

Appendix D

Explanations on How to Play the Transformation Game

Objective of the game:

Apply the concept of transformation through game activities using puzzle pieces to construct patterns

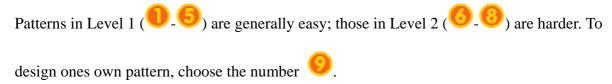
To start the game:



Double-click on the file TransGame.exe to launch the game.

To play the game:

1. Select a pattern from the numbers 1 to 9 on the left.



- 2. Once a number is chosen, the pattern to be constructed will appear on the bottom left of the screen
 - If necessary, cut the pattern into 16 squares by clicking the "Show Grid" button to make the game easier.
- 3. Select and click any one of the four puzzle pieces on the top right of the screen to select the basic unit of the pattern. Then basic unit (chosen piece) will be enlarged. Drag it to any of the 16 squares in the grid shown on the bottom right, one piece at a time. Any puzzle piece can be used more than once.
- 4. If necessary, click any one the four orange buttons in the red toolbar to rotate or reflect the basic unit to get the required pattern. The four buttons are, from left to right,
 - i. Rotation of 90 degrees (anti-clockwise),
 - ii. Rotation of 90 degrees (clockwise),

- iii. Reflection (horizontal), and
- iv. Reflection (vertical).
 - If necessary, click the "Reset Tile" button on the top right corner of the screen to reset the piece back to its original pattern.
- 5. Simply drag the wrong piece out of the grid to delete the unwanted pieces, or click the "Clear All Tiles" button to re-start the game.
- 6. Repeat steps 4 to 6 until the pattern is constructed.
- 7. When the construction of the pattern is completed, click the button to check whether the pattern constructed is correct or get hints of the game or click the "Print" button to print out the pattern.
- 8. Go on to a new pattern by clicking another pattern number or quit the game by clicking the "Exit" button.
- 9. If necessary, click on the button to get instructions to the game.

To design your own pattern:

- 1. After the game is launched, click on in the pattern list.
- 2. Click any of the 16 puzzle pieces shown. Rotate and reflect it if necessary. Then drag the piece to any square in the grid. Control the piece in the ways described above.
- 3. Once finished, click the Exit' button to quit or the "Print" button to print out the designed pattern.