**Level 1: Play the Simon Game**

**Outline**

Play the original Simon game to establish a mind-set around basic game systems. Research the history of game systems. Decompose the Simon game from perspective of input/output devices and processes.

**Objectives**

* Icebreaker activity to establish community and classroom norms.
* To realize that computers have evolved to take various forms in modern society.
* To begin thinking about computers as a collection of input/output devices and processes.

**Materials & Resources**

* Simon game obtained from teacher

**Questions**

1. Play the Simon game in your group while taking note of the following game-play items:
   1. What was your personal best score?  
      11
   2. What was the personal best score in your group?  
      17
   3. What makes it a good game?  
      It makes it more challenging making it encourage you to use your memory
   4. In what ways is it similar to modern computer games?  
      A lot of games nowadays challenge you to use memory.
2. Play the Simon game in your group while taking note of the rules of the game:
   1. How do users input information into the game?  
      The user presses on the colored buttons that Simon instructs you to do.
   2. How does the game output feedback to the players?  
      It flashes the led lights under the buttons that show players which button to press.
   3. What are the game options for starting the game?  
      You press one of the two flashing LED’s indicating to play single player mode, meaning you play solo or by yourself or, multiplayer mode where there is more than 1 player playing up to 4 players can play.
   4. What are the end conditions for stopping the game?

Leave the game for a while and it should automatically power off, or you if you lose the game it will automatically end the game.

**Level 2: Simon History**

**Materials & Resources**

* Simon game obtained from teacher
* Suggested web resource: http://americanhistory.si.edu/collections/search/object/nmah\_1302005

**Questions**

1. Research the history of the Simon game, focusing on the following questions:
   1. Who created Simon and when was it created?  
      Ralph Baer created Simon Says in 1978
   2. What previous game was it based on?  
      This game is centuries-old and was originally called “Cicero dicit fac hoc”–Latin for “Cicero says do this.”
   3. What was the first game system and when was it released?  
      The first game system made when Simon Says was released is Atari
   4. What games did it have on it?  
      Pong, Adventure, Combat, etc. . .
2. In your group, discuss the following questions:
   1. What is the oldest game system you have played on?  
      Wii
   2. How are old games different from current games?  
      Older games don’t usually contain a lot of good graphics as it does today. The games today are more open world type games.
   3. How are old games similar to current games?   
      They are based of original games such as Zelda Ocarina of Time, compared to The Legend of Zelda Breath of the Wild. They made it similar to their old game but added on a few features and details.
3. Compare the Simon Game to other classic handheld game systems like the Nintendo DS:
   1. List some similarities.  
      The Simon games are similar to Brain Age, which allows you to improve your memory or requires you to learn how to.
   2. List some differences.  
      Although the DS has Brain Age it has a lot of other games not relevant to games that require memory.
4. Compare the Simon Game to modern console game systems:
5. List some similarities.  
   When it comes to modern consoles compared to Simon Says they aren’t that similar. The only similarities is that they both have some type of motherboard (breadboard).
6. List some differences.

Some differences are that game systems now have storage and memory compared to Simon which does not. Simon can also only hold one game while systems such as the Ps4 can hold 10 to 12 games.

**Level 3: Inside the Simon Game**

**Materials & Resources**

* Simon game obtained from teacher
* Presentation Slides: Simon Vs. Light Switch

**Questions**

1. Consider a basic light switch:
   1. What are some input devices?  
      Slide Switch, Push Button and LED
   2. What are some output devices?  
      LED, Light
   3. How do the inputs affect the outputs?  
      Whatever you put in you get out so if you add electricity you get light.
2. Consider the Simon Game:
   1. What are some input devices?  
      Mother/Breadboard, LED
   2. What are some output devices?  
      Light, Sounds, Buttons
   3. How do the inputs affect the outputs?  
      The motherboard allows you to actually play the game and the LED’s allow it to light up when you push a button.
3. How is Simon similar to a light switch?

When you hook it up to an energy source it emits light. It is also only turned on when interacted with in some way.

1. How is Simon different from a light switch?

A light switch is not a game and does not have a motherboard.

1. Research on-line about what is physically inside the game and the components inside the package:
2. What electronics devices and components provide the logic and computer processing?
3. What electronics devices and components collect physical input from the user?
4. What electronics devices and components provide output (sight and sound) to the user?
5. Research on-line about program logic (e.g. software) that is inside the game and recent projects to emulate (duplicate) the game on modern computers. Summarize your findings below: