

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 TransGame.exe to launch the game.

To play the game:

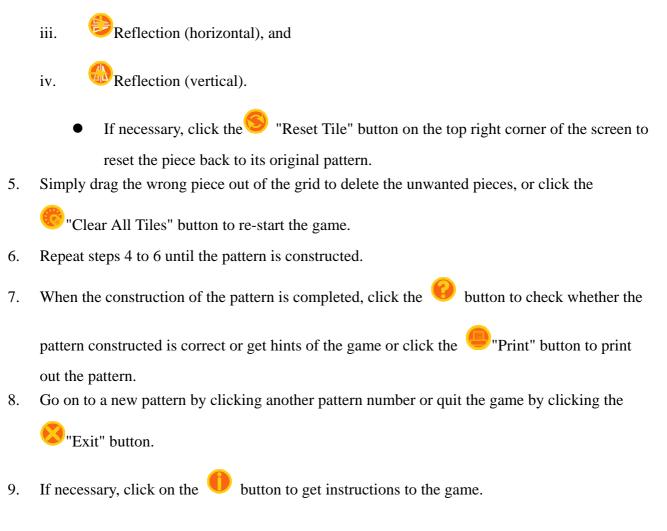
1. Select a pattern from the numbers 1 to 9 on the left.

Patterns in Level 1 (0.6) are generally easy; those in Level 2 (6.6) are harder. To

design ones own pattern, choose the number

- 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. *Oracle Rotation of 90 degrees (anti-clockwise),*
 - ii.

Section of 90 degrees (clockwise),



To design your own pattern:

- 1. After the game is launched, click on \bigotimes 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 ^{SO}'Exit' button to quit or the ^{SO}"Print" button to print out the designed pattern.