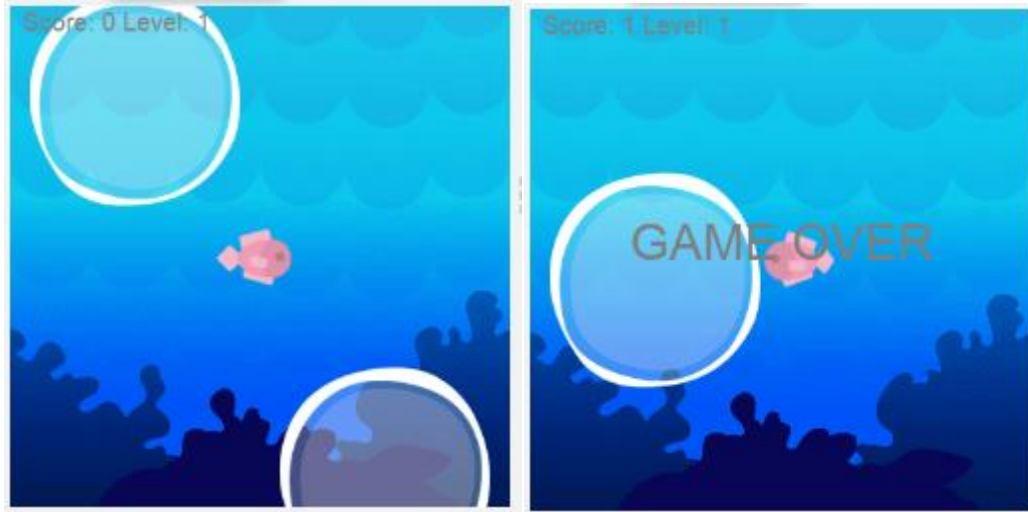


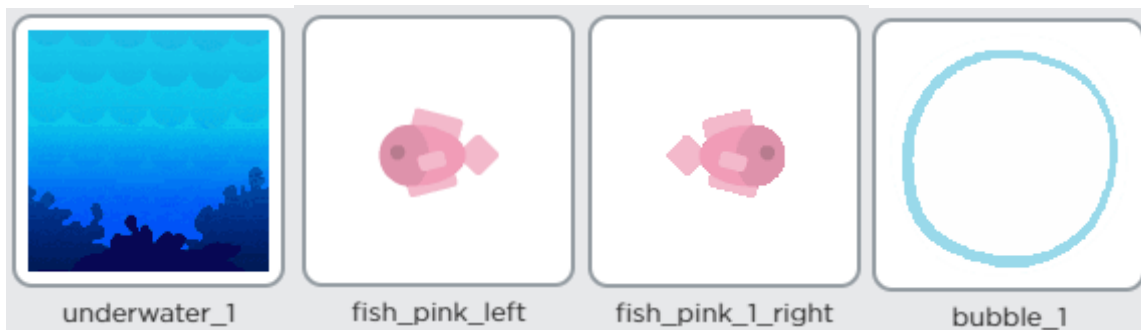
# Level-up Swimmer



The bubbles float down from the top. The fish swims left and right to avoid them.

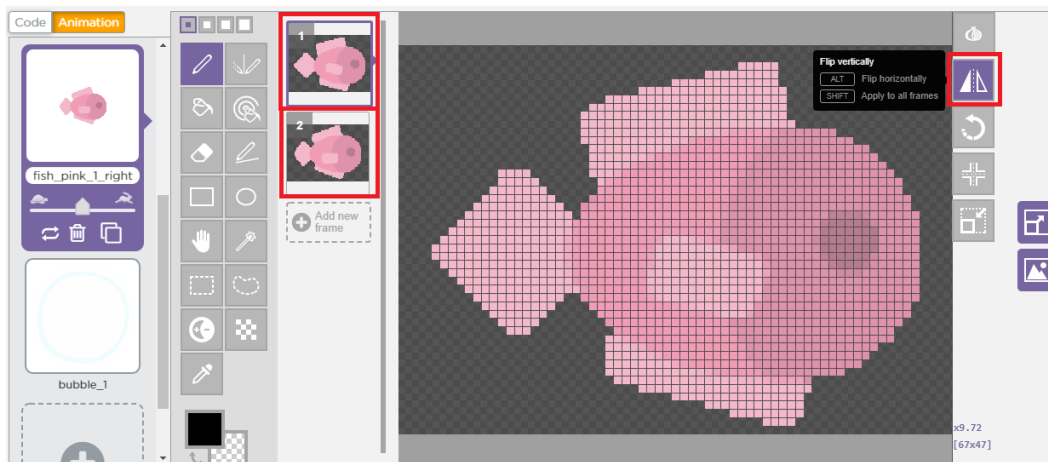
- If the fish hits a bubble, it dies.
- When the fish avoids 5 bubbles, it levels up. It swims faster AND the bubbles move quicker.

You need these 4 animations:



The bubble will look clear on your animations. If you squint, you can sort of see it.

For my right fish, I made a copy of the right fish and I use the flip vertically tool on BOTH frames.



Start by making some variables to track the speeds (fish and bubble), score and levels.

```
1 //level, points and speed variables
2 var amount = 5;
3 var bubbleSpeed = 2;
4 var score = 0;
5 var level = 1;
```

Make the background first,

```
7 //game sprites
8 var background = createSprite(200, 200);
9 background.setAnimation("underwater_1");
```

Then, the fish,

```
11 var fish = createSprite(300, 200);
12 fish.setAnimation("fish_pink_left");
13 fish.velocityX = -amount;
```

Then, the two bubbles,

```
15 var bubble1 = createSprite(300, -100);
16 bubble1.velocityY = bubbleSpeed;
17 bubble1.setAnimation("bubble_1");
18 bubble1.scale = 0.8;
20 var bubble2 = createSprite(100, -400);
21 bubble2.velocityY = bubbleSpeed;
22 bubble2.setAnimation("bubble_1");
23 bubble2.scale = 0.8;
```

Make your draw loop.

```
25 function draw() {
26   drawSprites();
27 }
```

RUN YOUR CODE.

- Do two bubbles float down from the top?
- Is there a background?
- Is there a fish?

Display the score:

```
28 //display score
29 textSize(20);
30 text("Score: "+score+" Level: "+level, 10, 20);
31
```

Make the fish swim back and forth. This is exactly how animated walker moved (but now there are only 2 directions).

```
31
32 //move the fish
33 if (keyDown("left") || fish.x > 380) {
34   fish.setAnimation("fish_pink_left");
35   fish.x -= 5;
36   fish.velocityX = -amount;
37 }
38 else if (keyDown("right") || fish.x < 20) {
39   fish.setAnimation("fish_pink_1_right");
40   fish.x += 5;
41   fish.velocityX = amount;
42 }
43
```

RUN YOUR CODE.

- Can you press the right and left button and move the fish?
- When the fish hits the edge, does it switch direction?
- Do the score and level appear on the screen?

When the bubbles reach the bottom, we need to:

1. Increase the score
2. Respawn the bubble at the top

```
43  
44 //respawn the bubbles  
45 if ( bubble2.y > 500 ) {  
46     score++;  
47     bubble2.y = -100;  
48 }  
49 if ( bubble1.y > 500 ) {  
50     score++;  
51     bubble1.y = -100;  
52 }
```

### RUN YOUR CODE

- You don't need to move the fish. Death isn't possible yet.
- Do the bubbles respawn when they get to the bottom of the screen?
- Does the score increase when the bubble gets to the bottom of the screen?

### Level up

When the score is the level \*5 (- every 5 points, we level up!)

- Increase the level
- Increase the speeds of the fish and bubbles

```
54 //level up every 5 points  
55 if ( score > (level*5) ) {  
56     level++;  
57     amount++;  
58     bubbleSpeed++;  
59     bubble1.velocityY = bubbleSpeed;  
60     bubble2.velocityY = bubbleSpeed;  
61 }  
62
```

## RUN YOUR CODE

- Because you can't die, just make the fish sit there and do nothing
- Wait for a while. When you have 6 bubbles, did it level up? Did the text change? Did the speed change?
- When you have 11 bubbles, did it level up again?

## Game Over

If we hit a bubble,

- Everything (fish and two bubbles) stops.
- Game Over appears

```
63 //touch a bubble and lose
64 if ( fish.isTouching(bubble1) || fish.isTouching(bubble2) ) {
65     bubble1.velocityY=0;
66     bubble2.velocityY=0;
67     fish.velocityX=0;
68     textSize(40);
69     text("GAME OVER", 80, 200);
70 }
71 }
```