Class Starters & Enders

Making the Most of Instructional Time
Five Minute Lessons

Class Starters and Enders help utilize the last minutes of class when a lesson ends but there is not enough time to start another, or for an interest approach at the beginning of class. Mini-lessons correlate to GPS in the programs areas below.

Ring It Up: Barcodes

Program Areas: All CTAE Program Areas

Instructions: Read the material and make notes of important points, answer questions, and be ready to discuss this topic.

At the checkout line of any store, all the cashier has to do to "ring you up" is simply drag items across a scanner, and the price appears on the register screen. But how does that happen?

It's all because of the items' unique series of encoded parallel lines, dots, squares, and other geometric patterns known as **barcodes**. Barcodes can be either one- or two-dimensional and are read by optical scanners or other specialized software.

Some cellular phones have barcode scanning applications.

Almost every item purchased from grocery stores, department stores, and other mass merchandisers has some sort of barcode on it. There are many different types of barcodes used internationally, including **Universal Product Codes**, **pharmacodes**, and **chromacodes**.

Barcodes were invented in the late 1940s, but not patented until 1952. They were first used to help **catalog** railroad cars, but since their invention, evolved into much more. Now, UPCs assist grocery and department stores in speedy checkouts and keeping **inventory**. Many chain stores adapted barcodes to be used on membership cards, which can be scanned to give patrons special discounts. Even hospitals use barcodes to keep track of patients – they simply scan the wrist bracelet and see the individual's medical needs.

More unusual uses for barcodes developed as well. The devices are able to help scientists keep track of tagged animals and insects, allow easy scanning of event tickets and boarding passes, and some artists began using them in their paintings. For the savvy shopper, some cellular phone devices have **digital applications** allowing people to find out prices of textbooks and other wares just by taking a picture of an item's UPC.

Regardless of the use, the majority of barcodes are scanned the same way. UPCs, for example, have two parts – a machine-readable symbol code and a 12-digit number. The first six digits of the number are the **manufacturer identification number**, the next five are the **item number**, and the last digit is the **check digit**. The check digit is the number used by the barcode scanner to make sure its software read and calculated the entire code correctly.

Review

1. What were barcodes first used for?
2. List three additional uses for barcodes.
3. What do the numbers on the code mean?
4. What patterns are used in barcodes?
5. Name three types of barcodes.

Language Connection

Define the following terms.

Barcodes	Inventory
Catalog	Item Number
Check Digit	Manufacture Identification Number
Chromacodes	Pharmacodes
Digital Applications	Universal Product Codes

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