2. Each player chooses a side in whatever manner the players agree upon, deciding which will play the OrthogonAliens and which the DiagonAliens. The OrthogonAlien player takes the suits of Suns and Moons (all coins, dice, and pawns). The DiagonAlien player takes the suits of Crowns and Arms (all coins, dice, and pawns). Each player places two starships (pawns) in the two spaces at the very end of the nearest spiral arm, as in the diagram above.

3. Roll dice. The high roller chooses whether to place wormholes first or move first; the other player takes the other option. (It may be hard to decide when you first play, but you will probably develop a preference with experience.)

4. The player who places the first wormhole chooses any space on the board (apart from the players' bases), and places a wormhole (one of his coins) there, suit side up. The other player then places one of her wormholes on any space that does not already contain a base or wormhole, suit side up. Players alternate placing wormholes in this manner until all wormholes have been placed. Once a wormhole is placed, neither player can look at its hidden side until it is activated (see below).

Wormhole Directionality

Each suit designates an axis along which a starship may move, although a player can choose in which direction along the axis to make the wormhole jump. The length of the jump is determined by the value on the other side of the coin.

Suns	north/south
Moons	east/west
Crowns	northwest/southeast
Arms	northeast/southwest

The OrthogonAliens and the DiagonAliens cannot agree which north is north, but they do agree that the galactic north/south axis runs through the long direction of the board (across which you face your opponent), and the east/west axis runs perpendicularly through the short direction. That is, your "north" is always toward your opponent, and the other directions follow.

Play

1. On your turn, roll both dice, one of each colour corresponding to your pawns. Then, move each starship the number of spaces indicated on its corresponding die, in any direction you like (orthogonally or diagonally). Both sides may choose either orthogonal or diagonal moves when moving according to a die roll.

   Starships must move in a straight line on each roll; if a starship cannot move as many spaces as the die indicates without leaving the board, it cannot move in that direction. If a ship cannot move the number of spaces indicated in any direction, the ship cannot move at all. Ships may not "shortcut" by leaving the board, crossing an area outside the board, and re-entering the board at the end of the move.

   If a ship's die comes up null, the ship does not move. If a ship moves over other ships and starships, it does not land on them, they are unaffected. (Since space is three-dimensional, starships can jump over wormholes and other starships.)

   You must use both die rolls if you can; you may not choose *not* to use a die roll, even if your only available move is not in an advantageous direction. You may use either die roll first.

2. If your die roll lands your ship on an empty space, it simply remains there until its next move.

3. If your die roll lands your ship on a space that contains a wormhole, you "activate" the wormhole. Activating a wormhole does two things: (1) it lets you see the other side of the coin, and (2) it either transports your starship elsewhere (if the coin is not null), or makes your starship lose a turn (if the coin is null). To be more specific:

4. When you activate a wormhole, first flip it over, making sure your opponent sees both sides. You should flip the wormhole coin regardless of which side was showing when you landed on it, and you should place it back on the board so that the opposite side is up. If the wormhole causes no movement effect (if there are no possible legal moves, for some reason), flip it anyway, but don't move your starship.

5. If the wormhole is not a null, you must jump your ship along the axis specified on its suit side, by the number of spaces specified on its value side. If you cannot move that number of spaces in one

of that suit's directions, your ship cannot move in that direction, and you must move in the other direction, if you can.

If the jump from a wormhole lands your ship on a space containing another wormhole, it does not activate that wormhole on this turn. However, if that ship's next roll is a null, the wormhole is activated, since the ship does not move (effectively landing on the same space).

If a ship lands on a wormhole that has been activated previously (and therefore flipped), the ship makes the hyperspace jump normally associated with that wormhole, and flips the wormhole again. Each time a wormhole is activated, it is flipped again.

6. If your ship activates a wormhole with a null value, it has landed in a black hole. That ship loses its next turn. The player may complete the movement of her other ship, and the other ship may take its next turn, unless it too is in a black hole.

   After a ship in a black hole loses a turn, if its next roll is a null, the black hole is re-activated, and the ship loses another turn.

7. If your starship lands on a space containing one of your opponent's starships, you may transport his ship to somewhere else in the galaxy - to any space that does not contain your own ship, including back to one of his bases or onto a black hole. If you send your opponent's starship to a black hole, he loses his next turn.

   All ships have automatic safety features, so you cannot land on your own starship; treat a square containing your own ship as if it were off the edge of the board. If your only move will land you on your own ship, you cannot move.

8. If you land on an opponent's starship by die roll, and that starship is in a wormhole, first send her through hyperspace to another space on the board, then activate the wormhole. If you land on an opponent in a wormhole via wormhole jump, send your opponent elsewhere via hyperspace, but do not activate the second wormhole.

9. After both your starships have finished all possible movements, the turn passes to your opponent.

Game End and Winning

The game ends immediately when one player has landed one starship on one of her opponent's bases *by exact count*, either by die roll or through wormhole jumps, even if one of the final turn's die rolls remains unused. That player is the winner.

Variants

Try playing with this variant for a longer game:

1. You must land *both* your starships on your opponent's bases, not just one.
2. Once a ship has landed on an opposing base, rolling a die for it is optional, but if you do, you must use the roll.

Strategy Hints

1. It's generally a good idea to send one ship out to the opponent's base while keeping one ship at the near end of the galaxy to defend your home base from approaching enemy ships. Either ship can play either role, however, and you may decide to switch roles in mid-game, depending on how each fares.

2. There are two main ways to place wormholes: offensively and defensively. Offensive wormholes are placed to allow you to teleport onto your opponent's base. Defensive wormholes are placed to deflect your opponent away from your base, and perhaps into danger.

3. Strategic use of forced moves is helpful. For example, placing a Sun wormhole at the northernmost edge of the galaxy will force anyone who lands on it to jump south, since he cannot jump any farther north.

4. Although it is not possible to set up wormhole "chain reactions", since each ship can only make use of one wormhole per turn, it is still possible to set up wormhole "chains". On the turn after a wormhole has sent you to a second wormhole, you have a 1 in 3 chance of getting where that wormhole was supposed to take you anyway: you might roll a null, which means your starship cannot make a regular move but instead activates the wormhole, or you might roll a "natural" - that is, roll the value of the wormhole and get to jump to the next wormhole in the chain as a regular move. Naturals are better, as you then get to activate the next wormhole.

5. Memory plays a significant role. It pays to remember where you placed your wormholes, and each time a wormhole is flipped, it pays to remember what was on the other side, if you can.

6. The two sides are roughly equal in strength. The DiagonAliens can jump across the galaxy faster using their diagonal wormholes, but the OrthogonAliens have an easier time squeezing into tight spaces such as the end of the board near their opponent's bases. (Of course, either side may be brave enough -- or foolish enough -- to use their opponent's wormholes...)

   If you are playing the DiagonAliens, however, pay special attention to which suit designates which diagonal axis, because it's easy to confuse them at first. This may lead to your placing your wormholes ineffectively.

Credits

History

Version 0.6: Rules clarified further. Changed win condition (landing 2 ships now a variant). Tidied "Playtesters".
Version 0.5.3: Rules clarified, typos fixed. This History section added.
Version 0.5.2: First public version.

WORMHOLES

a game of starship tactics for the piecepack

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and Ron Hale-Evans (rwhe@ludism.org)

[version 0.6, 2001-10-01]

2 players
Approx. 20 minutes

The Story

In a distant spiral galaxy, even now, two alien factions wage a terrible (yet strangely nonviolent) war over a matter of deep philosophical import. The Orthodox OrthogonAliens believe that peanut-butter sandwiches should be sliced lengthwise, and their opponents, the Devout DiagonAliens, believe that peanut-butter sandwiches should be sliced into little triangles.
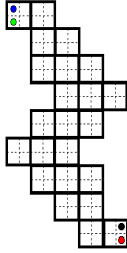
Both sides employ hyperspace technology that can transport their own ships across the galaxy, or send their opponents into black holes. The victors in this war shall rule their galaxy unto the most distant ages -- and perhaps one day, our galaxy as well.

Summary

Players take turns placing "wormholes" (coins) on the spaces of a spiral board representing the galaxy. Wormholes can send players' starships (pawns) through hyperspace across the galaxy; some wormholes are actually "black holes" (null coins) that can cause you to lose your next turn. After all wormholes have been placed, players try to land one of their starships on an opposing base, diving into wormholes that will send them toward it, while avoiding black holes, wormholes that will send them the wrong way, and their opponents' ships, which can send them back across the galaxy by landing on the same space.

Setup

1. Take all piecepack tiles. Set one aside and lay the remaining 23 face down (grid side up) in the following pattern: