Worm Derby
A game for the piecepack by Mark A. Biggar

Version 3.2, August 2004
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2-4 players, 30-40 minutes

Description
The object of the game is to race your worm through a field of obstacles around a distant pylon and back to the start line first.

Worms
A worm consists of a connected string of touching (at the edge) piecepack coins of the same suit, suit-side up. A worm always has two end coins that only touch one other coin in the worm and may have one or more body coins that touch exactly two other coins. Worms may never form loops or branching structures. A worm can be curved in any way allowed by the above description. In the basic rules, all worms are six coins long. The advanced rules allow for worms of lengths from 2 to 6 coins long.

Worm Movement
A worm moves in steps. Each step consists of picking up the coin at one end of the worm and moving it to touch the coin at the other end of the worm. A worm can move in either direction, but if a worm is moving multiple steps in one turn, it must make its whole move all in the same direction (all the steps must take a coin from the same end of the worm).
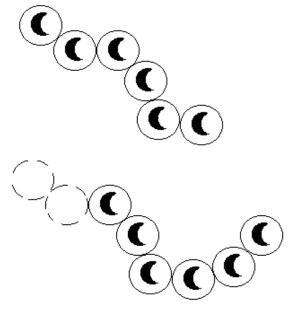

Figure 1. Black worm moves two steps

Obstacles

Facedown piecepack tiles are obstacles that worms must go around as they race. Worms cannot go over obstacles and an obstacle can never be placed on top of a worm. If there is not enough room between two obstacles for a coin to fit by sliding on the table, the worm cannot go between the two obstacles. Worms must also treat other worms as obstacles.

Game setup

Give each player the die and the six coins from one suit to form his worm. It is convenient to place the correspondingly colored pawn in front of each player so that it is easy to tell which worm belongs to each player (there is no other use for the pawns.) Choose a first player by any agreeable method. Turns will go clockwise around the table starting with the first player.

Place two tiles, suit side up, about 4 tile widths apart to form the start/finish line. Place another tile, suit side up, three to six feet away along the perpendicular bisector of the start line as the turn pylon for the other end of the racecourse. The distance you choose will determine the length of the game; the farther away the pylon is the longer the game length. These three tiles are considered obstacles, except that unlike other obstacle tiles, they cannot be moved during the game.

Deal out the remaining tiles evenly to the players, putting aside any odd tiles. Starting with the first player, each player in turn places a tile, suit side down, anywhere on the racecourse between the start line and the pylon. These tiles form the set of obstacles for the race. During this initial placement phase, no obstacle may be placed within three tile widths of either the start line or the pylon. Obstacles may touch but cannot overlap. Obstacles may be placed in any orientation. Players continue to place tiles in turn, until all the dealt tiles have been placed. Figure 2. shows an example racecourse. Note that in a real setup the obstacles may be rotated to any orientation.

Starting with the first player, each player in turns builds his worm suit side up behind the starting line. The starting position of a worm must be built in a straight line, with only one end coin between the two start line tiles.
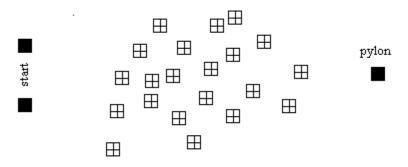
Figure 2. Example Race Course

The Race

Starting with the first player, players take turns moving their worms. To move your worm, roll your die and move as follows:

1. 2-5: move your worm that many steps either direction. If you can not move your worm all the steps, move it as many as possible.

2. Null: your worm does not move this turn.

3. Ace: you may move an obstacle and then roll again. An obstacle move is legal if, any part of the obstacle in its new position and orientation is within one tile width of any part of the obstacle in its original position.

Winning

The first player to move one end of his worm between the two start line tiles after having traveled around the far side of the pylon has won the race. The remaining worms may continue to race to determine second and third place.

Variants

1. For a shorter and simpler game reduce the number of (or completely eliminate) the obstacle tiles.

2. Slalom--This variant has no moveable obstacles. Instead set up the racecourse as follows. Create the start line as normal using two black suited tiles. Randomly mix up an equal number (the more you use, the longer the game) of red and blue suit tiles facedown and place them still facedown in a line starting about three tile widths from the start line and a little more than one tile length apart. Put a green/yellow suit tile face up about two tile widths further on as the pylon. Now turn the red and blue suit tiles over. Race as normal expect your worm must pass to the Right of the Red tiles and to the Left of the bLue tiles. As there is no moving of obstacles in this variant, on rolling an ace, your worm moves one step. Thanks to Tim Schutz and his daughters for this variant idea.

Advanced Rules – Cannibal worms

If moving your worm a step would allow you to overlay one of the end coins of another player's worm you may do so, and your worm eats that coin; pick up the eaten coin and give it back to its owner. This ends your movement for that turn. Length two worms may not be attacked. The attacked worm, on its next move, must move away from the attacker (steps must be made by picking up coins from the end of the worm that was eaten) and may not attack its attacker until the turn after. A worm can never move more steps than its length; if you roll higher than the worm's length, the additional steps are lost. When you roll an ace, instead of moving an obstacle, you may instead add an eaten disk back on to one end of your worm (you still get to roll again).

Design Notes

1. The worm movement mechanic is borrowed from the game Wurmeln by Alex Randolph. I had seen about 5 minutes of a game of Wurmeln being played about 18 months before I wrote up this game, but didn't remember that until several months later.

2. I was playing around with a set of coins and kind of reinvented the move a coin end-to-end worm movement.

3. The first version didn't have the obstacles, just the start line and the turn pylon. The obstacles were added by accident during a playtest session, when one of my nephews built a wall with the unused tiles around his brother's run-away leader worm, saying "I've got to slow him down somehow."

4. The idea for moving obstacles was added several playtest sessions later.

History

20020103	1.0	mab	original version
20020114	2.0	mab	update from playtest comments, added slalom variant.
20020721	3.0	mab	first web page version
20030321	3.1	mab	updated version, formatting cleanup for web page
20040807	3.2	mab	annual update and added design notes

Thank you for playing my game. Please report rules problems or variant suggestions to mark@biggar.org.