ICD20 – Unit 1 review – Hardware

1. Name the piece of hardware that cools the computer.	Fan
2. Name the piece of hardware that detects the phone or micorbit moving	Accelerometer
3. Identify the name of the lights on the Microbits?	LED
4. Name the piece of hardware that holds the RAM, ROM and CPU.	Motherboard
5. What does RAM stand for?	Random Access Memory
6. What does ROM stand for?	Read Only Memory
7. What does HD stand for?	Hard Drive
8. What does CPU stand for?	Central Processing Unit
9. Name the piece of hardware that is used to boot the computer.	ROM
10. Another name for the CPU.	Processor
11. Name the piece of hardware that remembers things for the CPU.	RAM
12. Name the piece of hardware that is the brain of the computer.	CPU
13. What does volatile stand for?	It's memory is lost when the power is turned out.
14. Is ROM volatile?	No. It saves when the power is off.
15. Is RAM volatile?	Yes. It loses all it stores when the power is off.
16. Is a hard drive volatile?	No. It saves when the power is off.
17. Name the piece of hardware that is both input and output.	Touch screen
18. Name the piece of hardware that stores saved files.	Hard Drive
19. Name the piece of hardware that stores open files.	RAM
20. Name the piece of hardware that allows you to input words.	Keyboard
21. Name the piece of hardware that holds things you are using right now.	RAM
22. Name 2 pieces of storage that can be removed from the computer.	USB Drive SD Card
23. Name the piece of hardware that holds variables.	RAM
24. Name the piece of hardware that is input for sound.	Microphone
25. Name the piece of hardware that is output for sound.	Speakers
26. Name the piece of hardware that is input for light.	Camera
27. Name the piece of hardware that that output light.	Screen (Projector, LEDs)
28. Name the piece of hardware that outputs on paper.	Printer
29. Name the piece of hardware that that detects the x.y co-ordinate the user wants to select on the screen.	Mouse
30. Name the piece of the microbit that can be pressed for input.	Button A & B
31. Name the piece of the microbit that holds variables.	RAM
32. Name the piece of hardware that is a circuit board connecting the pieces of a computer.	Motherboard
33. Name the piece of the microbit that can detect electromagnetic radiation that travels through the air.	Radio antenna
34. Name the two pieces of the microbit that connects to other devices.	USB connector Edge Connect (aka Pins)

35. What does booting mean?	Turn on the computer. It loads the Operating system and checks the hardware.
36. IPOMS category of: Hard Drive	Storage
37. IPOMS category of: DVD	Storage
38. IPOMS category of: SD Card	Storage
39. IPOMS category of: Touchscreen	Input and Output
40. IPOMS category of: Monitor	Output
41. IPOMS category of: RAM	Memory
42. IPOMS category of: ROM	Memory
43. IPOMS category of: Speakers	Output
44. IPOMS category of: Microphone	Input
45. IPOMS category of: Camera	Input
46. IPOMS category of: Accelerometer	Input
47. IPOMS category of: Motion Detector	Input
48. IPOMS category of: Radio Antenna	Input
49. IPOMS category of: LED lights	Output
50. IPOMS category of: Button A	Input
51. Approved in Canada (for children) in 1990.	Cochlear Implant
52. First hospital sale in 2000.	DaVinci Surgical Robot
53. Early league formed in 2000.	E-sports
54. Released in November 2014.	Alexa
55. Cost for surgery and therapy is $100,000	Cochlear Implant
56. Costs between $40-100 on Amazon.	Alexa
57. 2019 tournament $34.3 million in prize money.	E-sports
58. Costs $2 million each.	DaVinci Surgical Robot
59. Winning team of 2019 tournament won $3.1 million each.	E-sports
60. Overall, worth about $1 billion per year.	E-sports
61. 1,700 in hospitals around the world.	DaVinci Surgical Robot
62. An Amazon Product for consumers.	Alexa
63. Individuals or teams battle online to determine a winner.	E-sports
64. Can be used to fold a paper crane smaller than a dime.	DaVinci Surgical Robot
65. Athletes often stream their games on services like Twitch.	E-sports
66. Created by Australian scientists in 1977.	Cochlear Implant
67. Part of the Internet of Things.	Alexa
68. A speaker that connects directly into the human auditory nerve.	Cochlear Implant
69. Robots used to increase extreme fine motor skills of human doctors.	DaVinci Surgical Robot
70. Hardware that augments humans making them into cyborgs.	Cochlear Implant
71. Rise of a new media; cross between sports and entertainment.	E-sports
72. Early household adoption of simple AI personal assistant.	Alexa
73. Approved in Canada (for children) in 1990.	Cochlear Implant
74. First hospital sale in 2000.	DaVinci Surgical Robot
75. Early league formed in 2000.	E-sports
76. Released in November 2014.	Alexa

ICD20 – Unit 2 Review – Page 2

77. What parts of a computer's life cycles are an environmental issue?	All 1. Making it (mining) 2. Using it (energy use) 3. Throwing it away (e-waste)
78. Two metals used to build a computer.	[Any metal] Gold, tin, silver, iron…
79. Why is mining for metal an environmental problem?	1. Mines destroy natural habitat 2. Mines can create sink holes 3. Acids used to extract metals from rock are toxic.
80. What is the metal used to cool cell phones?	Coltan
81. Where is Coltan mined?	Congo, Africa
82. What lives near the Coltan mines?	Endangered Gorillas
83. What are large buildings full of computers used to store things that are used over the internet called?	Data Centers.
84. What are the environmental problems with data centers?	(1) Cooling that many computers uses a lot of electricity. (2) A lot of e-waste.
85. Name two streaming services	You Tube, Netflix, Disney+, Twitch
86. Name two cloud providers	Google, Apple, Microsoft
87. Name two companies with data centers.	[Any Streamers, social media, cloud] Instagram, TikTok, Apple, Google, Netflix
88. Why is streaming and cloud computing an environmental problem?	(1) Instead of running things on 1 computer (like the old days), we need all the servers and the data centers. (2) That is a lot of metal mining. (3) Uses electricity to cool and run it (4) That is a lot of e-waste.
89. How much electricity runs data centers in the USA?	Ten nuclear power plants' worth.
90. What does e-waste stand for?	Electronic-Waste
91. Name two pieces of e-waste.	Circuit boards, Mother boards, Monitors, Mouse, Keyboard, Cell Phones, HD, RAM….
92. Why is e-waste an environmental problem?	(1) It is toxic. Causes cancer, reproductive problems, respiratory problems. (2) It is hard to recycle because different pieces are melded together.
93. What does exposure to lead do?	(1) Neurological damage (2) Central nervous system damage (3) Reproductive problems
94. Where is lead on a computer?	On the motherboard.
95. What does exposure to hexavalent chromium do?	(1) Carcinogenic (2) Kidney/Liver damage
96. Where is hexavalent chromium on a computer?	In the casing around the motherboard.
97. Name two toxins in a computer?	Lead Hexavalent Chromium
98. Why is it dangerous to put e-waste in the dump?	(1) Rainwater falls on a dump (2) It picks up the toxins in the e-waste (3) If not treated well, the water then harms animals and humans who drink it

99. What are the two components of a graph?	Nodes, Edges
100. On a graph, how do you draw a node?	Circle, with a letter in it.
101. On a graph, how do you draw an edge?	Line Straight Avoid crossing if the question requests it.
102. How can a graph model a computer network?	Nodes = computers Edges = cables
103. How can a graph model a social network?	Nodes = people Edges = friendships, connections
104. How can a graph model a subway?	Nodes = Stops Edges = Train track
105. How can a graph model a brain?	Nodes = Neurons Edges = Connections (Synapses)
106. On a graph, what is used to model joins between things?	Edges
107. On a graph, what is used to model bridges?	Edges
108. On a graph, what is used to model rooms?	Nodes
109. On a graph, what is used to model Doorways between rooms?	Edges
110. On a graph, what is used to model a shore beside the water?	Nodes
111. On a graph, what is used to model an island on the water?	Nodes
112. On a graph, what is used to model an endpoint of a balloon animal?	Nodes
113. On a graph, what is used to model a path on a maze?	Edges
114. On a graph, what is the name for traveling over edges between nodes?	Path
115. What type of path can go over each of the edges once without repeating?	Euler path
116. Can an Euler path visit a node more than once?	Yes.
117. Can an Euler path visit an edge more than once?	No.
118. How a string (balloon) be used to model an Euler path?	1. The string is like the path 2. The path can twist around like a string 3. There can be two ends to the path, like the two ends of the string
119. What is the name of the place where Euler figured out the math behind an Euler path?	Konigsberg
120. What is the name for the number of edges that connect to a node?	Degree
121. If 5 edges connect to a node, what type of node is it?	Odd
122. If 2 edges connect to a node, what type of node is it?	Even
123. How many odd nodes in an Euler path?	A maximum of 2. (0, 1, or 2).
124. What property does an odd node have in a Euler path?	It must be an end place. One of the times you come, there is no leaving path for you.
125. What property does an even node have in a Euler path?	It can be in the middle of your path. All of the times you come to the node, you can leave again.

126. Your eyes feel like they are burning.	Eye Strain
127. You hear a high-pitched noise all the time.	Ringing Ears
128. You can't seem to fall asleep and you wake up in the night.	Trouble Sleeping
129. You have burning pain in your wrists and hands.	Carpal Tunnel
130. You have burning pain in your index finger.	Texter's Finger
131. You have burning pain in your thumb.	Nintendo Thumb
132. You have burning pain in your neck.	Neck Strain
133. You have burning pain in your pinky finger.	Smartphone Pinky
134. You have "pin & needles" feelings in your legs.	Numb Legs
135. Your back really hurts.	Back Strain
136. Your head really hurts after looking at a screen for hours.	Headache
137. Your eyes feel like they are burning.	Eye Strain
138. You type with your wrists bent for long periods of time.	Carpal Tunnel
139. Your chair is too high. Your legs dangle and don't touch the floor.	Numb Legs
140. You use a headset at maximum volume for hours early night.	Ringing Ears
141. You use your cell phone until the minute you lay down to sleep.	Trouble Sleeping
142. You use your index finger to text for a few hours every day.	Texter's Finger
143. You use your computer in full sunlight. There is a constant glare off your computer screen.	Eye Strain
144. You look down at your laptop screen when you use it from a seated position.	Neck Strain
145. You have a claw hand position when you use your mouse.	Carpal Tunnel
146. You sit hunched over.	Back strain
147. You phone your smart phone all day in your hands.	Smartphone pinky.
148. Name four ergonomics issues that occur on your hands.	Carpal Tunnel Texter's Finger Smartphone Pinky Nintendo Thumb
149. The study of how to help your workers use equipment safety without injury to themselves	Ergonomics
150. Injuries that occur after months or years of repeated small movements.	Repetitive Stress Injuries