

# Handout: How to Play Hexapawn

## How to Set Up the Game

- Make a copy of the game board from the Game Board Template. Attach the game board to a piece of cardboard.
- Gather 6 pawns: 3 black, 3 white. Or use pennies and dimes, checkers or backgammon pieces, or other pieces that fit on the grid.
- Have a scorecard ready, printed from the Score Card template, and something to write with to keep score.
- Cut apart egg cartons to make 24 containers with lids. Alternatively, gather 48 small paper cups: 24 to be the container and 24 to be the lids.
- Gather small pieces—“marks”—in four colors. These can be beads, M&Ms, bingo chips, or Legos, so long as they are small enough that four can fit in one container. It will be less confusing if the colors you use match the colors in the 24 Robot Moves Handout.
- Print out a color copy of the 24 Robot Moves Handout.
- Cut the 24 robot moves apart and attach each to one of the containers. We recommend attaching them to the lid.
- Fill each container with the colored marks that are represented by the move. For example, if the move shows a green arrow and a red arrow, put a green and a red mark in that container. If it shows green, red, yellow, and blue arrows, put one of each of these colors in that container.
- Group the containers by turn, which is noted on each of the 24 moves at the bottom.

## How to Win

Any of these three results is considered a win:

- Get a pawn to the other side of the game board.
- Make the opponent unable to move.
- Take all of your opponent’s pawns.

## How Pawns Can Move

Pawns can only move 1 space at a time.

Pawns can move forward if the space is empty.

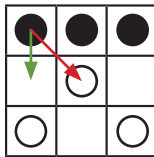
Pawns can move 1 diagonal space to capture an opponent's pawn.

Pawns can never move sideways, backward, or diagonally backward.

## How to Play

1. Set up the board with the three white pawns and three black pawns on opposite sides.
2. Turn One: The human always goes first (and uses the white-colored pawns). They can move one pawn forward, one space. This is turn 1.
3. Turn Two: Look at the turn two diagrams.

These diagrams show the moves available to the robot based on your move. Find the one that matches what the game board looks like. One thing to note is **mirror moves**. Whenever the diagram shows a move along one side of the board, it also represents the same symmetrical move along the other side—or its mirror move.



**Mirror move:** This diagram also represents moving the pawn in the upper right-hand corner forward one space or diagonally to capture the middle pawn.

Let's say you moved one space along the left side. For turn 2, the robot has three choices:

- It can take the human's pawn (green arrow).
- It can move one space in the middle (red arrow).
- It can move one space on the empty side (blue arrow).

The robot would pick a move at random. With the lid shut, shake the container representing this turn, close your eyes, open the lid, and pick a mark.

Make the move represented by that mark's color. Put the mark on the lid of its container.

4. Turn 3: Now it's the human's move. If the human makes it to the other side of the board, they win, in which case skip to Step 7.
5. If the human didn't win, it's turn 4 and the robot's turn. All of the options are represented by the turn 4 diagrams. Find the matching diagram and randomly choose a mark to select the robot's move.
6. Continue to play until you or the robot wins.
7. Note the score for this game on your scorecard. ***If the robot won this game, replace all of the marks in their corresponding containers. If you won, take away the mark representing the robot's last move and only replace the earlier moves.***

Note: As you play the game, there are fewer marks and thus fewer options for the robot to make. If you hit a point where a container is empty, you win automatically, and you take away the mark representing the robot's previous move.

8. Set the pawns up for the next game.