

### index.html

```
<!doctype html>
<html>
<head>
<meta charset="utf-8">
<link type="text/css" rel="stylesheet" href="style.css" />
<script type="text/javascript" src="controls.js"></script>
<script type="text/javascript" src="particles2.js"></script>
<script type="text/javascript" src="ship2.js"></script>

<!--the animation file has to come last in this list because it's going to use both the controls and
ship file in it-->

<script type="text/javascript" src="animation.js"></script>
<title>My Spaceship</title>
</head>
<body>
<div align = "center">

<canvas id="etchasketch" width = "800" height = "800">

</canvas>

</body>
</html>
```

### style.css

```
@charset "utf-8";
/* CSS Document */

#etchasketch{

    border: 10px solid #000000;
    background-color: #ccffff;

}
```

### ship.js

```
function Ship(_x, _y)
```

```

{
this.x = _x;
this.y = _y;
this.ax = 3;
this.ay = 1;
this.vx = 0;
this.vy = 0;
this.radians = 0;
this.degrees = 0;
this.power = 1;

this.draw = function ()
{
    context.save();
    var img = new Image();
    img.src = 'snowmanEmoji.png';
    context.drawImage(img,this.x,this.y,150,150);
}

}

```

### particles.js

```

function Particle(_x, _y, _vx, _vy, _radius)
{
    this.x = _x;
    this.y = _y;
    this.radius = _radius;
    this.vy = _vy;
    this.vx = _vx;
    this.startY = this.y;
    this.startX = this.x;
    this.distance = 0;

    this.draw = function()
    {
        var img = new Image();
        img.src = 'snowflakeEmoji.png';
        context.drawImage(img,this.x,this.y,47,53);
    }

    this.move = function()
    {
        this.y+= this.vy;
        this.x+= this.vx;
        this.reset();
    }
}

```

```

    }

    this.reset = function ()
    {
        if (this.y >= canvas.height)
        {
            this.y = this.startY;
            this.x = Math.round(Math.random() * canvas.width);
            this.radius = 64;
            this.vy = -Math.random() * 10 + 20;
        }
    }

    this.collision = function(_obj)
    {
        var dx = (_obj.x + 50) - this.x;
        var dy = _obj.y - this.y;
        this.distance = Math.sqrt (dx * dx + dy * dy);
        if(this.distance < this.radius)
        {
            return true;
        }
        return false;
    }
}

```

### controls.js

```

var up = false;
var down = false;
var left = false;
var right = false;

window.onkeydown = function(e){

    if(e.keyCode == 38)
    {
        up = true;
    }

    if(e.keyCode == 40)
    {
        down = true;
    }

    if(e.keyCode == 37)
    {

```

```

        left = true;
    }

    if(e.keyCode == 39)
    {
        right = true;
    }
}

window.onkeyup = function(e){

    if(e.keyCode == 38)
    {
        up = false;
    }

    if(e.keyCode == 40)
    {
        down = false;
    }

    if(e.keyCode == 37)
    {
        left = false;
    }

    if(e.keyCode == 39)
    {
        right = false;
    }

}

```

*animation.js*

```

var canvas;
var context;
var ship = new Ship(350, 100);
var friction = .85;
ship.power = 2;
var count = 0;
gravity = .2;
var asteroids = new Array();
var amount = 10;

```

```

window.onload = function()
{
    canvas = document.getElementById("etchasketch");
    context = canvas.getContext("2d");
    for(var i = 0; i < amount; i++)
    {
        var x = Math.random() * canvas.width;
        var y = Math.random() * canvas.height - canvas.height;
        var vx = 0;
        var vy = -Math.random() * 10 + 20;
        var radius = 64;
        asteroids[i] = new Particle(x, y, vx, vy, radius);
    }
    var interval = setInterval ("animate()", 1000/30);
}

```

```

function animate ()
{
    context.clearRect(0,0,canvas.width, canvas.height);

    if(right == true)
    {
        ship.vx += ship.ax * ship.power;
    }
    if(left == true)
    {
        ship.vx += ship.ax * -ship.power;
    }
    /*if(up == true)
    {
        ship.vy += -ship.ay * 1.5 * ship.power;
    }
    if(down == true)
    {
        ship.vy += ship.ay * ship.power;
    }*/

    if (ship.x > canvas.width - 150)
    {
        ship.x = canvas.width - 150;
    }
    if (ship.x < 0)
    {
        ship.x = 0;
    }
}

```

```

    }
    if (ship.y < 645)
    {
        ship.y = 645;
    }
    if (ship.y > 645)
    {
        ship.y = 645;
    }
    ship.vx *= friction;
    ship.vy *= friction;
    ship.vy += gravity;
    ship.x += ship.vx;
    ship.y += ship.vy;
    ship.draw();
    for(var i = 0; i < amount; i++)
    {
        asteroids[i].move();
        asteroids[i].draw();

        if (asteroids[i].collision(ship))
        {
            count++;
            asteroids[i].y = asteroids[i].startY;
        }
    }
    if (count >= 50)
    {
        var img = new Image();
        img.src = 'santaHatEmoji3.png';
        context.drawImage(img, ship.x + 35, ship.y - 7, 83, 86);
        context.fillText("Santa Hat Collected!", 10, 40);
    }
    if (count >= 100)
    {
        var img2 = new Image();
        img2.src = 'presentEmoji.png';
        context.drawImage(img2, ship.x - 25, ship.y + 45, 60, 60);
        context.fillText("Present Collected!", 10, 60);
    }
    if (count >= 150)
    {
        var img3 = new Image();
        img3.src = 'bellEmoji.png';
        context.drawImage(img3, ship.x + 120, ship.y + 50, 60, 60);
        context.fillText("Bell Collected!", 10, 80);
    }

```

```
}  
  
context.fillStyle = "#00ffff";  
context.font = "20px Georgia";  
context.fillText ("Snowflakes Collected:", 10, 20);  
context.fillText(count, 210, 20);  
}
```