# Worksheet 3: Alarms, variables and other random tricks

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| **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:

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| 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: sprSquare Solid: true \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Information about object: objCircle**  Sprite: sprCircle Solid: true  Create Event:  set variable mySpeed to 1  set 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 90  Collision Event with object objWall:  bounce not precisely against solid objects  Mouse Event for Left Pressed:  start moving in direction *stop* with speed set to 0  set the score relative to +1  if score is not smaller than 5  set Alarm 0 to 90  jump to a random position  set variable mySpeed relative to +0.5  set speed to mySpeed and direction to random(360)  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **Information about object: objScore**  Sprite:  Create Event:  set the score to 0  Draw 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. |