MOTIVATION

Computing is all around us. It's not just in our laptops, but in our phones, our calculators, our cars, and even our thermostats. Computers help us do the simplest tasks and solve the most complicated problems. Computer science is used in almost every industry, including manufacturing, agriculture, and entertainment.

And, let's face it, you're probably interacting with a computer right now.

Computer science teaches us how to think critically and solve problems using technology. The need for people with computer science skills continues to grow as our world becomes more and more computerized. It's a field of interesting problems, creative challenges, and huge opportunities.

So, let's get started!

OBJECTIVES

Students will:

* Consider what it means for something to be a computer
* Understand the basic functions of hardware and software
* Understand what the Turing Test is and how it works
* Understand key differences between the way humans and computers think
* Learn how computer science applies to a variety of situations and fields
* Learn about the applications and implications of search engines

SECTIONS AND RESOURCES

What is a computer?

Lesson Plan: What Defines a Computer ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/What_Defines_a_Computer_Lesson_Plan.docx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_What_Defines_a_Computer_Lesson_Plan.pdf) )

What Defines a Computer Activity 1: Is This a Computer? ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/What_is_a_Computer_Activity_1.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_What_is_a_Computer_Activity_1.pdf) )

What Defines a Computer Activity 2a: Post-it Parade ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/What_is_a_Computer_PostIt_Activity_.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/What_is_a_Computer_PostIt_Activity_.pdf) )

What Defines a Computer Activity 2b: Debating Computers ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/What_is_a_Computer_Activity_2.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_What_is_a_Computer_Activity_2.pdf) )

What Defines a Computer Activity 3: What Defines a Computer? ([Source](http://www.muddx.com/c4x/HMC/MyCS/asset/What_is_a_Computer_Activity_3.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_What_is_a_Computer_Activity_3.pdf) )

Lesson Plan: What's in a Computer ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/What_s_in_a_Computer_Lesson_Plan.docx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_What_s_in_a_Computer_Lesson_Plan.pdf) )

Meet Team Hardware ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Secret_Agent_Hardware.pptx) )

What's in a Computer Activity 1: Hardware Experts ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Hardware_Experts_Worksheet.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/Hardware_Experts_Worksheet.pdf) )

What's in a Computer Activity 2: PB & J: Computer Handout ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/SoftwareForPBJComputerStudent.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/SoftwareForPBJComputerStudent.pdf) ), Instructor's Handout ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/SoftwareForPBJComputerInstructor.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/SoftwareForPBJComputerInstructor.pdf) )

Humans and Computers

Artificial Intelligence Lesson Plan: ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Artificial_Intelligence_Lesson_Plan.docx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_Artificial_Intelligence_Lesson_Plan.pdf) )

Artificial Intelligence Activity: [20 Questions](http://www.muddx.com/courses/HMC/MyCS/Middle-years_Computer_Science/courseware/1fa993fc51c843d0bbee6d24bf0ff862/3f1cd53cb6514794aa18a2b37a1ae910/20q.net)

Turing Test Lesson Plan: ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Turing_Test_Lesson_Plan.docx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_Turing_Test_Lesson_Plan.pdf) )

Turing Test Activity: List of Questions ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Turing_Test_Activity_Questions.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_Turing_Test_Activity_Questions.pdf) ), List of Computer Answers ( [Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Turing_Test_Computer_Answers.pptx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/PDF_Turing_Test_Computer_Answers.pdf) )

Turing Test Chatbots Activity: [Eliza](http://nlp-addiction.com/eliza/), [CleverBot](http://www.cleverbot.com/), [Jabberwacky](http://www.jabberwacky.com/), [A.L.I.C.E.](http://alice.pandorabots.com/)

Applications and Uses

Day 1 Lesson Plan: Applications and Implications ([Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Applications_and_Implications_of_CS_Lesson_Plan.docx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/Applications_and_Implications_of_CS_Lesson_Plan.pdf))

Day 2 Lesson Plan: Search Software ([Source](http://www.muddx.com/c4x/HMC/MyCS/asset/Search_Software_Lesson_Plan.docx) / [PDF](http://www.muddx.com/c4x/HMC/MyCS/asset/Search_Software_Lesson_Plan.pdf))