



Student Sheet: “Easy as 1, 2, 3”

Name: _____ Date: _____ Session #: _____

Part I: Precision in Sequence

Your instructor will assign you to write the steps for either making a peanut butter and jelly sandwich or brushing your teeth. (You have 10-15 minutes to complete this task). Write your steps in the **left side** of the table below. Leave the right side of the table blank for now.

My assigned task: **PB&J**

Make sure you have all the ingredients, including: a jar of peanut butter, a jar of jelly, a loaf (at least two slices) of a bread of your choice, a knife, a napkin, and a plate	Make sure you have all the necessary items, including: a toothbrush, toothpaste, and a working sink
Collect all of the ingredients and bring them to the area you plan on making your sandwich	Begin by turning on the sink and make sure cold water is coming out
Remove your bread from its packaging and place on the plate, face down	Grab your toothbrush by the handle (the end without the bristles) and run the bristles under the water
Make sure your are holding the handle on the knife and the sharp edge is facing the bread then cut two slices off from the loaf—each slice being around one inch long in width	Place your toothbrush down next to the sink, make sure the bristles are facing up
Put the bread back into its package, close it, and set aside	Twist off the cap on your toothpaste and set the cap aside
Twist open the top of the peanut butter jar and set the cap aside	Place the tip of the toothpaste tube on top of the bristles on the toothbrush
Wipe off your knife to ensure no crumbs remain then insert into the jar	Gently squeeze the tube until an amount of toothpaste the size of a pea is on top of the bristles
Scoop the desired amount of peanut butter on the knife with the sharp end in the jar and carefully spread on the face of one piece of bread—make sure the entire face of the bread is covered	Grab the cap of the toothpaste tube and twist to tighten back onto the toothpaste
Wipe off the knife once again to remove remaining peanut butter	Grab the toothbrush the same way you did previously and raise to your mouth
Twist the cap of the peanutbutter back onto the jar	Using small circular motions, brush the tops, bottoms, and sides of your teeth ((You should be brushing for around 2 minutes))
Twist open the top of the jelly jar and set the cap aside	Every 30 seconds, spit into the sink and give your tooth brush a quick rinse then continue
Scoop the desired amount of jelly on the knife with the sharp end in the jar and carefully spread on the face of the	When your teeth feel clean, rinse the toothbrush again and put away



Part 2: The “Art” of Communication

You will be grouped with 1-2 other members of the class. Your instructor will assign each person in your group a role (or job). You will be either an “INNIE” (an INPUT) or an “OUTIE” (an OUTPUT).

Write your assigned role here: **INNIE**

Directions: Based on the role you were assigned, complete the following.

“INNIE”: MUMS THE WORD!

Ask your instructor for a drawing, and do not let the other members of your group (the “OUTIE[S]”) see the it, or clue them into any details about it. When instructed to do so, you will provide the instructions for your “OUTIE” partner(s) to draw the same drawing you have been given. ***Reminder: you cannot clue them into any details about the drawing ahead of time.*** For example, if you have a drawing of a child flying a kite, you cannot say “draw a person holding a kite”. You and your “OUTIE(S)” will have fifteen minutes to complete this task.



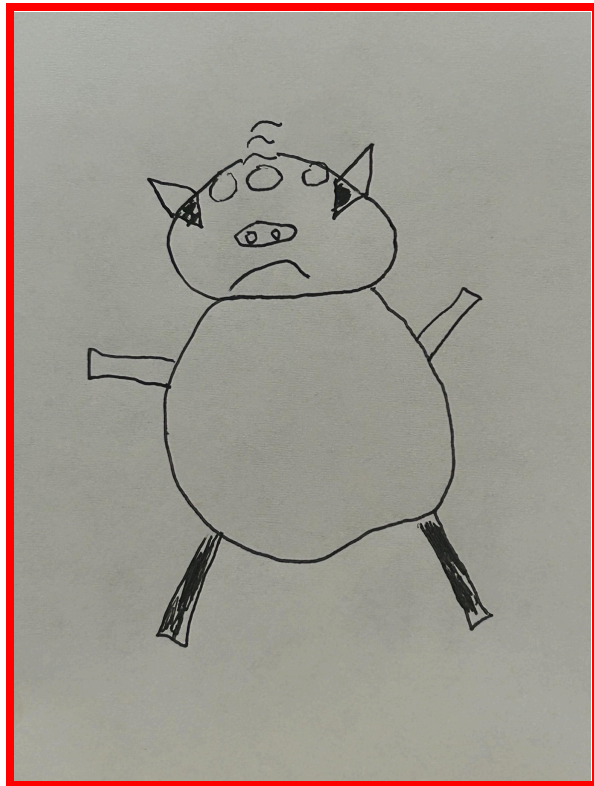
“OUTIE(S)”: LISTEN, YOUNG MINDS!



Your “INNIE” partner will be giving you the instructions to make a drawing. While you are being given these instructions, you are not allowed to ask for clarifications. (For example, you cannot ask how thick should I make that line or where should I make it?). You must remain silent the entire time. As your “OUTIE” partner provides you with your instructions, you will make your drawing on a piece of blank paper. You and your “INNIE” will have fifteen minutes to complete this task.

Once the 15-minute time limit has been reached, share the drawings (of both INNIE and OUTIE[S]) within your group. Take a photo of your group’s drawing and place it in the box below.

Note: If your group had two “OUTIES”, decide whose drawing is closer to the actual drawing held by the “INNIE” and report that one.



Answer the following prompt: *What was the purpose of this activity? What did the “INNIE” represent? What did the “OUTIE” represent? How do the tasks in this activity relate to computers and computer programming?*

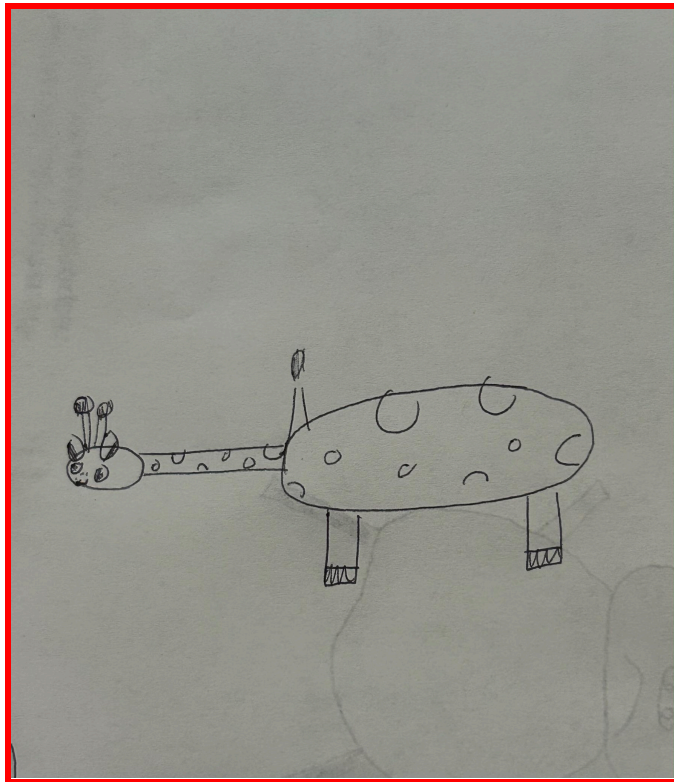
This activity demonstrates the relationship between a computer and its user or its inputted program. The INNIE represents the input, similar to the inputs we give to computers when coding. The output represents what the computer does based on the input it receives. Most of the time, a human or a program acts as the input, and the computer is almost always the output, as it outputs the commands of the user of the code.

You will now be assigned to another partner or group, and you will have 15 minutes to repeat the task.

Write your NEWLY assigned role here: **OUTTIE**

“INNIES”, ask your instructor for a new diagram and follow the same instructions as before.

Take a screenshot or photo of your NEW group’s drawing and place it in the box below when the 15-minute time limit has been reached.



EXTEND YOUR THINKING: Digital Genesis Unveiled

Type the following link into an Internet browser.

<https://www.computerhope.com/history/index.htm#timeline>

This website contains a list of important dates throughout history that have contributed to the invention or improvement of computers. Follow the instructions below and use this site to answer the questions.

1. The table below contains time periods from the computer history timeline in this website, and you can click on each time period to see contributions toward the development of computers. Click on each time period link and find one event that would help in the invention of computers and/or programming. (**Note:** While births and deaths are important, choose different events here.)

Time Period	Event
BC - 1000 AD	The development of base-20 system of mathematics, which introduce zero
1000's - 1400's	Leonardo da Vinvi makes drawing of 13-digit-cog-wheeler adder



1500's	Invention of calculator
1600's	Development of binary arithmetic
1700's	Creation of telegraph
1800's	Creation of an automated loom

2. What do you notice in the years between 1900-1940? What is happening in this period?

More inventions revolving around the use of electricity and development of how to harness and manipulate electricity for automation.

3. In 1900, George W. Fairchild forms the International Time Recording Company. Why is time an important feature in computers?

Giving computers a knowledge of time allows for computers to perform timed events. This may mean deliberately waiting or counting or acting as an alarm, all functions heavily used today.

4. In the following year, in 1901, the first radio message was sent across the Atlantic Ocean in Morse code. How did this help with the invention of the computer?

One of the key elements of a computer is the opportunity for communication it provides. The first radio message sent across the Atlantic highlighted the possibility for using computers to share information and communicate from one end of the world to the other. Today, this is something done daily and vital to the modern foundation of society. Our ability to send message globally began with this radio message

5. Click on the year 1907, and then click on "IBM". At the time, what was the name of anyone who worked for IBM?

"IMBer"

6. Scroll down on the IBM page, and write an event that happened in each of the years listed in the table.

7.

Year	Event
1907	IBM filed its first US patent
1911	IBM was granted its first patent



1933	IBM entered the electronic typewriter business
1937	Introduced the IBM Type 805 International Test Scoring
1956	The IBM 305 RAMAC was the first computer to be shipped with a hard drive
1980	IBM hires microsoft to develop versions of BASIC, Fortran, COBOL, and PASCAL for the IBMs upcoming PC
1981	Introduces IBM 5150, their first computer
1992	IBM formed the IBM Personal Computer Company as a separate unit of operation
1997	IBM's computer defeated chess world champion
2004	IBM sold its computing division to Lenovo Group for \$2.05B