Swordfighting

Swordfighting is one of the most common puzzles a pirate plays. Swordfighters can fight one on one or in an all-out brawl with several competitors on each side. Swordfighting is one way that a battle at sea can end (the other being a rumble), but swordfights are also common in the inns and in tournaments. Every pirate should learn how to swordfight effectively to be most effective during pillages.

The swordfighting puzzle is similar to Puzzle Fighter. There are four colors of blocks and two types of blocks. Solid blocks are blocks that have a full outline, while breakers are blocks that look like cutouts of solid blocks.

When a breaker comes into contact with another block of the same color, all connected blocks of the same color are broken, sending attacks to your opponent. You win when your opponent loses by placing a block at the top of Column 4, which is where new pieces fall from.

The controls are simple. Two blocks at a time fall from the top of the screen. Use the left and right arrow keys to move the pair left and right. Use the up and down arrow keys to rotate the pair. The space bar will make the blocks fall faster. In brawls, you can use the A and S keys to change the opponent you are targeting (more on brawls later).

Fusing Blocks Together

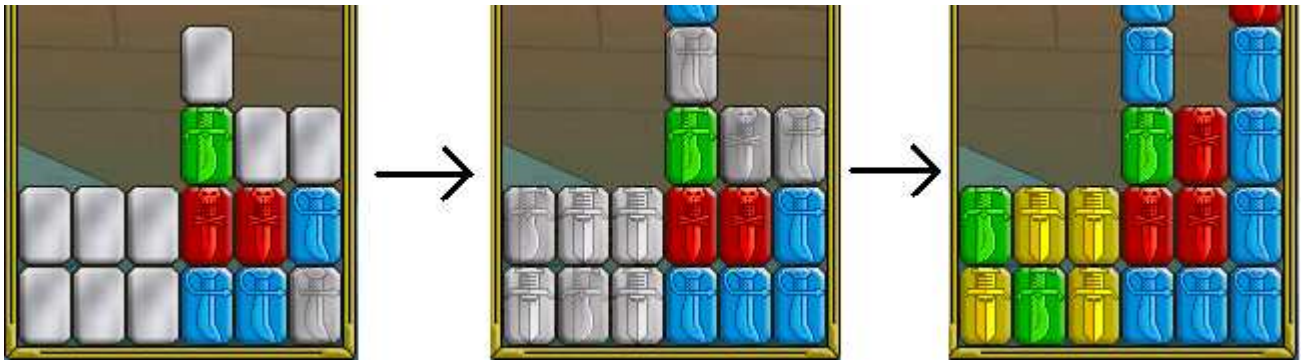
By grouping several blocks of the same color into rectangular shapes, the blocks will fuse together to form a fused block of that color. An example of a 2x2 fused block is shown below.

Fused blocks have a few special properties. First, the attack generated from a fused block is different (and often more powerful) from that of individual blocks. Second, fused blocks cannot be destroyed by enemy attacks like individual blocks can, making them effective shields in some cases. Third, fused blocks become stuck together and will not fall if only a portion of the blocks underneath are cleared out.

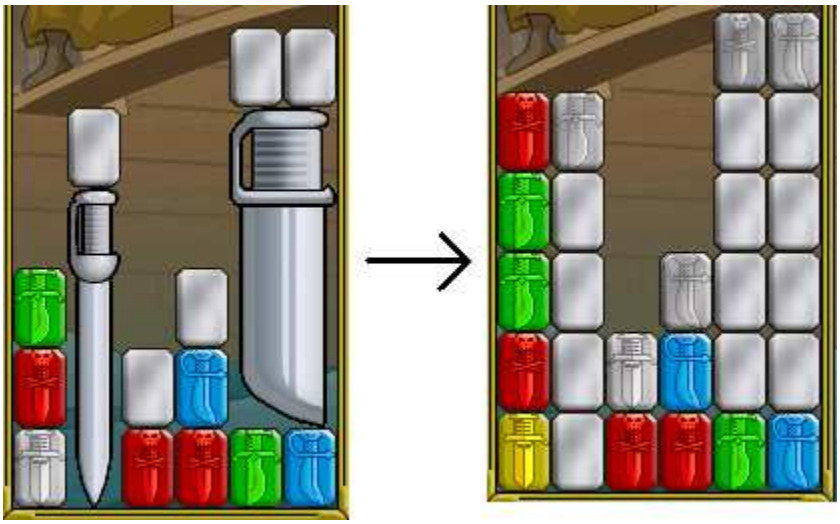
When referring to the size of a fused block, the width of the block comes first followed by the height. A 2x3 block, then, is a fused block that is 2 blocks wide and 3 blocks high. A 3x2 block is just the opposite, a fused block that is 3 blocks wide and 2 blocks high.

Attack Types

In swordfighting, there are two different kinds of attacks. By clearing individual blocks, attacks called Sprinkles are generated. These are silver blocks that fall from the top of the opponent's screen and cannot be broken directly. After the opponent lays his next piece, the sprinkles will display the shape of the block they will turn into (but not the color). After one more piece drop, the sprinkles will then turn into normal colored blocks that can be broken as normal.



A second type of attack called a Strike is generated when a fused block is broken. A strike is a sword that falls to disrupt your opponent's board much more than sprinkles do. Strikes are capable of destroying individual blocks that they land on. The size and orientation of a strike is determined by the shape and orientation of the fused block that was broken. After one piece drop, a strike will transform into normal sprinkle blocks and act as described above.

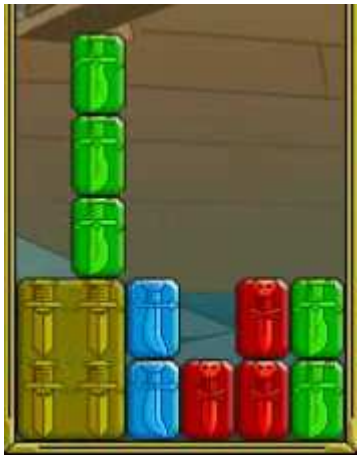


An effective swordfighter must balance the two types of attacks based on their own style of play, their opponent's style, and the sword that they have equipped (more on swords later).

Forming Combos

In swordfighting, just as in sailing, it is possible to build up your blocks such that clearing one set of blocks causes a breaker to fall and clear another set of blocks. Clearing two sets of blocks in this fashion will earn you a Double that will unsurprisingly double the size of all attacks sent from the second set of blocks. The number of sprinkles sent will double, while the length of all strikes will double as well. A Triple will triple the size of attacks, a bingo will quadruple them, and so on.

One way to form combos is described below. First, make a formation of blocks of one color. I like to make it a 3x3 or 2x4 block since they are relatively easy to build and don't take up a lot of space. In the example below, I have formed a 2x2.



Next, cover that group with another color of blocks. As a final touch, place a breaker on top that matches the color of the blocks underneath. That way, when the covering blocks are cleared, the breaker will drop down and clear the bottom set of blocks.

This procedure can be repeated over and over to increase the potency of the attack.

When you're ready to send the attack, just break the top covering layer to break the entire combo. In this case, breaking the blue breaker will drop the green breaker, which will break the green block and drop the yellow breaker.

While you're building your combo, keep in mind that your opponent is doing his/her best to screw it up. Don't build the combo too high or else your combo might get cut off from the rest of your board by enemy attacks, making it useless garbage.

Swords and Strike Patterns

In the game, a pirate can purchase and equip different types of swords that may help in battle. Different swords send different patterns of blocks to your opponent when you attack. This pattern of blocks is known as the sword's Strike Pattern. Some swords lend themselves well to a particular style of play (for example, the Falchion is great for large strikes and lousy with sprinkle attacks, while the Skull Dagger is the opposite). I won't go into gory detail about each sword in this document, but I may write a Sword Guide that contains strike pattern analyses.

The colors of the hilt and guard of each sword determine which colors appear in each spot of the normal strike pattern. In addition, using a sword with a green, blue, or purple guard will reverse the strike pattern of the sword (such a sword is referred to as a left-handed sword). This can make some swords slightly more effective, though once again I'll leave that to the Sword Guide.

Determining Attack Sizes and Colors

The number of sprinkles sent to your opponent is dependent upon how many individual blocks you break at once. For every two solid blocks that are broken, one sprinkle block is sent. Therefore, breaking twelve solid individual blocks will send a complete row of sprinkles to your opponent.

Sprinkle attacks draw from the bottom two rows of the strike pattern only. Even if more than two rows of sprinkles are sent, the same two rows will be repeated over and over.

Vertical strikes are those attacks sent by breaking a fused block that is taller than it is wide. For these fused blocks, the strike will be the same height and width as the fused block. Square fused blocks (for example, a 2x2 or 3x3) also send vertical strikes, but do so by subtracting 1 from the width and sending a strike composed of the number of blocks in the fused block, rounding down if the size is uneven. So a 2x2 would send a 1x4 sword since the fused block had 4 individual blocks in it, while a 3x3 would send a 2x4 sword since the fused block had 9 individual blocks (rounded down to 8 due to the uneven size). No strike can be wider than 3 blocks, so any vertical blocks wider than this send strikes that are 3 blocks wide by the same sort of method used by square blocks. For example, a 4x6 block would send a 3x8 strike.

Vertical strikes draw from the entire strike pattern. When determining color placement, only the top four rows of the strike pattern are repeated for tall strikes.

Horizontal strikes are those attacks sent by breaking a fused block that is wider than it is tall. These strikes come in from the sides of the screen, breaking any blocks in its way (except fused blocks and other swords). As with vertical strikes, the size of the horizontal strike is determined by the size of the fused block that was broken.

The color pattern, however, is vastly different for horizontal strikes. For horizontals, the strike pattern is rotated on its side. A strike that comes in from the left (pointing right) will rotate the pattern 90 degrees clockwise and use the colors starting on the left side of the original strike pattern, with the base of the sword being the bottom and the tip being the top. A strike coming from the right (pointing left) will rotate the pattern 90 degrees counterclockwise and use the colors starting on the right side of the original strike pattern.

If these strikes become longer than 6 blocks (the width of the screen), the pattern shifts toward the base and repeats the top four rows like vertical strikes do.

For more help determining sprinkle/strike colors for various swords, try the website http://www.rustycutlass.org. Weaver's sword tool will show you each sword's strike pattern and how this translates into various sizes of strikes and sprinkles.

Strike Positions and Behaviors

When you attack your opponent, sprinkles and strikes are sent to your opponent. How does the game determine where these strikes and sprinkles land? Read on!

Sprinkles follow a few simple rules:

1. Sprinkles will always finish a complete attack row before moving to the next row. That is, you'll never have to worry about getting an entire column of sprinkles stacked up on top of each other.
2. Sprinkles won't fall in Column 4 (the fourth column from the left where pieces fall from) unless forced to by the first rule.
3. Sprinkles can be broken (just like any other block) by strikes.
4. Sprinkles will NEVER cover up the top of Column 4. The top spot of Column 4, and the spot below it, are always safe from sprinkle attacks, even if mass sprinkles cover your entire board.

Strikes follow a different set of rules:

1. Strikes won't fall in Column 4 unless there is nowhere else for the strike to land.
2. Several strikes may fall next to each other, but strikes may not fall in the same column as another strike.
3. If there is a fused block at the top of a column, a strike will not fall on it.
4. If there is nowhere for a strike to land (according to the rules above), that strike will not fall. Let me repeat that for clarity: **Strikes that have nowhere to land are completely wasted and will not attack the opponent.**

There are two theories that exist regarding what happens to swords that try to fall in Column 4. The first is called the Drop Theory, which states that if a strike tries to land in Column 4, the game merely chooses a random available spot for the strike to land. For example, if a 2-wide strike tries to land in Columns 3-4, the game will choose randomly from the available spots left (which are 1-2, 2-3, and 5-6). Each of these choices has a roughly 33% chance of being picked for the drop.

The second theory is called the Slide Theory, which states that if a strike tries to land in Column 4, the game will slide the strike over in a random direction until it finds an available spot to land. In the same example, a 2-wide strike trying to land in Columns 3-4 now has a 50% chance of dropping in 2-3 or 5-6 and a 0% chance of dropping in 1-2. This shifts the probabilities so that it is more likely for a strike to land *next to* Column 4 than anywhere else.

Neither theory has been proven definitively yet, so I'll include both sets of probabilities when appropriate.

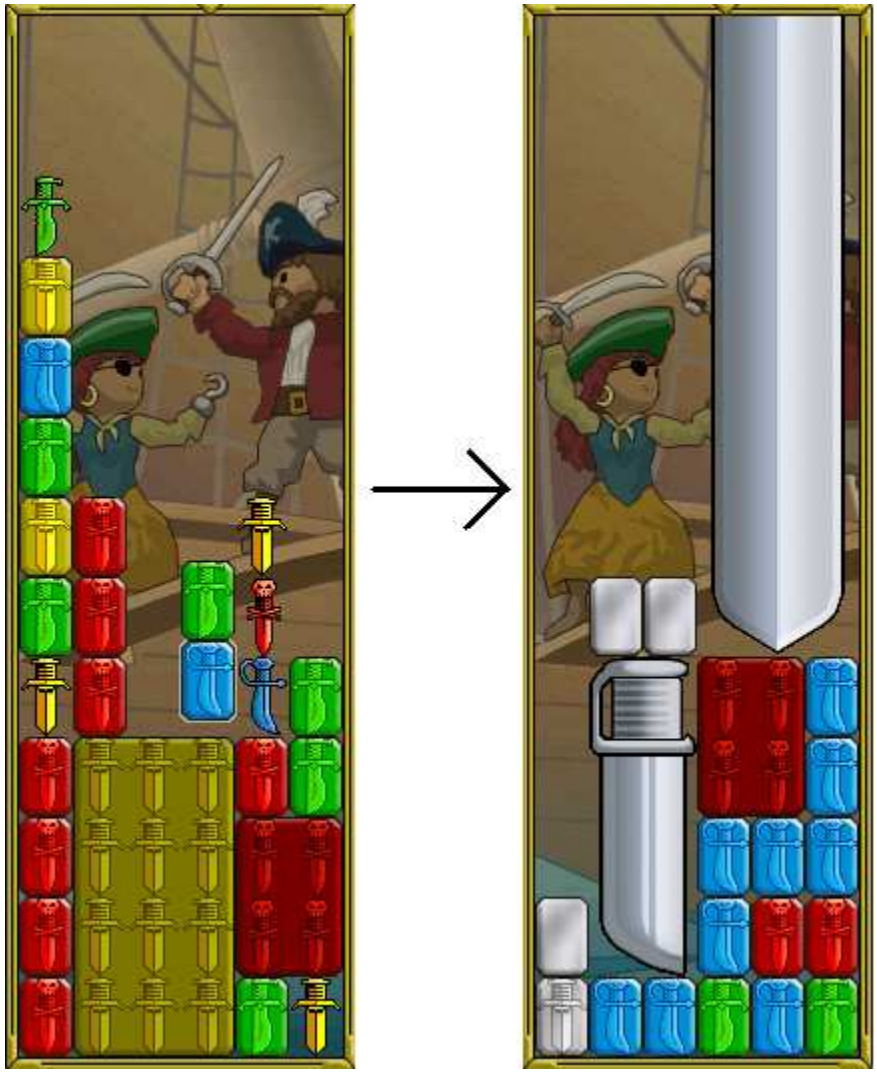
Instakills

An Instakill is a method of forcing a strike to occupy the top spot of Column 4, thus knocking out your opponent instantly without giving them a chance to clear it. Forming instakills is a tricky and very risky business since your opponent will be trying to disrupt your combos the entire time. However, the overall effect is often worth the effort, especially in brawls when you are not being targetted by any opponents.

For an instakill to work, two things must happen:

1. You must send strikes that block off all but potential Column 4 drops.
2. You must send a tall strike that then lands in Column 4. This strike must be tall enough to block the top of the column.

An example instakill combo is shown below.



When the blue breaker breaks, the red breaker will break the 2x2, forming a 2x4 strike (since it is part of a Double). The yellow breaker will then fall to break the 3x4 block, forming a 3x12 strike (since it is part of a Triple). The 2x4 falls in Columns 2-3, leaving only Columns 4-5-6 for the 3x12. As you can see, the 3x12 strike blocked off the top of Column 4, killing the opponent instantly.

There are several combinations of strikes that can produce instakills. Each combination has its own probability of hitting successfully, but only one type of instakill has a 100% success rate.

- First, there is the 3-3 instakill, which is composed of breaking two 3xN blocks in a combo. The first 3xN will only have one place to land, which is columns 1-2-3. The second will have no choice but to land in the remaining columns 4-5-6. Since the placements are known and not left up to luck, this insta has a 100% chance of hitting successfully (provided the second strike is tall enough, that is).
- Second, there is the 2-2-2 instakill, which is common from bots when using a stick. The instakill is formed by breaking three 2xN blocks in a combo.
  - Using the Drop Method:
    - The first strike has a 66% chance of landing in either 1-2 or 5-6 (which is necessary).
    - The second strike lands in the other spot, which has a 50% chance.
    - The third strike will then land in 3-4, forming the instakill.
    - Therefore, the probability of hitting is about 33%.
  - Using the Slide Method:
    - The first strike has a 40% chance of landing in 5-6, and a 20% chance of landing in 1-2.
    - If the first strike lands in 1-2, the second strike should hit 5-6, which is a 100% chance.
    - If the first strike lands in 5-6, the second strike should hit 1-2, which is a 20% chance.
    - So the probability of hitting is (0.20*1.00 + 0.40*0.20) = 28%
- Third, there is the 2-3 instakill (shown above), which is one of the easier ones to build.
  - Using the Drop Method:
    - The 2xN strike lands in either 1-2 or 2-3, which is a 66% chance.
    - The 3xN then has no choice but to land in either 3-4-5 or 4-5-6, both of which generate an instakill.
    - Therefore, the probability of hitting is 66%.
  - Using the Slide Method:
    - The 2xN strike has a 20% chance of landing in 1-2 and a 40% chance of landing in 2-3.
    - Therefore, the probability of hitting is 60%.
- There are other methods of building instakills, such as 1-3 and 1-1-2, but these are generally much harder to build and inaccurate.

The Games Bots Play

Unlike human players, bots don't actually play the swordfighting puzzle. Instead, when you fight against a bot, the bot plays a game of numbers and probabilities that determine what attacks it sends. The following rules are not necessarily how bots actually work, but are close enough to be useful nevertheless.

First, bots only keep track of the colors that it receives from your attacks. The placement of those colors means nothing, meaning that any attack with the same number of each color of blocks will do the same amount of "damage" to a bot regardless of whether that attack was a strike or sprinkle and regardless of the user's sword.

Second, bots are not knocked out when their Column 4 is filled since bots don't have any concept of placement. Instead, when a bot's block count comes close to 78 (the size of a standard swordfighting board), it is knocked out. The attacks you send add to the bot's block count regardless of whether it was a sprinkle or part of a strike. Therefore, a 2x8 strike, as well as a set of 16 sprinkles, will do the same amount of "damage" by adding 16 to the bot's block count. It is possible to instakill a bot by sending an attack that adds up to more than 78 blocks.

Strategies against bots are much different from strategies against real players. Since only the number of blocks is counted, it is desirable to send very large attacks without worrying too much about where they will land. Color distribution against bots is somewhat important since they keep track of the number of blocks of each color they have. A bot that has a high green block count, for example, will send a huge attack back to you once they get a green breaker. A sword with a balance of all four colors is best, which will keep the block counts for each color roughly the same and avoid large retaliations.

Brawling

A brawl is a multiplayer swordfighting game where there is more than one player on each side. In these types of games, your side wins if all of the opponents lose, even if you yourself are knocked out in the process. Sea battles often end with swordfighting brawls, so it is important to learn how to brawl effectively.

During the brawl, dots will appear next to each pirate. Each dot represents someone that is attacking that pirate, and the two colors of the dot represent the two colors on that pirate's sword. The pirate that you are attacking will also have a white border around him/her. This is the pirate that will receive your attacks. To change the pirate you are targetting, you can either click on the pirate you wish to target or use the A and S keys to scroll through the list.

It is usually desired to have more than one pirate attacking a single opponent so that the opponent becomes overwhelmed by attacks and loses much quicker. This is called Teaming and is a very important brawling strategy. Teaming is actually a double-edged sword depending on how it is used. For example, if everyone teams on the same opponent, everyone else on that side is free to build massive counterattacks while the targetted pirate merely stalls the inevitable by not using the space bar. At present, it is considered optimal to team in groups of 2 and 3 against one opponent to gain maximum effectiveness.

Against bots, teaming becomes important. When a bot is targetted by more than three pirates, the bot begins to stall. Let me repeat this for clarity: **When teamed on by four or more pirates, bots stall. They do not cheat, become more powerful, go into super-hard mode, etc.**

When teamed on by many opponents, you'll end up receiving many more attacks from multiple pirates. However, since attacks hit one at a time, stalling is usually effective. For example, let's say you are being targetted by 5 pirates, and that they each send 5 very small sprinkle attacks followed by a large strike attack. This might not sound very fun to deal with, but remember that you can only receive one attack at a time. You'll ultimately sit through 25 individual sprinkle attacks before even getting to the first large attack. This is why stalling when targetted by more than three opponents is so effective; you are essentially wasting the time and effort of any opponents targetting you, and it can often add up to a lot of time (after all, 25 sprinkle attacks go by pretty slowly).

Some swords, while being almost useless in one on one combat, become very powerful during brawls when combined with the strike patterns of other swords. For example, the Stiletto has the glaring weakness that its Column 1 and Column 6 attacks are all a single color and that, aside from a well-placed horizontal strike, there is no way to introduce a different color. Suppose, however, that another sword were attacking alongside that has a different color in Column 1 and Column 6 (perhaps a Stiletto of a different color). This would cover up the weakness of the single Stiletto and make it a very effective sprinkle sword due to its jumble of colors in Columns 3 and 4. Again, I'll save in-depth analysis for the Sword Guide.