

Pentomino Battleship

Primary and Junior

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Lesson outline by Jisoo Seo

Curriculum Goal (From the Ontario Ministry of Education Curriculum Document)

Geometry and Spatial Sense

Identify and describe the location of an object, on a plane using letter-number coordinates.

Context

- This game can be played as a teacher-led game or barrier game.
- If students are unfamiliar with coordinates, play the warm up game first.

Materials

- 1 Pentomino set per Player 1
- Multiple square tiles in 2 different colours per Player
- 1 Game board per Player (Appendix A)

Lesson

Part I: Pentominoes on Grid

- Pairs of students sit facing each other, with a barrier in between.
- Player 1 secretly places 2 pentomino pieces on his/her/their game board (*figure 1*).
- Player 1 calls out the letter-number coordinates on which the pentomino is placed one at a time. Use 2 different colours of tiles, one for each pentomino shape (e.g., Place a yellow tile on A4). Player 2 follows the instruction and places the square tile in the correct spot
- Repeat this process for each spot (e.g., red tile on D3, yellow tile on A2, red tile on E3, etc) (*figure 2*).
- Play continues until the two pentomino shapes are created on Player 2's game board (*figure 3*).

Part II: Pentomino Battleships

- Player 1 secretly places two pentomino pieces ("battleships") on his/her/their game board (*figure 4*).
- Player 2 calls out a letter-number coordinate. Player 1 says whether it's a hit or a miss. If it is a hit, Player 2 places a square tile of one colour (e.g., blue tile) on the target grid. If it's a miss, Player 2 places a square tile of another colour (e.g., yellow) on the target grid.
- players continue until the two pentomino battleships have been "sunk" (*figure 5*).

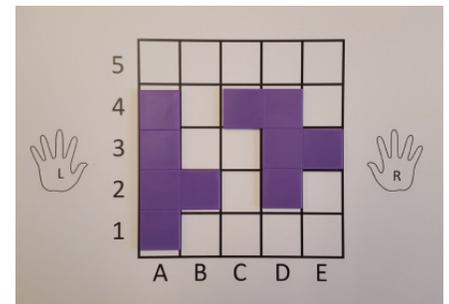


Figure 1

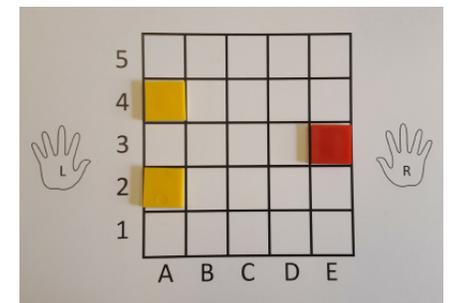


Figure 2

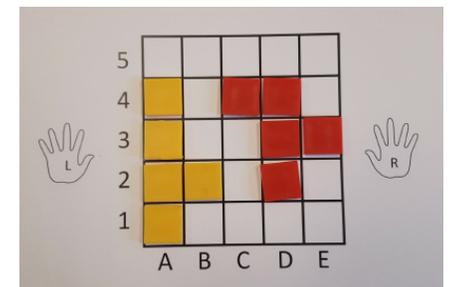


Figure 3

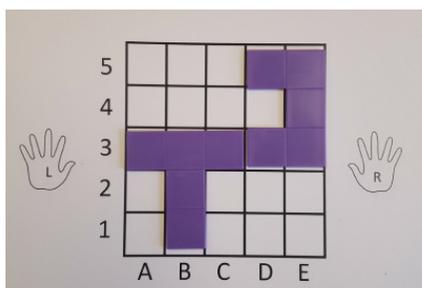


Figure 4

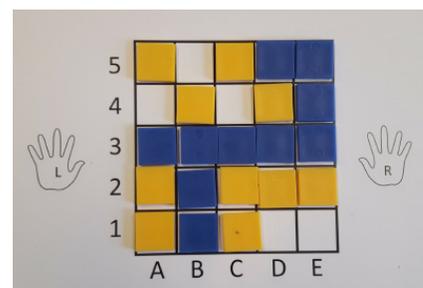
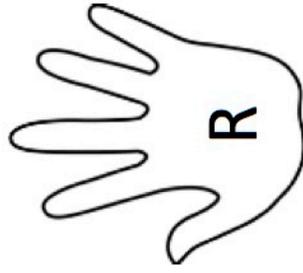


Figure 5



A B C D E

5 4 3 2 1

