Computer Components Project

The Project

Each student will research the operation of a computer component or set of related components and present their findings to the class in two formats. First, each student must produce a one-page handout on their topic for the class to study from. There will be a test on the components of the computer based on the information presented. Then each student will design a poster explaining the how the component works, suitable for display in the classroom.

Topics

- Microprocessors
- Hard Drives
- Optical Drives: CD-ROM and DVD
- Cathode-Ray Tube Monitors
- Solid-State Displays
- Video Cards
- Printers: Laser and Ink-Jet
- Memory: RAM
- Memory: Flash Drives and Memory Cards
- Input and Output: USB, FireWire
- Computer Audio: Sound Cards, Audio File Formats
- Digital Video: Capture Cards, Video Formats, Video Editing
- Digital Cameras: CCDs, File Formats, Resolution, Compression
- Scanners: Sensors, File Formats, Character Recognition
- Embedded Processors: Cars, Appliances, Consumer Electronics, Video Games
- Networks: Cabling, Protocols, Interface Cards
- Internet: History and Applications (eMail, File Transfer, WWW)
- Home Internet Connections: Dial Up, Cable Modems and DSL

Alternate proposals require approval from the teacher.

Evaluation

The project will be judged on the quality of the research and the presentation techniques. A portion of the mark will be based on your own self-evaluation and evaluation by your peers.

Research

The primary source for research will be *Upgrading and Repairing PCs* in paperback or as .pdf. There is also a wealth of information on the Internet, and in Libraries; I have posted several links on the silver-fox.ca web site. The same standards of research apply to technical papers and presentations as in academic papers or journalism. Your sources must be credited, and any quotes must be attributed to the author. Plagiarism will be penalized. Keep track of your sources using a table similar to this:

Author	Title of Book	Title of Article, Picture or Illustration	page reference or Internet address	Publisher	Date

Computer Components Project

	Marks	Due Date
1. Research (Thinking and Inquiry) Each student must read at least two sources of information on their topic. Each student must complete a Research Summary sheet written in their own words. If the summary sheet appears to be copied directly from another source, it will be given a mark of zero (0).	**15**	
2. Outline (Thinking and Inquiry) Submit an outline for your handout in point form, summarizing the most important information you plan to include.. Your outline must include hand drawn sketches of the images or charts you plan to include. Although it is brief, the outline should be detailed. For example, "How it works" is insufficient: write a list of the most important steps in the operation of the component.	**10**	
3. Handout (Knowledge) The handout should describe on two pages the purpose of the component and how it operates. It should also include pictures, charts and diagrams to explain your topic visually. The handout must be in your own words: plagiarism will result in a mark of zero. It should provide the class with all the information they need to study for the test on components. The handout must be submitted both on paper and electronically. **Evaluation Criteria:** • Accurate information • Relevant pictures • Complete coverage of topic • Accurate diagrams and charts	**25**	
4. Poster Planning (Thinking and Inquiry) Before you begin your poster, you must first submit four thumbnail sketches of possible designs. Then choose your best design and produce a mockup of the poster in pencil on letter paper. Your design should show the size of headlines, sketches of charts and images, and the location of text.	**15**	
5. Poster Presentation (Communication) Create a poster to be displayed on the walls of the classroom, explaining the purpose of the component and how it works. The dimensions of the poster must be 18″ wide by 24″ high (45cm x 60cm), and the information must be easily understood from a distance of four feet (1.2 m). **Evaluation Criteria:** • Visual impact • Peer evaluation	**25**	
6. Poster Techniques (Application) Your poster must use only original photographs, which you will take yourself using a digital camera. It should be assembled using graphics software such as Adobe Illustrator or CorelDraw. The resolution of the images must be high enough to be printed at 200 dpi. **Evaluation Criteria:** • Photography skills • Use of illustration software	**15**	
7. Poster Content (Knowledge) The information you present on your poster will be assessed by the teacher for completeness and accuracy. **Evaluation Criteria:** • Accurate information • Accurate diagrams and charts • Mastery of topic • Response to questions	**15**	
TOTAL	**120**	

Student Name: _____

Computer Components Handout Rubric

	Level 1 (50-59%)	Level 2 (60-69%)	Level 3 (70-79%)	Level 4 (80-100%)	Value
Research (Thinking and Inquiry)	Only one source and some questions not completed.	Only one source, or some questions not completed.	Topic is well researched, using two sources, written in your own words.	Very thorough research, more than 2 sources, very well written.	15
Outline (Thinking and Inquiry)	Only topic headings without any content.	Poorly organized outline, or insufficient information.	Covers topic well, presented in a logical order.	Complete coverage of topic, exceptionally thorough and well organized.	10
Handout (Knowledge)	Incomplete coverage of topic and not enough graphics.	Incomplete coverage of topic, or not enough graphics.	No more than one page (double-sided) Covers topic well, and uses graphics.	Very thorough coverage of topic, excellent graphics, exceptional layout.	25

Components Handout Evaluation

	Comments	**Mark**	Value
Research (Thinking and Inquiry)			15
Outline (Thinking and Inquiry)			10
Handout (Knowledge)			25
Total			50

Student Name: _____

Computer Components Poster Rubric

Poster Planning (Thinking and Inquiry)	Key points are missing, and space is poorly used.	Missing key points, or poor use of space, or shows no graphics.	Includes key points regarding the topic. Uses the space well, includes pictures.	Creative, expressive layout, and full coverage of the topic.	15
Poster Presentation (Communication)	Graphic elements scattered, text fails to explain the topic.	Graphics without explanation, or excessive text, or ineffective layout.	Good balance of graphics and text used to convey most important info.	Excellent graphics enhance learning. Poster engages and educates.	25
Poster Techniques (Application)	Amateurish, or out of focus photos; did not attempt to learn new software.	Poorly lit or out of focus photos; or half-hearted attempt to learn software.	Poster created using *Illustrator* with original photos edited in *Photoshop*	Masterful use of software, exceptionally good photography.	15
Poster Content	An attempt was made, but topic is poorly explained.	Some key points are omitted or poorly explained.	The key points are accurately conveyed.	Very informative, concise and accurate.	15
Total					70

Components Poster Evaluation

Student Name: _____

	Comments	**Mark**	Value
Poster Planning (Thinking and Inquiry)			15
Poster Presentation (Communication)			25
Poster Techniques (Application)			15
Poster Content (Knowledge)			15
Total			70