Bilging

When a ship is at sea, water creeps into the hold through cracks in the ship. It is the bilger's job to remove this water before it affects the ship. The higher the bilge level, the slower the ship can travel and the harder it is to get sailing tokens during battles.

The bilging puzzle is typically the first one a pirate learns when playing Puzzle Pirates mainly because of the simple controls and rules. However, bilging is also one of the trickiest puzzles to master due to its severe devotion to efficiency.

The puzzle itself is a mix between the games Bejeweled and Panel de Pon (also known as Tetris Attack). The playing field is filled with differently-shaped pieces. The number of different pieces can be five, six, or seven, depending on the skill level of the bilger. There are also special bonus pieces that will be discussed in detail later. Moving the mouse across the playing field moves a cursor around the screen that highlights two pieces at a time. Click the mouse to swap the two pieces. When three or more pieces of the same shape are lined up, they are cleared from the board.

As in Panel de Pon, pieces may only be swapped horizontally, and you can swap pieces as many times as you wish. As in Bejeweled, the playing field never runs out of pieces since new ones will float up from the bottom of the screen to replace any cleared pieces.

As you puzzle, the water level in the puzzle will reflect the amount of bilge in the ship at that time. Pieces underneath the water will flip slower than pieces above the water. In addition, crab special pieces are much harder to clear with a high water level.

Special Pieces

In addition to the normal pieces, a few special pieces will float up on occasion that affect your board in certain ways.

The blowfish piece can be useful for disrupting a stagnant board with few possible clears. When swapped with another piece, these guys puff up and destroy all nearby pieces in a 3x3 area.

The crab piece is an annoyance. Crabs cannot be swapped with other pieces, making them immobile obstacles. To get rid of it, clear pieces above the crab to get it above the water line, where it will scurry away.

The jellyfish piece is extremely useful and valuable. When swapped with another piece, the jellyfish will destroy all of that piece that exists on the board. Be careful not to flip two adjacent jellyfish, since this will destroy all jellyfish on the board!

Combos and Chains

It is possible (and very recommended) to clear more than 3 pieces at a time in one flip. Doing so is a bit more difficult but results in a higher score.


Clear 4 and Clear 5 combos are pretty self-explanatory. Line up four or five of the same piece and clear them all by swapping in a piece in the middle.

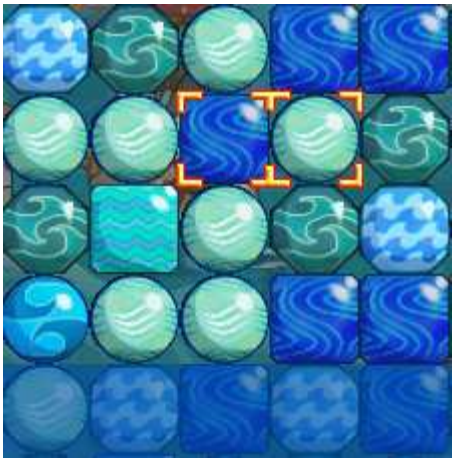

A better combo is the 3x3, which involves clearing two sets of three at the same time. This is usually done by clearing two sets of different pieces, but can also be done by clearing the same type of piece in an L or T shape.


Higher types of these combos, such as 3x4 and 5x5, are formed the same way.

Bingo combos are formed when, in addition to an L/T shape, another set of pieces is cleared. These combos usually provide the most points for the effort and are usually the best ones to shoot for.

Sea Donkey combos are formed by clearing two L/T shapes at the same time. These are extremely difficult to set up since they require a row with exactly three each of two types of pieces.

Vegas combos are merely Sea Donkeys with extra pieces added in vertically. The highest possible combo is a Vegas^2, which clears two 3x5's in a gigantic 14-piece clear. These combos, while valuable, are usually too inefficient to set up for them to be worth the effort.



A chain is formed when pieces are cleared, making pieces below float up and clear another set of pieces. In the example at left, when the 3x4 shown is cleared, the dark blue piece underneath will rise up and clear the two dark blue pieces at the top.

In general, chains are a convenient little bonus when clearing pieces, but are not worth setting up on purpose since there is no score multiplier for higher chains.

Introduction to Flip Value

One way to view the scoring of the bilging puzzle is to measure the goodness of a combo by how many flips it would take to "break even" (that is, neither gaining nor losing points). This number of flips is called the Flip Value of that combo. As long as you can clear the combo in less flips than the flip value, your score will go up. This makes efficiency the main goal of bilging.

As an example, let's consider the 3x3 combo, which has a flip value slightly above 3. Using 3 flips, I could clear this combo and have roughly the same score that I did. Clearing it in 2 flips will make my score go up (possibly moving up a color on the performance indicator). Clearing it in 4 flips will make my score go down.

For the purposes of in-game examples, I'll also define a Flip Score, which is defined as the sum of the flip values of all the combos cleared minus the number of flips used. The Flip Score, then, is just a counter showing how many flips have been used and how many of those flips have been negated by combos. The higher the flip score, the better.

A few flip values are shown below:

- Clearing 3 pieces has a flip value slightly below 1, so clearing these alone won't get your score up.
- Clear 4 has a flip value slightly above 1.
- Clear 5 has a flip value slightly below 2.
- 3x3 has a flip value slightly above 3.
- 3x4 and above have higher flip values that I haven't determined yet.
- A 3x3x3 Bingo has a flip value of around 9.
- Higher combos, of course, have higher values, but I haven't determined them yet.

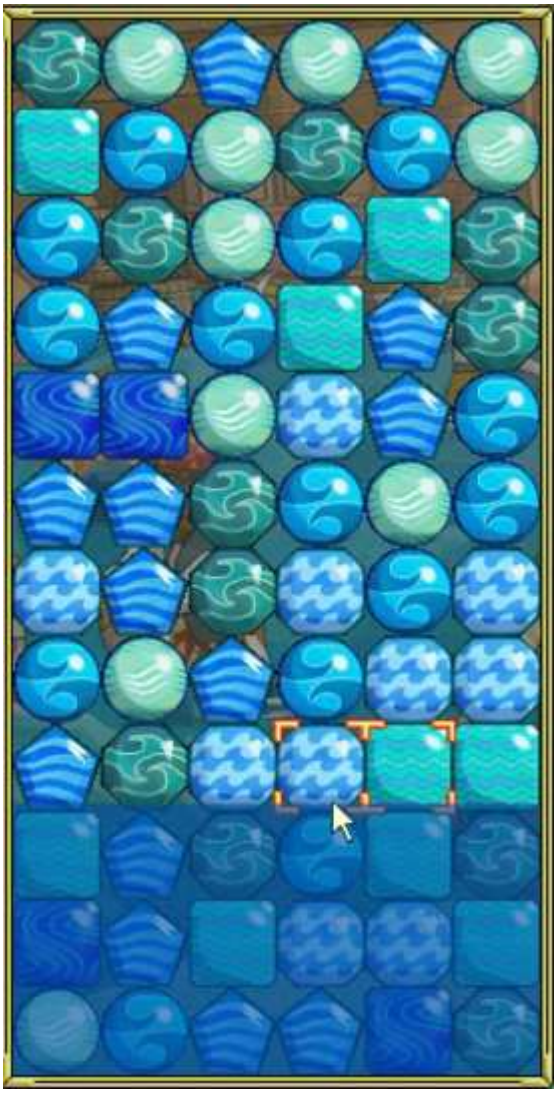
Let's see some examples.

An Example Board

Below is an example board using all seven pieces. I'll use it to explain how to manage flip values.

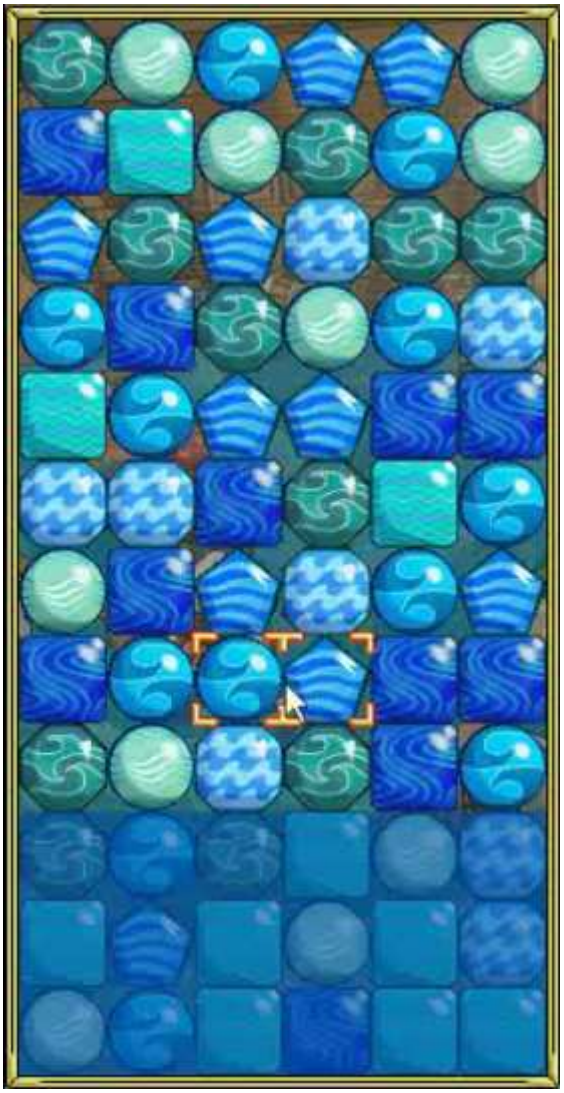
First, let's look for a combo we can set up. Obviously, there are several to choose from, but since speed is a factor, you should go with the first one you find that meets flip value constraints.

The first combo I saw was in that group of green squares near the top. The cursor is at the first piece to swap. Swapping it will create a row of two, with two vertically to the left such that swapping in the lefthand green piece will create a 3x3. This uses 3 flips, so it won't increase my score that much since the flip value for a 3x3 is also about 3. My flip score at this point would be 0.



Let's see another example, this time involving a Bingo combo. First, I see a possible L shape using the white pieces where the cursor is. Flipping that piece right, then moving the white piece on the far left two spaces right, I can create the basis for an L shape. In addition, notice how when I move the final white piece into place, it will also line up the blue pearls to the right for a Bingo.

This process takes four flips. Since the flip value of a Bingo is about 9, this is a fairly high-scoring combo. My flip score right now would be 5, which means I have earned five extra flips.



As a last example, let's look at a not-so-good combo. The dark blue pieces near the cursor can be aligned into an L shape if the two horizontal pieces are moved left, the blue piece one row up is moved right one space, and the piece at the far left is moved right twice.

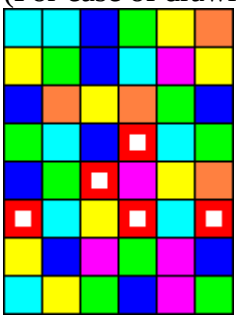
This process takes five flips. Since the flip value for a 3x3 is about 3, my score goes down since I used too many flips to make it. Now my flip score would be 3 since I used two extra flips to complete the combo.

Piece Alignment and Setup Values

If you are having trouble seeing potential combos, you can use Piece Alignment to make it a bit clearer. Piece Alignment is basically using the locations of pieces to find combos you could set up without actually moving pieces around.

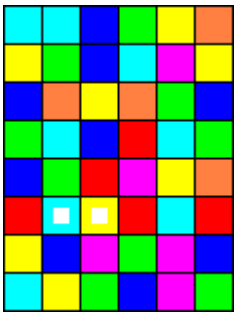
Consider the L shape, which is composed of three pieces horizontal and three pieces vertical. To form an L shape, then, the board must have these pieces readily available. Since the three horizontal pieces might be easier to spot, you can look for those groups specifically, then add pieces vertically to form the L shape.

(For ease of drawing, I'm using colors instead of shapes.)

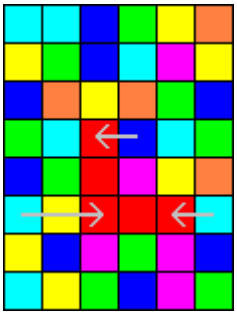


The red pieces marked with white, for example, fit this description. There are three red pieces in a horizontal line, along with two red pieces above to form the vertical portion.

First, I have to decide how the finished product will look. Since there are two pieces already to the left of the vertical pieces, I'll form the combo so that the corner is at the bottom left.



Next, I need to pick a pivot point. This is the location of the final swap to be made before the combo is complete, which tells me where to put the other pieces. The two marked squares show the location of the pivot point I'll use. This location means that the final red square (the corner of the L shape) will end up where the yellow piece is, and I can then move the other pieces around based on this information.



Finally, I determine how many flips it would take for me to complete the combo. This is called the Setup Value of the potential combo. It takes one flip each for the two vertical pieces, and two flips for the corner piece, making the setup value for this potential combo 4. Since this is higher than the flip value for this combo (3 for a 3x3), this wouldn't really be a wise choice unless there was nothing better.

If the setup value isn't low enough, try one of the following:

- Try a different pivot point. Sometimes you can save flips by putting the same combo together somewhere else.
- Add pieces to make it a bigger combo. In the example above, you could move the yellow piece in the second row right one space to form a Bingo, which has a much higher flip value.
- Move on to a different area of the board and try a different combo entirely.