaviors to become a socially responsible digital citizenship.	(A) identify real-world cybersecurity problems such as phishing, malware, password attacks, identity theft, and hacking	Cybersecurity
	(B) identify various methods of cyberbullying such as harassment, impersonation, and cyberstalking	Cybersecurity
(11) Practical technology concepts - processes. 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.	(A) create and design files in various formats such as text, graphics, video, and audio files	Technology & Trends Data & Trends Files & File Management Digital Citizenship Cybersecurity Intellectual Property
(12) Practical technology concepts - skills and tools. The student leverages technology systems, concepts, and operations to produce digital artifacts.	(A) apply appropriate technology terminology such as cloud applications, input, output, and basic programming	Project 1, Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Technology & Trends Data & Trends Files & File Management Digital Citizenship, Cybersecurity Intellectual Property <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
	(B) identify effective file management strategies such as file naming conventions, local and remote locations, backup, hierarchy, folder structure, file conversion, tags, and emerging digital organizational strategies	Files & File Management
	(C) select and use the appropriate platform and tools to complete a specific task or project	Project 1, Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Technology & Trends

	Data & Trends Digital Citizenship, Cybersecurity Intellectual Property <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(D) demonstrate improvement in speed and accuracy as measured by words per minute when applying correct keyboarding techniques	Data & Trends
(E) select and use appropriate shortcuts within applications	Project 1, Project 2, Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(F) use help sources to research application features and solve software issues	Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 Technology & Trends Data & Trends <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>
(G) identify types of local and remote data storage such as cloud architecture or local server	Files & File Management
(H) use productivity tools found in spreadsheet, word processing, and publication applications to create digital artifacts such as reports, graphs, and charts	Remix 2 Project 3, Remix 3 Project 4, Remix 4 Project 5, Remix 5 Project 6, Remix 6 What is Computer Science? Technology & Trends Data & Trends Digital Citizenship, Cybersecurity Intellectual Property <i>Project 7, Remix 7</i> <i>Project 8, Remix 8</i> <i>Project 9, Project 10</i>