# Worksheet 3: Alarms, variables and other random tricks

|  |
| --- |
| **Learning Intentions**: We are learning to be able to … |
| Use alarms for timing and variables to change values. |
| *Why are we learning this?* |
| Intermittent and fluctuating activity adds variety to gameplay. |
| **Success Criteria**: I will be successful if I can … |
| * Use an alarm to trigger an event
* Reset an alarm
* Use a variable in place of fixed value
* Change the value of a variable
 |

## Instructions:

|  |
| --- |
| Acquire and integrate knowledge: |
| 1. Create a layout for a new game as follows. Note: **objScore** does not have a sprite, but is still placed in the game room, as is shown by the blue circle with red question mark:

1. Use the following Object Information to complete the remainder of the game:

|  |
| --- |
| **Information about object: objWall** Sprite: sprSquareSolid: true\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Information about object: objCircle** Sprite: sprCircleSolid: trueCreate Event:set variable mySpeed to 1set speed to mySpeed and direction to random(360)Alarm Event for alarm 0:set speed to mySpeed and direction to random(360)set Alarm 0 to 90Collision Event with object objWall:bounce not precisely against solid objectsMouse Event for Left Pressed:start moving in direction *stop* with speed set to 0set the score relative to +1if score is not smaller than 5 set Alarm 0 to 90jump to a random position set variable mySpeed relative to +0.5set speed to mySpeed and direction to random(360)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**Information about object: objScore** Sprite: Create Event:set the score to 0Draw Event:at position (0,0) draw the value of score with caption Score:  |

1. Test and play. Explain how the game works:

Click here to enter text. |
| Extend and refine knowledge: |
| 1. Alarm events occur when the alarm reaches 0. It ticks down at the same speed as the *room steps per second* (by default: 30). Using the default room speed, what would I have to set my alarm to, so that it triggers in exactly 3 seconds?

Click here to enter text.1. Create a game that changes the sprite based on the direction I move:

Note that **speed** in this example is the speed at which the *sprite cycles through the sub-images within the sprite* (like stepping through a sprite strip)… of course if you only have 1 image, this is irrelevant. |
| Use knowledge meaningfully: |
| 1. Can I use random\_range(30, 150) when I reset my alarm? What is the effect of this?

Click here to enter text.**Dodging Squares From the Sky Game:**1. Create a game with *one* sprite (sprSquare) and *one* object (objSquare). Use any solid fill colour for the sprite. Add the sprite to the object and these actions to the object (objSquare):

**Create Event:****Other 🡪 Outside Room Event:**What is the effect of this so far when you play it?Click here to enter text.1. Add a sprPlayer and an objPlayer to your game started in the previous question:

Make the player to be able to move **left** and **right** only.. and put the player at the bottom of the room. Add the **Step** event to the object square:Explain how the above step event functions, and its impacts on game behaviour:Click here to enter text. |