

Lesson Title	ML and AI Investigation
Sequence	1 of 6
Duration	<ul style="list-style-type: none"> ● 45 minutes for instructions and investigation ● 45 minutes for student discussion and demonstrations
Materials	<ul style="list-style-type: none"> ● Handout ● Devices with Digital Assistants or App Download Permissions <ul style="list-style-type: none"> ○ Siri ○ Cortana, ○ Google Assistant ○ Google Web Browser ○ Photomath ○ Amazon App
Objectives	Students will view computing technology they engage on a regular basis through a lense of Artificial Intelligence applications.
Standards	<p>Indiana</p> <ul style="list-style-type: none"> ● CSII-6.1 Describe the function of a computing artifact ● CSII-6.2 Identify the purposes of a computing artifact <p>ITEEA</p> <ul style="list-style-type: none"> ● 3 Students will develop an understanding of the relationship among technologies and the connections between technology and other fields of study. ● 4 Students will develop an understanding of the cultural, social, economic, and political effects of technology. ● 13 Students will develop the abilities to assess the impact of products and systems. <p>CSTA</p> <ul style="list-style-type: none"> ● 3A-IC-24 Evaluate the ways computing impacts personal, ethical, social, economic, and cultural practices. (P1.2)

Lesson Notes:

This is designed to be a student-driven activity that affords student choice depending on the technology they already interact with on a regular basis. To introduce this activity, I would recommend researching some of the silly things you can ask Siri. There is a variety of Siri jokes available on the internet that would function as a great ice-breaker for students in this activity.

Then, students can progress through the investigation at their own pace. Depending on the students' skill level and comfort speaking in front of others, be prepared to model your expectations for both tasks. Remember, the goal of the activity is for students to begin noticing the strengths, weakness, and applications of the technology they already use.

At the end of this activity, students should practice their oral communication skills by explaining the function and purpose of the device they chose. They should recap the discoveries they made during their individual investigations so students have an opportunity to experience a wide variety of devices.

Assessment: This task will be assessed for thorough responses, clear communication, and timeliness.

Lesson 1 of 6: Investigate AI

In this assignment, you will be working with a computing artifact that currently harnesses neural network technology. (It is okay if you don't know what neural network technology is yet. That's coming up next.)

Choose a piece of technology from the following list (or suggest your own):

- Siri, Cortana, Google Assistant
- Google Reverse Image Search
- Photomath
- Amazon App

Experiment with the device and document your process. Take notes regarding the strengths and weaknesses of the device. Use your notes to complete this table.

What device are you reviewing?	
What is the function or purpose of this device?	
What does this device do well? (Describe the inputs you used and the outputs you received)	
What are the limitations of this device?	
Are there objects the device consistently guesses incorrectly?	
How do you see this device connected to other devices you use regularly?	
What stands out as potential ethical concerns regarding this technology?	

Prepare to informally present your findings to your peers in a board meeting. Think through how you can efficiently demonstrate your device. What do your peers need to see in a demo to quickly grasp the purpose and function of the device you chose? What do they need to know about the strengths and weaknesses of the currently technology?