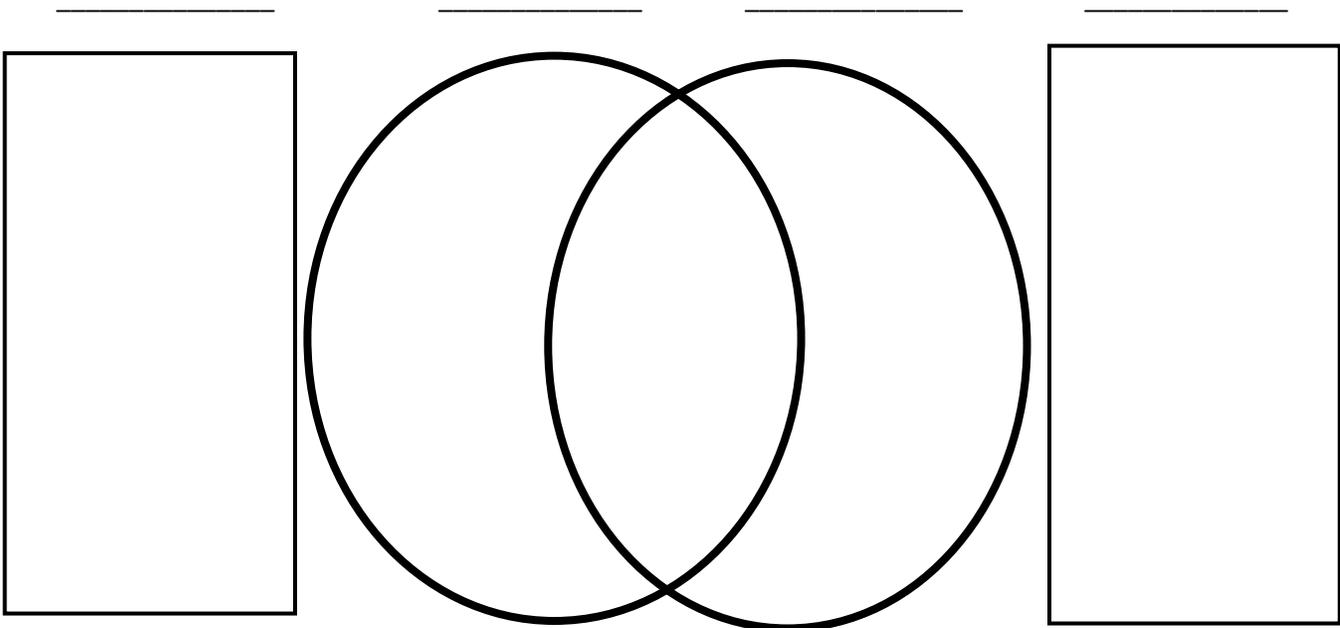## Computer Repair Worksheet:

This is where you put answers to be passed in for your module. It is not the guide that tells you what to do next.

Activity 1: Parts of a Computer

Assignments 1 and 2 – Label the categories and put each component from the illustration in the BEST location.

_____   _____   _____   _____

Activity 2: Moore's Law

Assignments 1:

What are three things that may limit computers from getting much faster?

_____

_____

_____

Activity 3: The Brains

Assignments 1: CPU Video Questions

1. What is a computer chip made from? _____

2. How thick is a silicon wafer when it is cut? _____

3. How big is the transistor that is put on a chip? _____

4. What is the biggest enemy of manufacturing a chip? _____

5. What is the name of the suit that they wear to manufacture chips? _____

6. Looking at the photo, make an estimate of the size of a CPU (in cm or mm). _____

7. The actual chip is just the center of the CPU. The pins that bring power and data take up most of the CPU size as you can see in the photo. Now, what size do you estimate the actual chip (in mm or cm)? _____

Activity 4: Safety

Assignments 1: Safety Video Questions

1. What is the biggest safety concern when working on computers? _____

2. How can we solve the electricity hazard issue when working on computers? _____

    _____

    _____

3. What are two devices that "store" dangerous electricity in capacitors even when the computer is unplugged?

    _____   _____

4. Why do people replace the entire power supply instead of trying to fix what is inside of them?

    _____

5. There is always risk of electricity flowing through computer equipment so how do you ground a rack that holds data equipment?

    _____

    _____

6. In what way can you protect yourself from printers (and other things that draw something into them)?

    _____

    _____

7. What can't you put on a fire when a computer is connected to electricity? _____

8. What is the proper type of extinguisher for a computer fire? _____

9. What are two ways of disconnecting electricity from a computer that is on fire.

    _____

    _____

10. What is a CRT? _____

11. What is the issue with any cable or power cable run across a floor? _____

12. What are three local government regulations that you must be aware of?

    _____

    _____

    _____

13. Find two online photos of power supplies and copy them to your answer document to show me that you recognize a power supply. (or save them to your drive and show your instructor)

Assignments 2: Tools

Do you have all the tools listed? _____

Assignments 3: ESD Video Questions

1. How much electricity is needed to feel an electrostatic discharge? _____

2. How much electricity is needed for an electrostatic discharge to ruin a component? _____

3. What humidity level will prevent electrostatic discharge? _____

4. What can you touch to equalize the electrostatic source? _____

5. Where is the best area to touch on a computer component to reduce the chance of electrostatic discharge?

   _____

6. What two pieces of equipment can you use to minimize electrostatic discharge?

   _____   _____

7. Where should you store computer components to protect them from electrostatic discharge?

   _____

Activity 5: Disassembly Project

Assignment 1: Create your PowerPoint. Check them off as you go.

Ports:
- ☐ PS 2 Ports
- ☐ USB Ports
- ☐ Ethernet Ports
- ☐ Serial Port
- ☐ VGA Port
- ☐ Speaker, Microphone and Line in Ports
- ☐ Game Ports
- ☐ Dual Link DVI
- ☐ HDMI
- ☐ Display Port
- ☐ eSATA Port
- ☐ Sound ports
- ☐ D-SUB port

Motherboard Slots:
- ☐ PCI Slot
- ☐ AGP Slot
- ☐ PCI Express

Motherboard Connectors:
- ☐ ATA RAID Connector
- ☐ SATA Connector
- ☐ ATX Power Connector
- ☐ ATA IDE Connector
- ☐ Serial Port Connector
- ☐ USB Connector
- ☐ CPU Fan Connector
- ☐ CPU ZIF Connector

Memory Slots:
- ☐ DDR 184 Pin Ram Connector
- ☐ DDR2 Ram Connector
- ☐ DDR3 240 Pin Ram Connector
- ☐ DDR4 288 Pin Ram Connector

Chipset
- ☐ CPU
- ☐ BIOS Chip
- ☐ North Bridge
- ☐ South ridge

Components:
- ☐ CMOS Battery
- ☐ RAM
- ☐ Hard Drive
- ☐ DVD Player

- ☐ Motherboard
- ☐ Fan and heat sink
- ☐ Power Supply
- ☐ On/Off Switch
- ☐ Jumpers

Cards
- ☐ Video Card
- ☐ Network Card
- ☐ Audio Card
- ☐ Any other card

Assignment 2: Re-assemble the computer

Does it work? _____

Activity 6: Network Connections

Assignment 1: Cable Chart questions

1. What types of cable is good for phone lines, home networks, and office networks but **NOT** for Data Centers? _____

2. What types of cable are good for phone lines, home networks, office networks and data centers? _____   _____

3. What is the potential bandwidth per second for Cat5e cable? _____

4. What cable can handle more bandwidth than Cat5e cable? _____

5. What is the longest run of Cat5e cable possible (Performance Distance)? _____

Assignment 2: Make a network cable

Test it and show your instructor

Activity 7: Careers

Assignment 1: Career information from the website

1. What are three things you would like about working as a computer repair technician?

   _____

   _____

   _____

2. What are three things you might find difficult working as a computer repair technician?

_____

_____

_____

3. What are three skills that might be good to have to make you a successful computer repair technician?

_____

_____

_____

4. Looks at the Neuvco job site to answer these questions about Computer Repair Technicians:

    a. What is the starting wage (per year)?   _____

    b. What is the average wage (per year)? _____

    c. What is the top of pay scale (per year)? _____

    d. If you work 40 hours per week and 52 weeks per year, how much is the average wage per house? (Average wage divided by 52 divided by 40)

        _____

    e. Scroll down in the Neuvoo site and look under "Achieved Salaries" and list 3 recent job advertisement. Write these three things:

	Company	**Money**	**Location**
Job Ad #1:			
Job Ad #2:			
Job Ad #3:			

    f. Find 4 other jobs under "Related Salaries" that interest you. Name the job and the salary.

	Job	Money
Interesting Job #1:		
Interesting Job #2:		
Interesting Job #3:		
Interesting Job #4:		

Activity 8: The Latest, Greatest, Computer Devices!

Assignment 1: Video Summary

Choice #1: Title _____

Summary:

Choice #2: Title _____

Summary:

Choice #3: Title _____

Summary:

Assignment 2: Buy Components

Item	Photo	Cost
256GB SSD Hard Drive		
Intel i7 (8th generation) CPU		
Graphics card with 8GB of Memory		
A cool computer case		

Activity 9: A Recovery Drive

Activity 10: Preventative Maintenance

Preventative Maintenance Presentation – electronic (Word or PowerPoint)

Activity 11: Blue Screen of Death

Activity 12: "How To" Video: