

8x8 Games other than Chess

Materials

8 by 8 Squared Board (Checked or not); Playing Pieces (3 Types) and Tokens.

Brief description

This exhibit consists of a game board pieces and rulesets. Two games are suggested for initial play *Slimetrail* and *Cats & Dogs*. The first is a racing game where both players move the same piece trying to move it into their goal, and loosing if they get stuck. The second is a placement game in which the player who is able to play last wins.

Assembly

Design of all the pieces

There are two kinds of game boards, checkered and uncheckered. These consist of an 8 by 8 grid. They can be printed out centered on an A3 piece of paper. They should roughly be 280mm x 280mm each square being 35mm side. For the proposed selection of games you will need two groups of figures (one for each player) occupying a single square, these should be geometrically distinct groups of pieces. These figures should have a base $\frac{3}{4}$ of the size of the game board squares. We suggest the following template for 3D printing, see [here](#).

A set of tokens and dominos is also recommended. Again dominos should occupy two squares and tokens only one. Our suggestion is listed here.

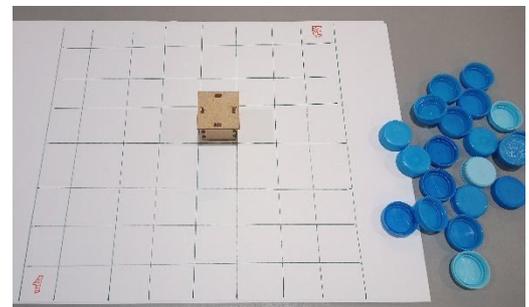
Pieces can be laser cut, 3D printed or produced otherwise.

Reused materials can function well, i.e. bottle lids one flipped up the other down as game pieces, coins as tokens and cut out rectangles of cardboard, to give one example.

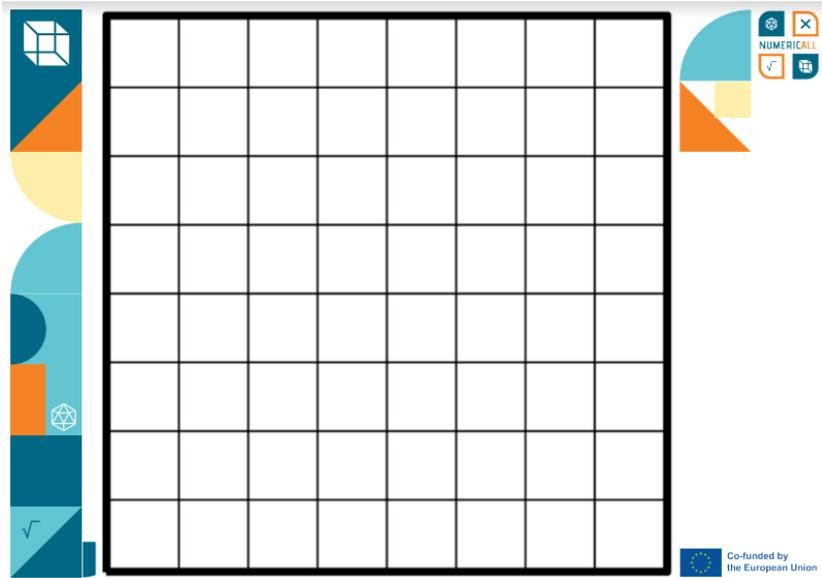
Assembly

Pieces should have some form of reserve in the form of a bowl or similar to be stored before play, easily accessible and close to the board. For certain games there is a set-up which should be put in place and reset after each game. By default the unchecked board is recommended to be left in the open as people will preconceive it as checkers and ignore other game rules. Place the board and the pieces next to each other. Players should be able to sit down on each side of the board in a quiet environment. Each game will have a slightly different set up so two options are suggested here:

1. ***Slimetrail***. You can physically mark the laminated board with dry erase markers, two opposing corners, one with 1 the other with the number 2. Place the moving piece (preferably a raised piece) on the board. It should be placed on the diagonal, off-centre, closer to the 2. Leave multiple blocking pieces available in a pile (if desired in a recipient) in reach of both players.
2. ***Cats & Dogs***. Place two distinct piles of pieces, one for each player on the opposing sides of the board.



The Boards (DINA3)



8x8 Games

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Slimetrail

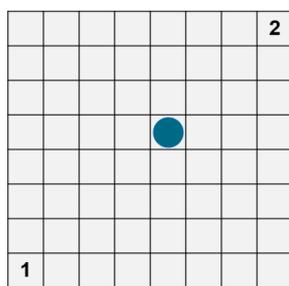
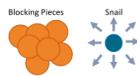
The Snail (●), is moved alternately by both players.

It can move to any neighbouring square (horizontal, vertical or diagonal).

Each time the Snail moves, the cell it came from is blocked (●).

The first player to reach their corner with the snail **wins**, this is, 1, for the starting player. 2, for the second player.

Cannot play? You lose.



Start Position

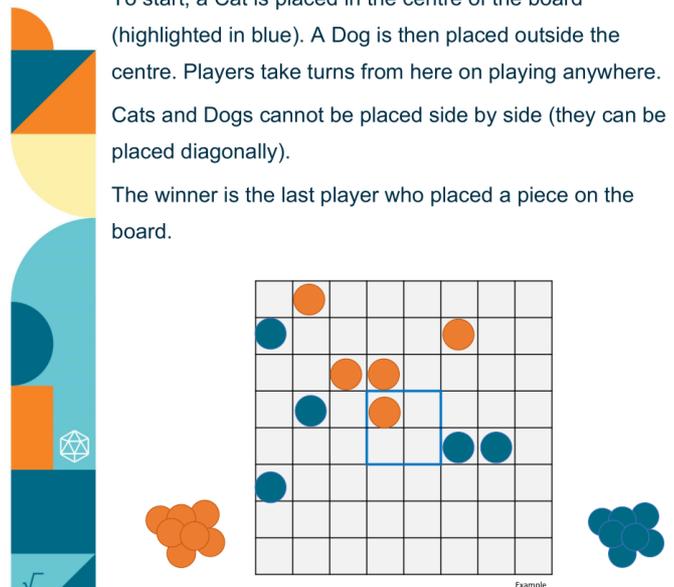
Cats & Dogs

One player plays Cats (●) and the other Dogs (●).

To start, a Cat is placed in the centre of the board (highlighted in blue). A Dog is then placed outside the centre. Players take turns from here on playing anywhere.

Cats and Dogs cannot be placed side by side (they can be placed diagonally).

The winner is the last player who placed a piece on the board.



Example

Other Options

Domineering

Players take turns to place dominoes (a domino covers exactly two adjacent squares) on a chessboard. Two counters can be used instead of a domino.

Moves: The first player, Vertical, places all dominoes in North-South direction, while the second player, Horizontal lays the dominoes in East-West direction. The dominoes cannot overlap and do not move. This is a position after the first move by each player.

Winning Condition: The player to place the last domino on the board wins the game.

Puzzle use of the materials: This board and dominoes can also be used to explore checkerboard dissections and coverings as puzzle variants, i.e. remove two diagonal opposite corners and see if you can still cover the whole board with dominoes.

Amazones

Rules: Each player starts with four amazons which move as chess queens i.e. diagonally or orthogonally in any direction. The amazons are placed in predetermined positions

on their side of the board. Each player, on their turn, moves an amazon to any valid square where it then becomes an arrowhead which immediately fires as if it were a queen (orthogonally or diagonally in any direction). Thereafter an arrowhead does not move again and becomes a permanent block on the board represented as blobs in the diagram. Amazons can neither capture nor jump over an arrowhead, nor can arrows be fired on or across arrowheads.

Winning Condition The first player who cannot make a legal move (move and then fire) loses the game.

Northcott's game

Northcott's game is an extension of the Sliding Rooks game, in which rooks are allowed to slide in two directions, east and west. The white pieces move east and the black pieces move west by convention. It is traditionally played with counters, but rooks are of course also suitable.

Rules: All pieces remain on their starting ranks, moving back and forth horizontally an arbitrary number of squares. Capturing or jumping over other pieces is not permitted. White moves first. The player who makes the last move wins.

Explanation

Games whose outcomes do not depend upon luck but on smarter decision-making are powerful tools to encourage structured thought. With this Games Exhibit, our aim is to provide you with a careful selection of highly educational games. This is but a selection and a more extensive array of games and in depth discussion of the games and strategy can be found fully elsewhere¹. The selected games are suitable for school games and maths clubs, for gifted and talented children, for special needs children and for adult education and recreation.

We suggest starting off with the following game, other games can easily be set up and be made available by rearrangement of pieces.

Abstract games lend themselves to multiple uses, they foster fun and motivation and a healthy competitive spirit while at the same time exploring some mathematical concepts. *Slimetrail* furthers understanding of parity and closed paths. While *Cats & Dogs* deals with the conquest of areas and occupation of the field of play. Both have underlying strategies. “What happens if you follow a knights move to place a new piece in *Cats & Dogs*?” or “How can you still win if you have been cut off in *Slimetrail*?” Are the starting point to understand and practice strategies to win.

Competencies

- Critical Thinking
- Weighing Options
- Logical Thought
- Strategy

Observations

The games function on their own, some mediation can benefit a quicker understanding of play.

¹ Atkins, R. et al. (2022). 21 STRATEGY GAMES FOR THE CLASSROOM A Manual of Educational Games Playable on a Chessboard, freely available on 8by8.eu

For 3d Printers (If applicable)

Multiple game pieces can be printed using our templates see [here](#).