Unit Title: Introduction to Thinking Logically

Grade Level: 9-12

Subject Area: Introduction to Computer Programming

Duration/Length/Number of class periods: 5 class periods

Description:
Through this unit the students will use puzzles to learn how to think logically.

Established Goals (National, State, Local):
Students demonstrate creative thinking, construct knowledge, and develop innovative products and processes using technology.

Students use digital media and environments to communicate and work collaboratively, including at a distance, to support individual learning and contribute to the learning of others.

Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources

Students apply digital tools to gather, evaluate, and use information.

What Enduring Understandings are desired?

Use logical reasoning to solve problems.

What Essential Questions will be considered?

Is the ability to think logically a learnable skill?

Students will know / be able to:

Use logical reasoning to solve a brand new problem.

Description		Formative	Summative	Introductory Activity	Learning Activity	Student Technology Used	Teacher Technology Used	ISTE Standards
	Units must include at least one of each formative, summative, introductory activity and learning activity. Check the							
Introduction to our class and students: - over class syllabus - groups decide on a map based question - submit on Google form - individuals vote on which map-based question to ask - Individuals fill out form - group views map with imported data to recognize diversity				x	x	x	x	**1C, 2B,**
Thinking critically with online puzzles - complete 3 Battleship and 3 SkyScraper puzzles with or without a timer - Check completion		x			x	x		**4D**
Intro to programming Lightbot - students use the lightbot programming bots to complete the puzzle - work in groups of 2 or 3				x	x			**2A,**
Lightbot programming - Complete the Lightbot "Hour of Code" puzzle programming/language - Students submit a screenshot of each level to Schoology		x			x	x	x	**4D**
Logic group test - Students complete a 3 new puzzles. 1 Battleship, 1 Skyscraper, 1 Lightbot			x					**1A**
More Logic Tools Demo - Student research and demonstrate different logic puzzles available online						x		**3 B, C, D**

Materials, tools and resources Google docs, forms, sheets, and maps https://www.brainbashers.com/ https://lightbot.com/hour-of-code.html
Unit Plan Author Brian Reinhardt (brian.reinhardt@spps.org)
Additional credit given to - Sean Beaverson for providing the lesson integrating Google maps and Google forms