STEMploration: Information Technology Virtual Lessons

Unit Overview

Lesson	Overview	Student Learning Outcomes	Time
STEMploration Information Technology Lesson 1: Introduction	Have you noticed how many things in our lives are controlled by computers? Have you ever thought of working with computers? In this lesson, you'll find out about the many kinds of career options there are in the field of computing, which is also called information technology or IT. You'll begin by looking at some mystery data and trying to figure out what it could represent about the information technology profession. You'll also participate in a virtual gallery walk, where you will consider some of the many opportunities for careers in information technology and then share your ideas in a Flipgrid. To close the lesson, you'll record your thoughts on the career that stands out to you the most.	• Describe some of the careers in information technology. • Explain why it is important to make informed career choices. • Use a digital medium to learn more about a specific career.	45-50 minutes
STEMploration Information Technology Lesson 2: The World of Coding	This lesson explores the world of coding and why it is important. You'll watch a short video and then use a tutorial to lean how computer coding works. You'll also learn about software development career opportunities and the creative environments in which coders work.	• Use a variety of media to develop and deepen understanding of a topic or idea. • Apply the logic principles of writing code to solve a challenge.	45-50 minutes
STEMploration Information Technology	So what is it really like to write code? This lesson will introduce you to coding for apps and the key vocabulary necessary to begin writing code. You will also explore more careers in information technology.	• Use a variety of media to develop and deepen your understanding of a topic or idea	45-50 minutes

Lesson 3: Coding Apps		• Apply the principles of computer programming	
STEMploration Information Technology Lesson 4: Looking Critically at Apps	What makes people download and then actually use an app? Apps have to both meet people's needs and function well, or consumers won't use the apps after they are downloaded. This lesson asks you to think about what makes an app usable. You'll identify some criteria and then share your ideas about what makes a good app with your colleagues on Flipgrid.	• Evaluate designs for potential points of failure. • Develop criteria for strong apps and analyze apps created by young people using those criteria. • Explore new concepts by completing a design tutorial.	45-50 minutes
STEMploration Information Technology Lesson 5: User Interface Design	What is a user interface, and why should you be concerned with good user interface design? In this lesson, you will generate a checklist of features of apps that have strong user interface design and analyze apps that function well and those that don't. The primary criteria for judging an app are intuitiveness, efficiency, and ease of navigation. You will examine apps to see if they are well designed with these criteria in mind.	• Define key criteria of user interface design. • Articulate the features of an app. • Evaluate apps based on set criteria.	45-50 minutes
STEMploration Information Technology Lesson 6: Ideating Prototypes	In this lesson, you'll begin to think about the app you want to create. You'll see some examples and then reflect on a need that can be addressed with an app. By the end of this lesson, you will have made some design decisions and will close the lesson by sharing your ideas on Flipgrid.	• Identify a need that could benefit people if met through an app. • Create and communicate an app concept using a story card.	45-50 minutes
STEMploration Information Technology	Believe it or not, most apps start as just rough sketches! This lesson introduces the concept of storyboarding of an app, also known as wireframing. The lesson begins by looking at comic strips as an	• Use wireframing to create a design for an app for mobile devices.	45-50 minutes

Lesson 7: Wireframing	introduction to storyboarding. Then, you will practice wireframing using screens from an existing app. Finally, you'll wireframe some screens for your own app and share them on Flipgrid.		
STEMploration Information Technology Lesson 8: Coding Your App	Now that you have thought of a purpose, considered what your app might do, and envisioned what your app might look like, it's time to create a prototype—a first draft of how your app will look and function. You'll return to Code.org and use their App Lab to build your app, and when you are done, you'll be able to see what it looks like on your device and share it with others.	• Apply the principles of computer programming.	45-50 minutes
STEMploration Information Technology Lesson 9: Testing Your App	In this lesson, you will begin to identify ways to make your potential users choose your app by looking at apps that you'll be competing with to win users. In earlier lessons, we identified criteria for a good app. But what makes an app great to you? What decisions or values help you decide which apps you use? For example, what apps do you use for listening to music? Chatting with friends? Doing research? In this lesson, you'll examine your own app closely as well as apps similar to yours to learn what users are looking for and how you can improve your work.	• Evaluate possible design solutions systematically and based on predetermined criteria and constraints	45-50 minutes
STEMploration Information Technology Lesson 10: Marketing and Branding	In this lesson, you will begin to think about the branding for your app. First, you will participate in a logo matching game to start thinking about logos and brands. Then, you will be asked to summarize their projects by writing an app description for an app store. You will be introduced to color psychology and logo design in	• Convey specific information about your brand using a visual aid.	45-50 minutes

	two videos, and then you will be asked to begin designing your own logo based on what you learn from the videos.		
STEMploration Information Technology Lesson 11: Presenting Your App	You've come a long way in coming up with an idea for an app, building it, and branding it! In this lesson, you will put the finishing touch on your app by writing the app store description and then presenting the whole package on Flipgrid.	• Convey specific information about your brand using concise writing. • Engage in a professional presentation of design ideas.	45-50 minutes
STEMploration Information Technology Lesson 12: Closure	This lesson begins with some questions designed to help you recall the work you've done and what you've learned throughout this information technology unit. You will engage in a reflective portfolio assignment and share your final thoughts with your classmates in Flipgrid.	• Reflect on your learning and growth over time • Communicate you learning and growth over time	45-50 minutes

Implementation Best Practice

Best Practice	Mini unit (No App)	Introduction to IT (No App)	
All 12 lessons in order	Lessons 1 & 2, and	Lessons 1 through 3 only	Lesson 1: Introduction
			Lesson 2: The World of Coding
			Lesson 3: Coding Apps
	Lessons 4 & 5 only		Lesson 4: Looking Critically at Apps
			Lesson 5: User Interface Design
			Lesson 6: Ideating Prototypes
			Lesson 7: Wireframing
			Lesson 8: Coding Your App
			Lesson 9: Testing Your App
			Lesson 10: Marketing and Branding
			Lesson 11: Presenting Your App
			Lesson 12: Closure