Lesson Plan for Activity: **Bulls And Cows**

Subject: Unplugged Length of Lesson: 20-30 minutes

Concept or Skill Focus: Using logic and the process of elimination in a game.

Goal: Have participants work together and utilize logic to crack basic codes.

Objectives/Outcomes:

- Foster cooperation between participants at Computer Quest.
- Encourage the usage of logical thinking to reach a goal.

Materials

- Pencils
- Bulls and Cows Printout (below)

Activities and Time Line (Introduction, Middle, Conclusion)

0-5: Explain the rules and play an example game on the board with the help of other students.

6-10: Split participants into pairs.

10-End: Allow participants to play two or three games with their partner, before reshuffling groups.

Bulls and Cows, Break the Hidden Code ...



The idea of the game is for one player (the code-breaker) to guess the secret code chosen by the other player (the code-maker). The code is a sequence of 4 digits, 1 through 9. The digits must all be different. The code-breaker makes a series of patterned guesses - after each guess the code-maker gives feedback in the form of 2 numbers: the number of digits that are correct and in the correct position, called Bulls, and the number of digits that are correct but not in the correct position, called Cows. Try to break the code in the fewest number of tries.

Let's try an example:

?	?	?	?

Dulle	Covers	
<u>Bulls</u>	Cows	
correct code	correct code	
correct position	wrong position	
	1	