

## UA Gateway Unit Planning Guide

### Individual Lesson Plans

Teacher: Tymond Tran

Course: Design and Technology 1

School Year: 2011-2012

Unit: 1

Lesson: 1

### Learning Goal:

1. I can identify types of computers.
2. I can explain some of the differences among the categories of computers.

**Vocabulary:** Personal computers (Desktop), Mobile Computers and mobile devices, Game consoles, Servers, Mainframes, Supercomputers, Embedded Computers

### Starter\* (Building on Background Knowledge):

**Teacher: How Does Society Use Computers in Education, Finance, Government, Health Care, Science, Publishing, Travel, and Manufacturing?**

- **Student:** In education, students use computers and software to assist with learning or take distance-learning classes.
- **Student:** In finance, people use computers for online banking and online investing.
- **Student:** Government offices have Web sites to provide citizens with up-to-date information, and government employees use computers as part of their daily routines.
- **Student:** In health care, computers are used to maintain patient records, monitor patients, deliver medication to nurse stations via robots, assist with medical tests and research, correspond with patients, file insurance claims, provide greater precision during operations, and as implants.
- **Student:** All branches of science use computers to assist with collecting, analyzing, and modeling data and to communicate with colleagues around the world.
- **Student:** Publishers use computers to assist in designing pages and make the content of their works available online.
- **Student:** Many vehicles use some type of online navigation system to help people travel more quickly and safely. Manufacturers use computer-aided manufacturing (CAM) to assist with manufacturing processes.

### Mini-Lesson (“I do”):

**Teacher: What would you label as a computer?**

- **Student:** Personal computers (Desktop)
- **Student:** Mobile Computers and mobile devices

\* Indicates a formative assessment.

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- **Student:** Game consoles
- **Student:** Servers
- **Student:** Mainframes
- **Student:** Supercomputers
- **Student:** Embedded Computers

### Teacher: How would you be able to tell each device apart?

- **Student:** Physical Size
- **Student:** features
- **Student:** Style
- **Student:** Number of simultaneously connected users
- **Student:** General Price Range

### Guided Practice (“We do”):

**Teacher: EACH STUDENT WILL BE GIVEN 5 MINUTES TO DRAW THE CHART BELOW IN HIS/ OR HER BOOK.**

Category	Physical Size	Number of Simultaneously connected users	General Price Range
Personal Computers (desktop)			
Mobile Computers and mobile devices			
Game consoles			
Servers			
Mainframes			
Supercomputers			
Embedded computers			

### Teacher: What is a Personal computer?

- **Student:** A personal computer is a computer that can perform all of its input, processing, output, and storage activities by itself.
- **Student:** A personal computer contains a processor, memory, and one or more input, output, and storage devices.

### Teacher: Which Companies Sell PC-Compatible Computers?

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- **Student:** Dell
- **Student:** Toshiba
- **Student:** HP

**Teacher:** What kind of computers would run on the operating Systems displayed below?



- **Student:** PC and PC-Compatible Computers
- **Student:** Apple Computers

**Teacher:** How much is a personal computer?

**Student:** Several hundred to several thousand dollars

**Teacher:** What Is A Mobile Computer?

**Student:** A mobile computer is a personal computer you can carry from place to place. Similarly, a mobile device is a computing device small enough to hold in your hand

**What products out today, would be considered as a mobile computer?**

**Student:** Netbook

**Student:** Notebook/laptop

**Student:** Tablet

**Student:** Ipad

**Teacher:** What kind of mobile devices do you have?

**Student:** Blackberry

**Student:** HTC

**Student:** Iphone

**Student:** Samsung Galaxy

**Student:** Envy

\* Indicates a formative assessment.

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**Student:** Xperia Arc S

**Student:** Torch 9810

**Teacher: what are the top types of mobile devices?**

**Student:** Smart phones

**Student:** PDAs (Personal Digital Assistant)

**Student:** Handheld computers

**Student:** Portable media players

**Student:** Digital cameras.

**Independent Practice (“You do”):**

**Teacher: What are the seven categories that a computer falls under?**

- **Student:** Personal computers (Desktop)
- **Student:** Mobile Computers and mobile devices
- **Student:** Game consoles
- **Student:** Servers
- **Student:** Mainframes
- **Student:** Supercomputers
- **Student:** Embedded Computers

**Teacher: How is a personal computer different from a mobile computer?**

- **Student: Mobile devices are portable**
- **Student: Personal computer are for your desk**
- **Student: Personal computers are faster**
- **Student: Personal computers can have more than one user if running a network**
- **Student: Mobile devices usually have one user**

**Teacher: How would we be able to tell each device apart from one another?**

- **Student:** Physical Size
- **Student:** features
- **Student:** Style
- **Student:** Number of simultaneously connected users
- **Student:** General Price Range

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Share/Summary:

**Teacher: How do we categorizing computer systems based on features?**

**Synthesis/Evaluation/Analysis Questions:**  
**(Appears within the Exit Task)**

### **Homework:**

What Are the Differences among the Types, Sizes, and Functions in the Following Categories: Personal Computers (Desktop), Mobile Computers and Mobile Devices, Game Consoles, Servers, Mainframes, Supercomputers, & Embedded Computers?

Answer: Industry experts typically classify computers in seven categories: personal computers (desktop), mobile computers and mobile devices, game consoles, servers, mainframes, supercomputers, and embedded computers. A personal computer is a computer that can perform all of its input, processing, output, and storage activities by itself. A mobile computer is a personal computer you can carry from place to place, and a mobile device is a computing device small enough to hold in your hand. A game console is a mobile computing device designed for single-player or multiplayer video games. A server controls access to the hardware, software, and other resources on a network and provides a centralized storage area for programs, data and information. A mainframe is a large, expensive, powerful computer that can handle hundreds or thousands of connected users simultaneously and can store tremendous amounts of data, instructions, and information. A supercomputer is the fastest, most powerful, and most expensive computer and is used for applications requiring complex, sophisticated mathematical calculations. An embedded computer is a special-purpose computer that functions as a component in a larger product.

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