

1 Just Click Run to see what happens

2

Do This

- Read the if statements inside the draw loop and find the different sprite properties and how they are compared.
- Discuss the code with your partner.
- Why does the code only use the width and x properties, and not the height and y properties?
- Would you want to write this code every time you checked whether something was touching?

No I would not

```
1 // Create the sprites and start them moving
2 var backdrop = createSprite(200, 200);
3 backdrop.setAnimation(▼ "meadow");
4 var bunny = createSprite(50, 300);
5 bunny.setAnimation(▼ "bunny");
6 bunny.velocityX = 3;
7 var robot = createSprite(400, 320);
8 robot.setAnimation(▼ "robot");
9 robot.scale = 0.2;
10 robot.velocityX = -3;
11 var dinner = createSprite(370, 350);
12 dinner.setAnimation(▼ "stew");
13 dinner.velocityX = -3;
14
15 function draw() {
16 // check if the bunny and dinner are touching
17 if ( ( ( bunny.x > dinner.x ) && ( bunny.x - dinner.x < ( bunny.width/2 + dinner.width/2 ) ) ) ||
18     ( ( bunny.x < dinner.x ) && ( bunny.x - dinner.x > - ( bunny.width/2 + dinner.width/2 ) ) ) ) {
19 // stop everything and change to empty bowl
20 bunny.velocityX = 0;
21 dinner.velocityX = 0;
22 robot.velocityX = 0;
23 dinner.setAnimation(▼ "bowl");
24 }
25 drawSprites();
26 }
27
```

3

```

1 // Create the sprites and start them moving
2 var backdrop = createSprite(200, 200);
3 backdrop.setAnimation(▼ "meadow");
4 var bunny = createSprite(50, 300);
5 bunny.setAnimation(▼ "bunny");
6 bunny.velocityX = 3;
7 var robot = createSprite(400, 320);
8 robot.setAnimation(▼ "robot");
9 robot.scale = 0.2;
10 robot.velocityX = -3;
11 var dinner = createSprite(370, 350);
12 dinner.setAnimation(▼ "stew");
13 dinner.velocityX = -3;
14
15 function draw() {
16 // check if the bunny and dinner are touching
17 if (bunny.isTouching(robot)) {
18 // stop everything and change to empty bowl
19 bunny.velocityX = 0;
20 dinner.velocityX = 0;
21 robot.velocityX = 0;
22 dinner.setAnimation(▼ "bowl");
23 }
24 drawSprites();
25 }
26

```

4

```

1 // create the sprites
2 var apple = createSprite(200, -50);
3 apple.setAnimation(▼ "apple");
4 apple.velocityY = 9;
5 var blender = createSprite(200, 330);
6 blender.setAnimation(▼ "blender");
7
8 function draw() {
9 // shake the blender
10 if (apple.isTouching(blender)) {
11 blender.x = 200 + randomNumber(-5, 5);
12 }
13
14 //make the background
15 background(▼ "skyblue");
16 strokeWeight(0);
17 fill(▼ "sienna");
18 rect(0, 340, 400, 60);
19
20 drawSprites();
21 }
22

```

5

```

1 var balloon = createSprite(200, 200);
2 balloon.setAnimation(▼ "balloon");
3 balloon.debug = true;
4
5 var tack = createSprite(350, 50);
6 tack.setAnimation(▼ "tack");
7
8 function draw() {
9   background(▼ "gray");
10
11   // check if tack is touching balloon
12   if (balloon.isTouching(tack)) {
13     // replace balloon image
14     balloon.setAnimation(▼ "popped");
15   }
16   // make tack move with arrow keys
17   if (keyDown(▼ "up")) {
18     tack.y = tack.y - 1;
19   }
20   if (keyDown(▼ "down")) {
21     tack.y = tack.y + 1;
22   }
23   if (keyDown(▼ "left")) {
24     tack.x = tack.x - 1;
25   }
26   if (keyDown(▼ "right")) {
27     tack.x = tack.x + 1;
28   }
29
30   drawSprites();
31 }

```

6a

```

1 var sun = createSprite(200, 0);
2 sun.setAnimation(▼ "sun");
3 var bunny = createSprite(200, 300);
4 bunny.setAnimation(▼ "bunny_sad");
5 function draw() {
6   background(▼ "lightblue");
7   sun.velocityY = 2;
8   if (sun.isTouching(bunny)) {
9     bunny.setAnimation(▼ "bunny_happy");
10  }
11  drawSprites();
12 }
13

```

6b

```

1  var coin1 = createSprite(100, 100);
2  coin1.setAnimation(▼"bronze_coin");
3  coin1.velocityX = 1;
4  coin1.velocityY = 1;
5  coin1.setCollider(▼"circle");
6  //Change coin1 collider here.
7
8  coin1.debug = true;
9  var coin2 = createSprite(300, 300);
10 coin2.setAnimation(▼"bronze_coin");
11 coin2.velocityX = -1;
12 coin2.velocityY = -1;
13 coin2.setCollider(▼"circle");
14 //Change coin2 collider here.
15
16 coin2.debug = true;
17 function draw() {
18   background(▼"teal");
19   if (coin1.isTouching(coin2)) {
20     coin1.velocityX = 0;
21     coin1.velocityY = 0;
22     coin2.velocityX = 0;
23     coin2.velocityY = 0;
24   }
25   drawSprites();
26 }
27

```

7

```

1  // create the sprites
2  var horse = createSprite(200, 150);
3  horse.setAnimation(▼"horse");
4  var rainbow = createSprite(400, 370);
5  rainbow.setAnimation(▼"rainbow");
6  rainbow.velocityX = -5;
7  rainbow.velocityY = -5;
8  rainbow.rotateToDirection = true;
9
10 function draw() {
11   // draw the background
12   background(▼"skyblue");
13   if (horse.isTouching(rainbow)) {
14     horse.setAnimation(▼"unicorn");
15   }
16   // change the horse to a unicorn when the rainbow touches it
17
18
19   drawSprites();
20 }
21

```

8a Skip

8b

```
1 var points = 0;
2 var coin = createSprite(200, 100);
3 coin.setAnimation("coin");
4 var ghost = createSprite(200, 300);
5 ghost.setAnimation("ghost");
6
7 function draw() {
8   if (ghost.isTouching(coin)) {
9     points = points + 1;
10    coin.x = randomNumber(50, 350);
11    coin.y = randomNumber(50, 350);
12  }
13  background("lightblue");
14  text("Points: " + points, 25, 25);
15  if (keyDown("up")) {
16    ghost.y = ghost.y - 5;
17  }
18  if (keyDown("down")) {
19    ghost.y = ghost.y + 5;
20  }
21  if (keyDown("left")) {
22    ghost.x = ghost.x - 5;
23  }
24  if (keyDown("right")) {
25    ghost.x = ghost.x + 5;
26  }
27  drawSprites();
28 }
29
```