	106 - Growing Surface Game	**TEACHER**
Grades 3-4 (S), 5-8 (S), 9-12 (S) Duration: 20 min Tools: one 16 pcs Set / group, Paper, Pen Group work Keywords: Game, Spatial vision	**MATHS / GAME**	Erasmus+ Logifaces 2019-1-HU01-KA201-0612722019-1

DESCRIPTION

Game:

A starting piece is chosen then the rest of the pieces are divided equally between the players. If a group of two is playing, each person gets 7 pieces and the remaining one is put aside. If a group of three is playing, each player gets 5 pieces. The starting piece is placed in the centre of the table. Now the game is played clockwise. The person whose turn it is tries to match exactly one of his own pieces to the pieces on the table. A piece fits when the heights of the vertical edges are matching, i.e. when a continuous surface is created. If the player succeeds in matching a piece, he/she receives one, two or three points. One point is received when only one side fits, two points when two sides fit and three points when three sides fit with the pieces that are already on the table. If there is no piece to place the player's turn is over and the next person tries to match one of his pieces. It makes the game more difficult if the pieces are covered so the players can't see the opponent players' pieces.

End of the game:

The game ends either when all the pieces have been placed or when no one can place any more pieces. The player with the most points wins.

SOLUTIONS / EXAMPLES

Example for a group of three, starting piece: 122

Student A 113, 133, 233, 123, 132   Student B 112, 223, 233, 123, 132   Student C 111, 112, 223, 233, 333

Student A, Student B and Student C take turns in this particular order. In the following there is an example of the order in which the pieces can be placed to create a continuous surface. 123(A-1) means that Student A fitted piece 123 and received 1 point for doing that.

123(A-1), 223(B-1), 233(C-1), 233(A-1), 233(B-1), 112(C-1), 113(A-1), 112(B-1), 333(C-1), 132(A-2), 123(B-1), 111(C-1), 133(A-1), 132(B-1), 223(C-1)

In this case Student A wins with 6 points.

PRIOR KNOWLEDGE   None

RECOMMENDATIONS / COMMENTS

Playing this game is recommended with different age groups to train spatial vision in a playful way.

In addition, it can also be very valuable to explore the pieces with the players before the game begins, to label them, to discuss the properties, to determine how many pieces are needed for a "circle" (a circle is when 6 pieces are matching in one point), or to try to find out how many "circles" are possible (see exercise combinatorics_04_03) at all or finding the maximum number of points a player can achieve in this game.