UPC

- Wallace Flint first suggested an automated checkout in 1932
- UPC bar code formats developed in the 40’s, 50’s, 60’s
- Grocery Industry adopted the UPC (based on an IBM proposal) April 3, 1973
- With computerized scanning, inventory, With computerized scanning, inventory, UPCs are ubiquitous on every product!

http://educ.queensu.ca/~copssci/units/encoding/barcodes/history.html
QR Code
What is a QR Code?

- QR stands for Quick Response
- Matrix or two dimensional bar code
- It is a more advanced bar coding system
- Very fast readability Instant access
- Eliminates the memorization of URLs
History

- Invented by Denso wave in 1994 for tracking vehicles during manufacture

- Now is one of the most popular 2-D barcode
Applications

- URL redirection
- Virtual stores
- Code payment
- Web login
- Encryption
## Storage Capacity

<table>
<thead>
<tr>
<th>Input mode</th>
<th>max. characters</th>
<th>bits/char</th>
<th>possible characters, default encoding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Numeric only</td>
<td>7,089</td>
<td>3⅓</td>
<td>0, 1, 2, 3, 4, 5, 6, 7, 8, 9</td>
</tr>
<tr>
<td><strong>Alphanumeric</strong></td>
<td>4,296</td>
<td>5½</td>
<td>0–9, A–Z (uppercase only), space, $, %, *, +, -, ., /, :</td>
</tr>
<tr>
<td>Binary/byte</td>
<td>2,953</td>
<td>8</td>
<td><strong>ISO 8859-1</strong></td>
</tr>
<tr>
<td>Kanji/kana</td>
<td>1,817</td>
<td>13</td>
<td><strong>Shift JIS X 0208</strong></td>
</tr>
</tbody>
</table>
Uses for QR codes

1. Advertisements
2. Guided tours
3. Creative ice breakers
4. Packing and organization of products and shipping
5. Uses in education
Worksheets for students to cooperate with another student.
Scavenger Hunts ~ Post codes around the school have student solve problems and find the correct answers.
Pass It ~ You can create several problems on one worksheet, cut them and play Pass It. Each student/group solves a problem and then pass it to the next student/group.
Contact Information for Parents and Students ~
Post in classroom for students and parents to obtain phone number, email address, class website, etc.

PARENT
TEACHER
CONFERENCE
Notes ~ Such an easy way to post notes and great for students to always have access to them at all times.
Assignments ~ Post Homework assignments in codes for students to scan before leaving class.
Hints/Tutorials to assist on problems ~ Use when students are solving problems. They can scan the code when they are having trouble or need help.
Circulatory system is an organ system that passes nutrients (such as amino acids, electrolytes and lymph), gases, hormones, blood cells, etc. to and from cells in the body to help fight diseases, stabilize body temperature and pH, and to maintain homeostasis.

Circulatory system
# Passing

## Main Cues
- Feet shoulder width
- Ball inline with center of body
- Blade face down
- Ball should leave from middle of blade
- Look at target the entire time

## Skill Breakdown
1. **Stance**
   - Blade is placed on the floor and hands are comfortable on stick
   - Feet shoulder width apart with slight bend in the knees
   - Start with the ball inline with the center of your body

2. **Weight Transfer**
   - Move the ball past your back leg and transfer the weight to your back leg
   - Keep your head looking at your target the entire time
   - The ball should be in the middle of the blade
   - The blade should be faced down (not open)

3. **Finish The Pass**
   - At the same time pull your top hand and push your bottom hand making the stick move forward
   - The ball should leave from the middle of blade
   - Your blade should be facing down and pointing toward the target after passing

## Mobile Time
Use your Mobile Device’s QR Code Scanner to read the QR Codes on this poster.

### Get Practicing

<table>
<thead>
<tr>
<th>Level</th>
<th>Practice Drill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level One</td>
<td>Novice Drill “Passing Stationary”</td>
</tr>
<tr>
<td>Level Two</td>
<td>Intermediate Drill “Passing to a Moving Target”</td>
</tr>
<tr>
<td>Level Three</td>
<td>Expert Drill “Passing on the Move to a Moving Target”</td>
</tr>
</tbody>
</table>

[Source: www.ThePhysicalEducator.com]
Traveling Resource

Students are constantly on their devices. QR code readers save all searches and are able to be accessed at any time.
Very easy to create

1. Find URL of desired information
2. Copy that URL
3. Go on [http://qrcode.kaywa.com/](http://qrcode.kaywa.com/) (one of many QR generators)
4. Paste the URL in the desired box
5. Click to generate
6. Save the QR Code picture
Customizable
Use your imagination!

- Creativity
Risks

- Redirected URLs may host javascript, which can exploit vulnerabilities.
- QR code reader may allow use of the camera, Internet, read/write contact data, GPS, browser history, etc.
- In Russia, a malicious QR code caused phones that scanned it to send premium texts at a fee of US$6 each.