Lesson Plan: The Turing Test

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.

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