



The Turing Test

Instructional Days: 1-3 days

Topic Description: The question “What makes something intelligent” is addressed by introducing the Turing Test. Students complete various activities that require them to analyze the differences between machines and humans.

Objectives:

The student will:

- Understand what the Turing Test is and how it works
- Understand how the Turing test relates to intelligence
- Discuss whether computers are intelligent or whether they only behave intelligently
- Be able to identify a few basic human abilities that computers find very difficult to replicate

Outline of the Lesson and Teaching Strategies:

- Introduce the Turing Test (5-10 minutes)
 - Watch “The Turing Test” video
 - Discuss the Turing Test with the class to make sure everyone understands what it is
 - Have a class discussion about the questions listed in the “Thinking About the Turing Test” section
- Complete Activity 1 (5 minutes)
 - Have students complete the activity individually or in small groups
 - Have a group discussion about whether the being answering the questions was a computer or a human
 - Discuss how computers might answer questions differently than humans

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- Complete Activity 2 (30 minutes)
 - Explain Activity 2 to the students and make sure everyone in the class understands how this activity is similar to the Turing Test
 - Discuss the Pre-Activity Questions as a class
 - After completing the activity discuss the questions in the “Turing Test Activity Discussion” section
 - Make sure the students understand that both computers and humans have great strengths but that these strengths are very different
 - Computers are great at fast, accurate calculations and following instructions while humans are much better at understanding their environment, learning, and adapting.
- Learn about Watson (15 minutes)
 - Watch the “IBM Watson” video
 - Talk about the discussion questions in small groups or as a class
- Introduce the Loebner Prize (15-20 minutes)
 - Explain what the Loebner Prize is and how it relates to the Turing Test
 - Have students interact with the chatbots in Activity 3
 - Discuss the strengths and weaknesses of the chatbots and whether or not any of the chatbots would pass the Turing Test
- Wrap Up (5 minutes)
 - Have students think about the potential of Artificial Intelligence and whether or not they believe any machine will be able to pass the Turing Test
 - Watch the “Chatbots Conversing” video

Resources:

- All the resources including the worksheets are available on the Humans and Computers Overview page of the muddX website

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(http://studio.muddx.com/unit/HMC.MyCS.Middle-years_Computer_Science/branch/draft/block/vertical0223)