

Game Making with Alice Eat the Hay Game

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What is Alice?

- Alice is a visual programming language.
- Alice is designed to teach you how to program
- The output of Alice programs are movies.
- The movies can be interactive



Alice and Visual Programming

- Programming is done by pointing and clicking, dragging and dropping, selecting from menus, and some typing
- Download Alice for free:
- www.alice.org



Alternate Game – Eat The Hay

- Create a Game with a cow.
- The arrow keys on the keyboard control the cow.
- There are 3 bales of hay on the ground.
- When the cow gets close to the bales they disappear.

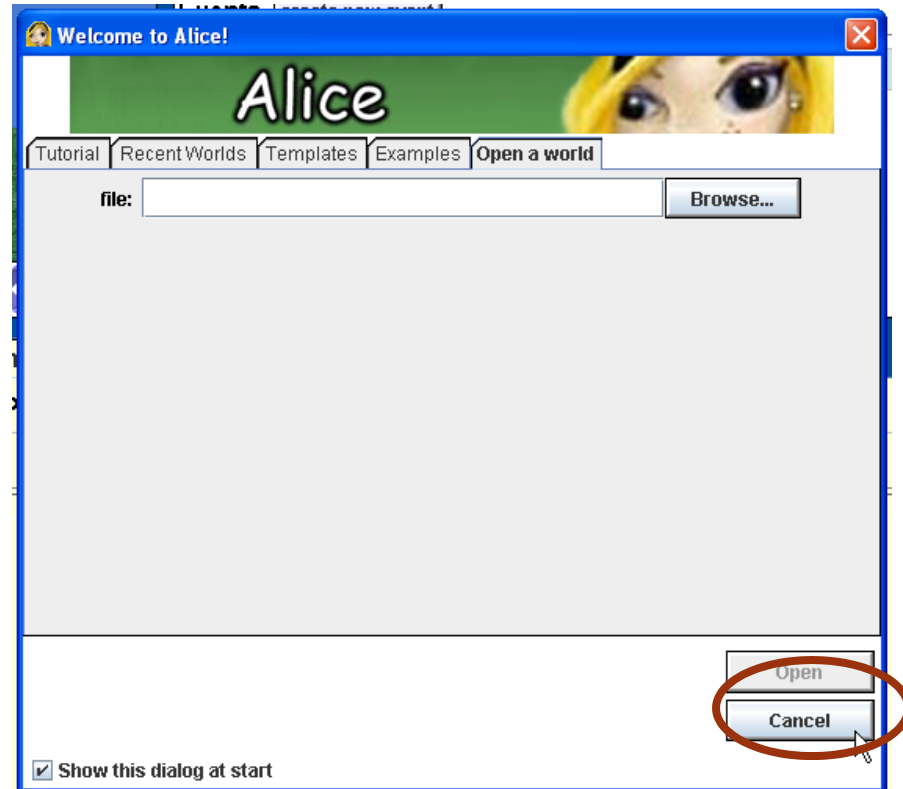


Start Alice

- Double click on the Alice icon to start Alice
 - It may take a minute to start up

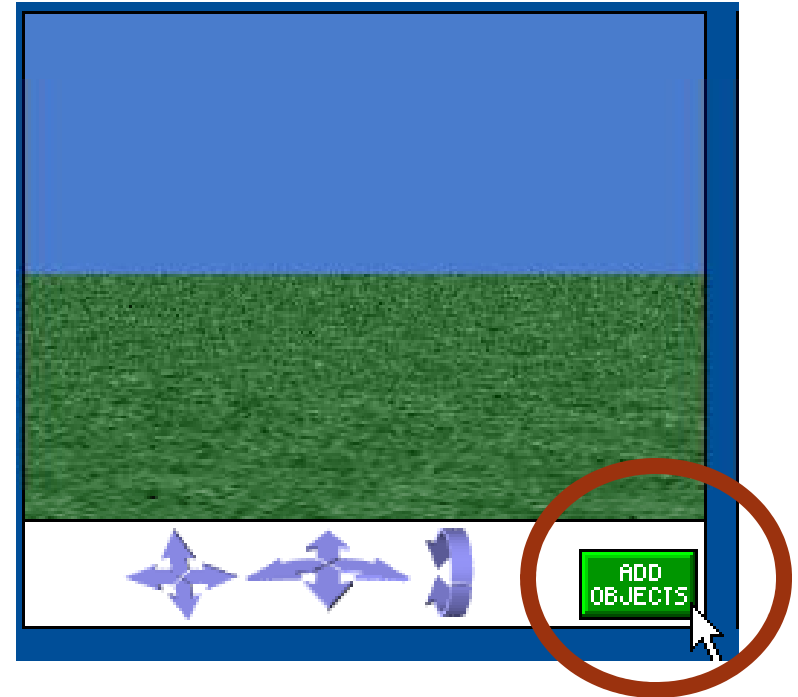


- Cancel the opening dialog screen



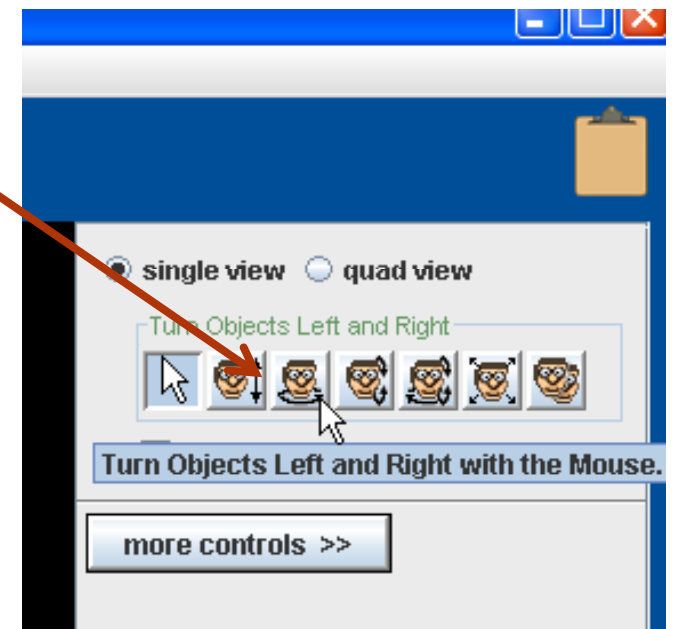
Build the Scene

- Click on the add objects button at the bottom right of the scene
- Scroll to the Farm category and click on Farm



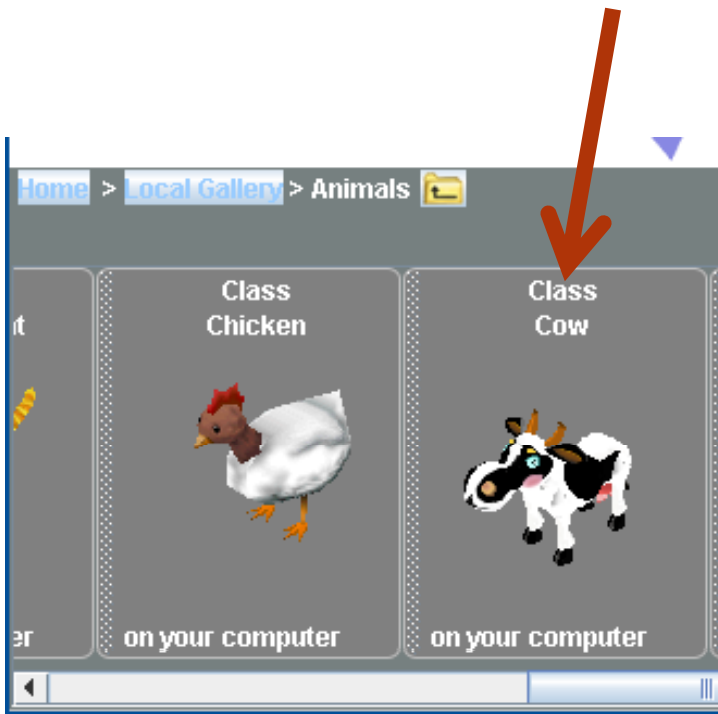
Add Hay to World

- Click and drag 3 bales of hay into the scene
- Once in the scene objects can be positioned with the mouse
- Object can be rotated by selecting the proper option from the menu in the upper right
- If you want to get rid of an object right click it and select delete



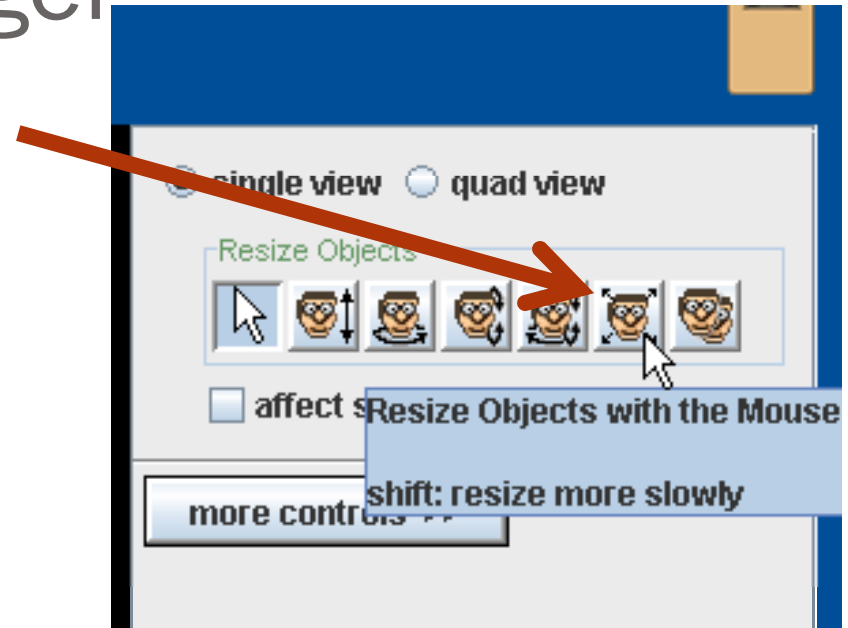
Add The Cow

- Click on the Local Gallery to get back to the list of categories
- Open the Animals Category
- Scroll over to the Cow and add one to the world



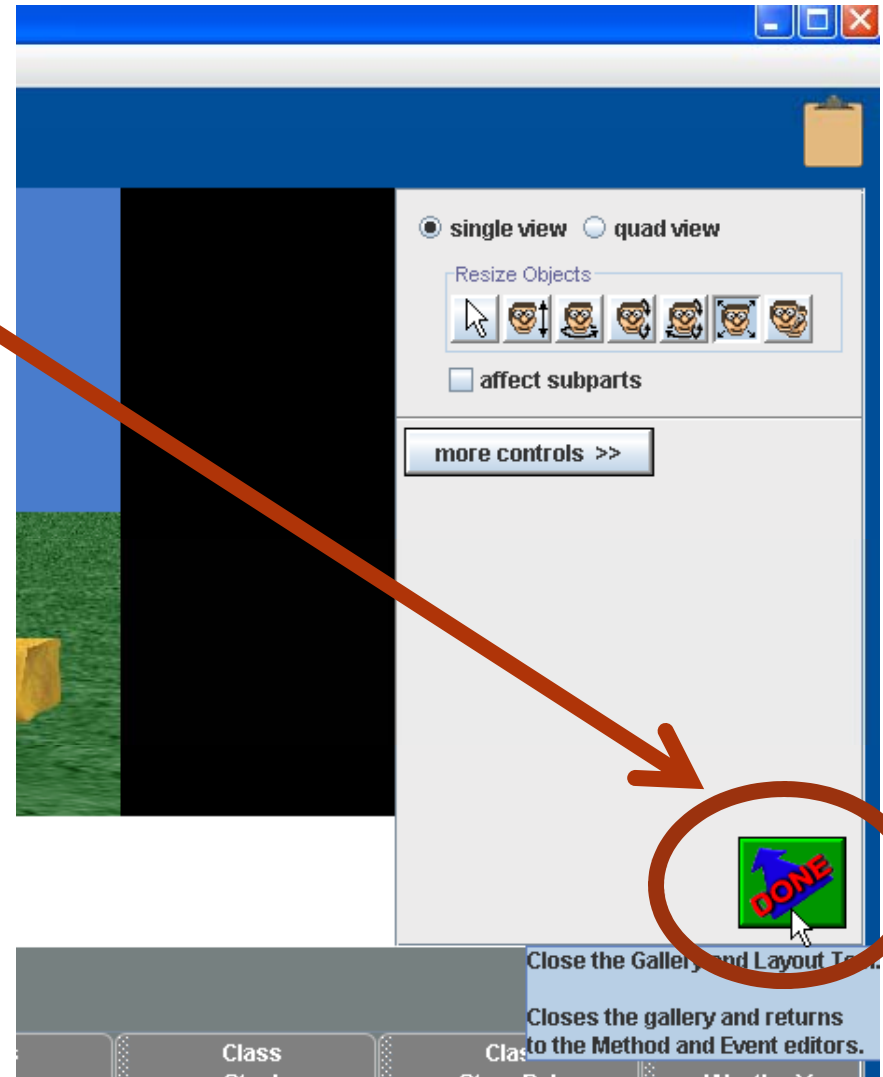
Make The Hay Bigger

- Click on the resize objects button
- Click on a bale of hay with the mouse.
- Move the mouse up to make it bigger.
- Make all 3 bigger



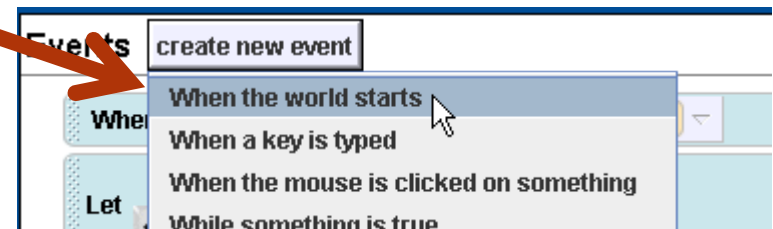
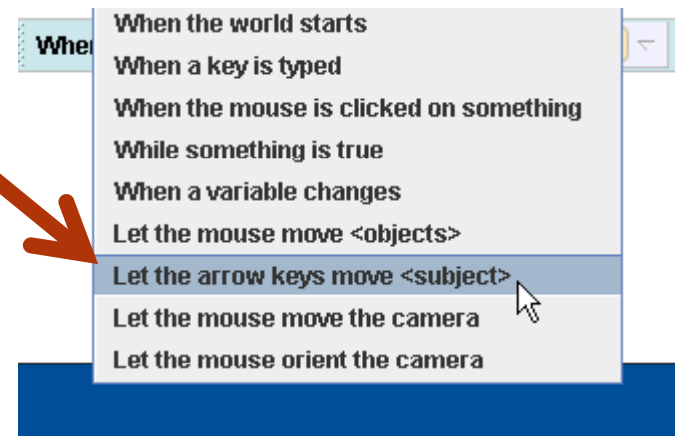
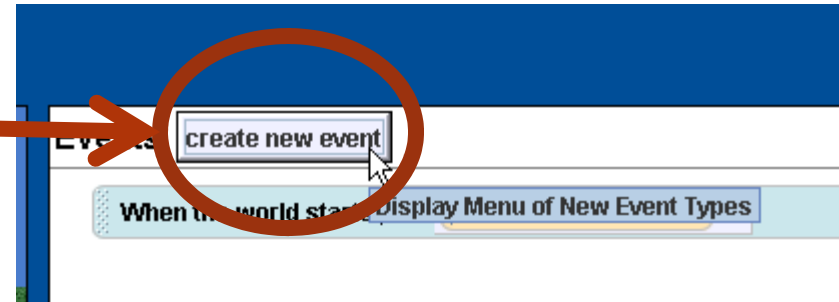
Exit Scene Editor

- Click the Done Button



Add Events for Cow and Camera

- Click the create new event button
- Select the let the arrow keys move <subject> choice
- Click the create new event button again.
- Select the When the world starts choice.



Events

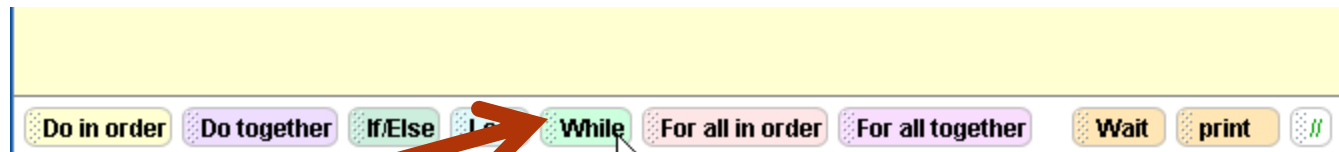
- Events should now look like this:

The screenshot shows the 'Events' panel in the Alice software interface. At the top left, the word 'Events' is displayed in a bold, black font. To its right is a button labeled 'create new event'. Below this, there are three event triggers, each in a light blue box with a dotted left edge:

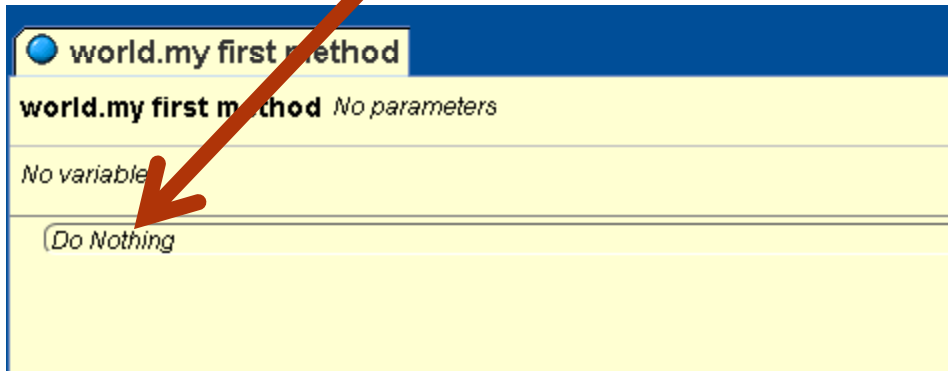
- The first trigger is 'When the world starts , do' followed by a dropdown menu containing 'world.my first method'.
- The second trigger is 'Let' followed by three arrow buttons (up, down, left), then the word 'move' and a dropdown menu containing 'camera'.
- The third trigger is 'When the world starts , do' followed by a dropdown menu containing 'Nothing'.

Write program for eating Hay

- Drag a while icon from bottom of screen into the program.
 - While is on bottom of screen



- Drag this to here **pick true**



While Loop

 world.my first method

world.my first method *No parameters*

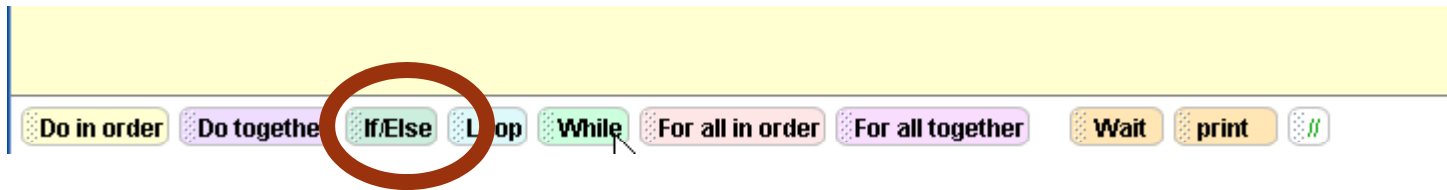
No variables

 **While** true ▾

Do Nothing

Add 3 ifs

- Drag 3 ifs from bottom into while loop.
- Pick true

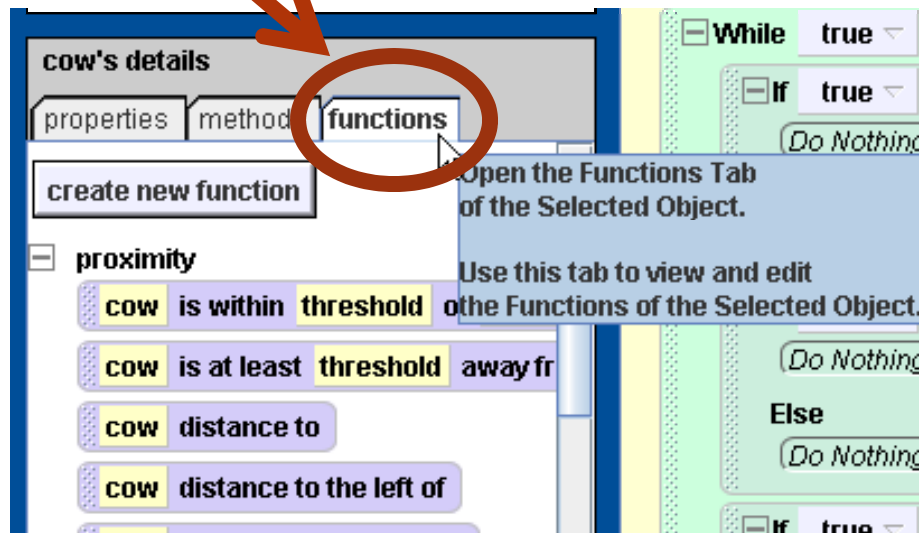
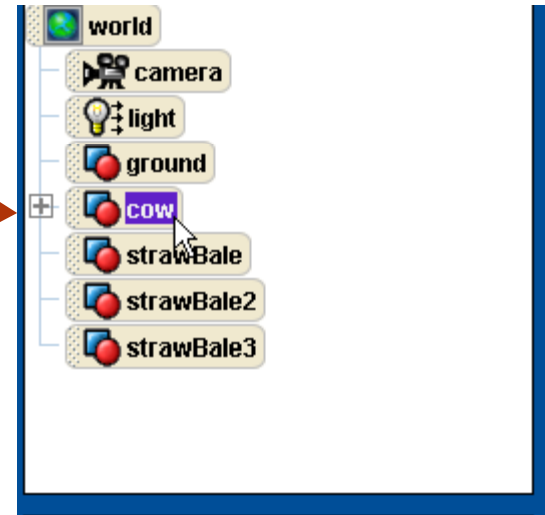


Program Looks Like This

```
world.my first method
world.my first method No parameters
No variables
While true
  If true
    Do Nothing
  Else
    Do Nothing
  If true
    Do Nothing
  Else
    Do Nothing
  If true
    Do Nothing
  Else
    Do Nothing
```

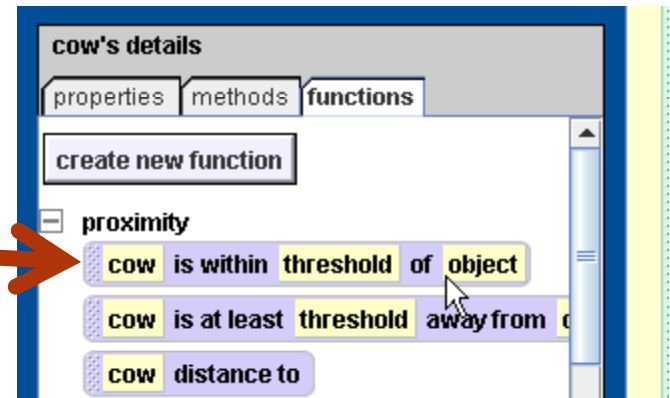

Pick the Cow

- Click the cow in the object tree
- Click the functions tab

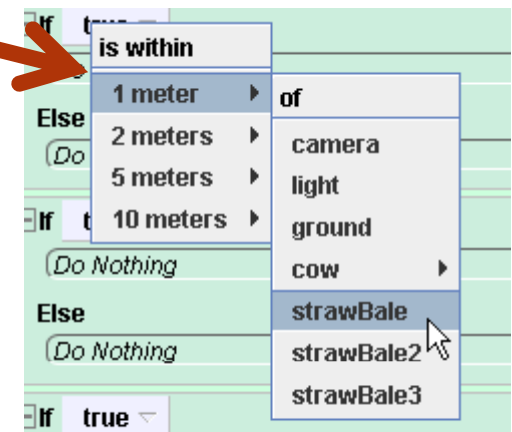


Drag into if

- Click and drag the cow is within threshold of object icon to replace the true in the first if



- When you drop icon select 1 meter and strawBale from list



Complete ifs

- Repeat for other 2 ifs but pick strawBale2 and strawBale3

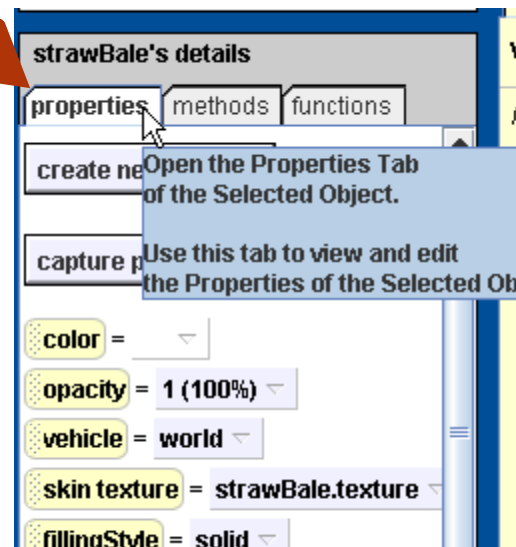
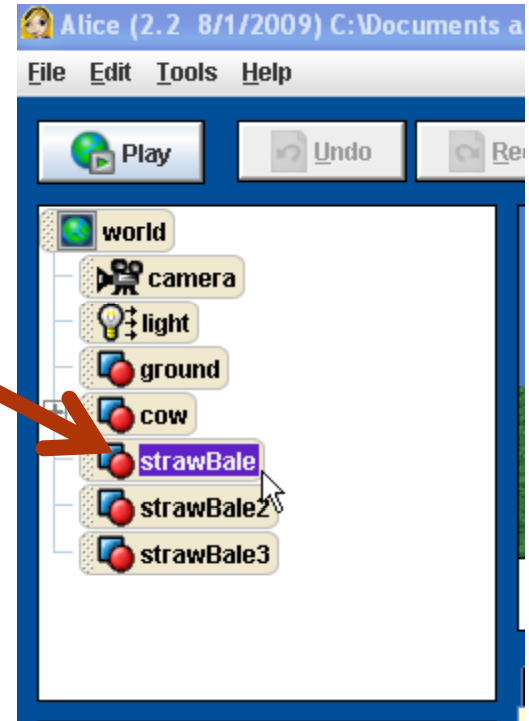
world.my first method *No parameters*

No variables

The image shows a Scratch code editor window with a yellow background. At the top, it says "world.my first method" in bold black text, followed by "No parameters" in a smaller, italicized font. Below that, it says "No variables" in a smaller, italicized font. The main area is a green workspace containing a "While" loop block set to "true". Inside the loop, there are three "If-Else" blocks. Each block has an "If" condition: "cow is within 1 meter of strawBale", "cow is within 1 meter of strawBale2", and "cow is within 1 meter of strawBale3". Each "If" block has a "Do Nothing" block as its true branch, and each "Else" block also has a "Do Nothing" block as its false branch.

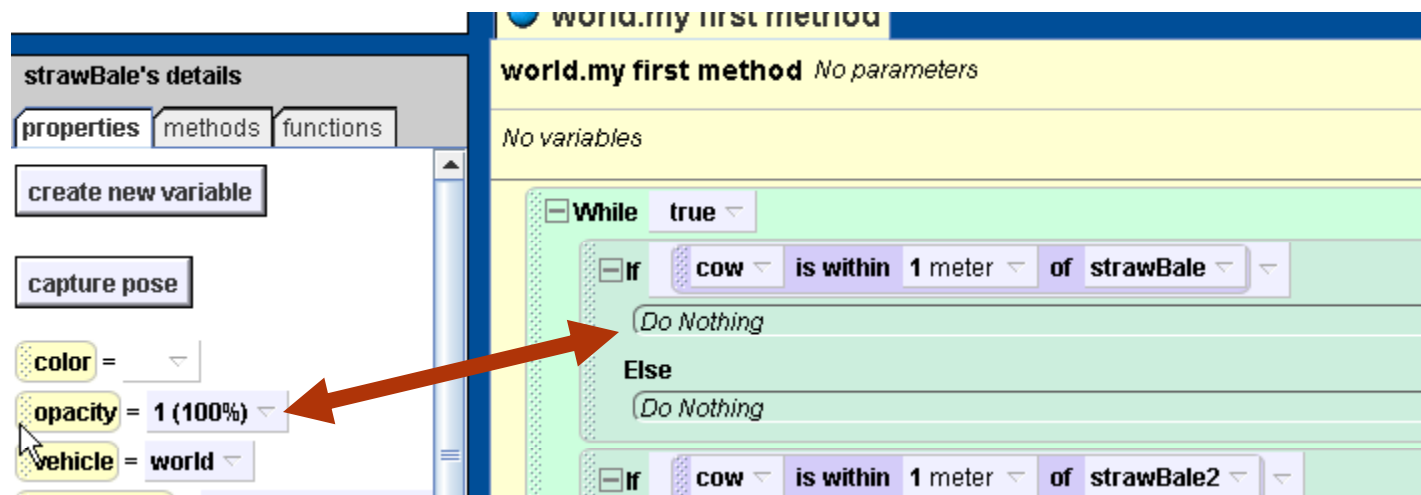
Make Hay Disappear

- Click strawBale in object tree
- Click the properties tab



Make Hay Disappear

- Click and Drag the opacity icon into the first if
- Pick 0 (0%: invisible)

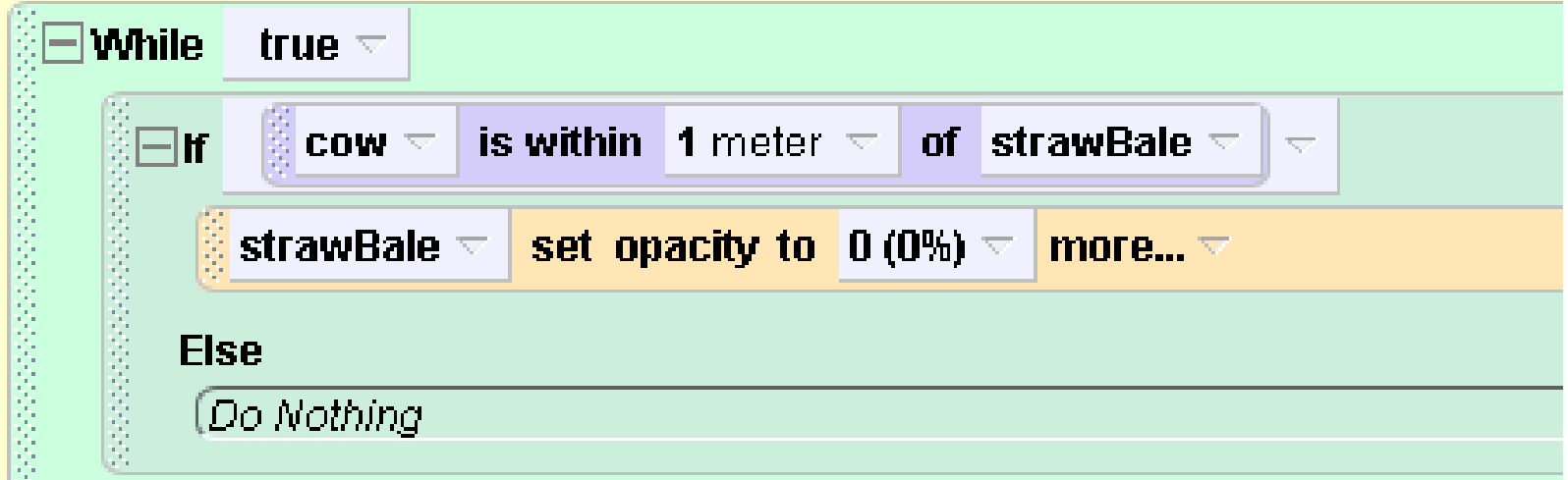


Result of Hay

 world.my first method

world.my first method *No parameters*

No variables



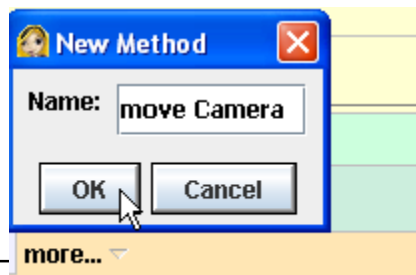
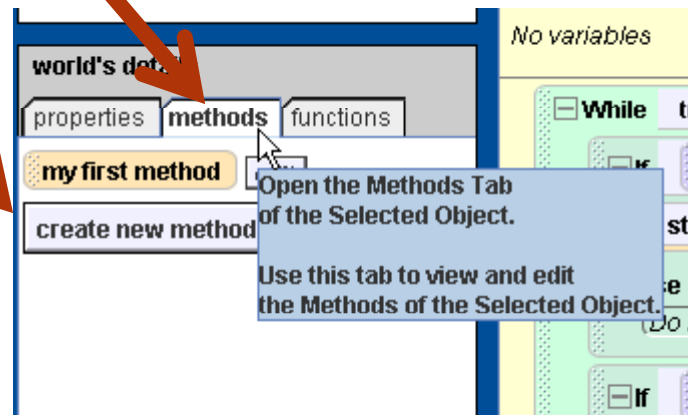
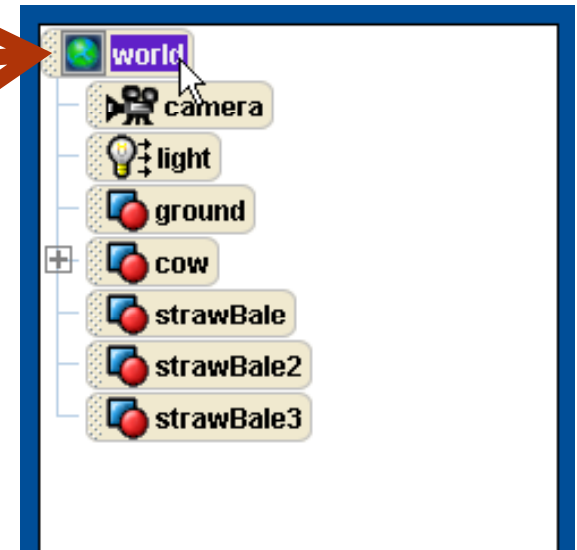
Repeat for other Hay

- Do the same for the other 2 strawBales.
 - Select in Object tree, click and drag opacity icon, set to 0
 - Be sure to but strawBale2 into if for strawBale2

The screenshot shows a visual scripting environment for a game. The script is titled "world.my first method" and has no parameters or variables. It contains a "While" loop set to "true". Inside the loop, there are three "if" conditions, each followed by a "set opacity to 0 (0%)" action. The first "if" condition checks if "cow" is within 1 meter of "strawBale". The second "if" condition checks if "cow" is within 1 meter of "strawBale2". The third "if" condition checks if "cow" is within 1 meter of "strawBale3". Each "if" condition has an "Else" block containing a "Do Nothing" action.

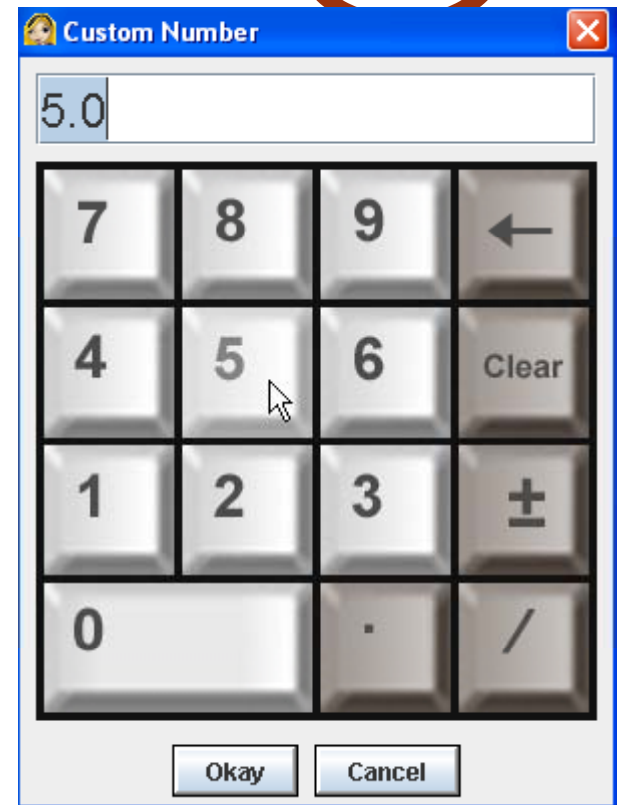
Create method for camera

- Click on World in the object tree
- Click on methods tab and then create new method button.
- name method
move camera



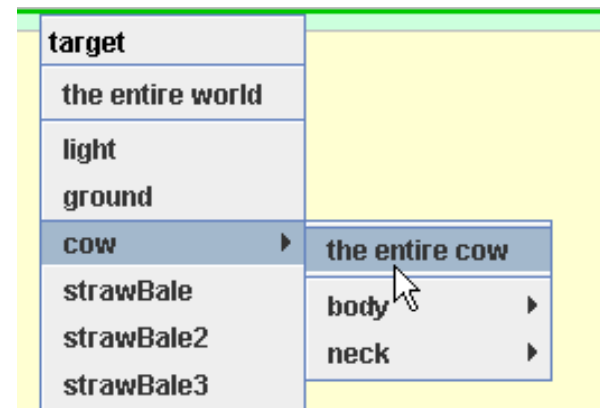
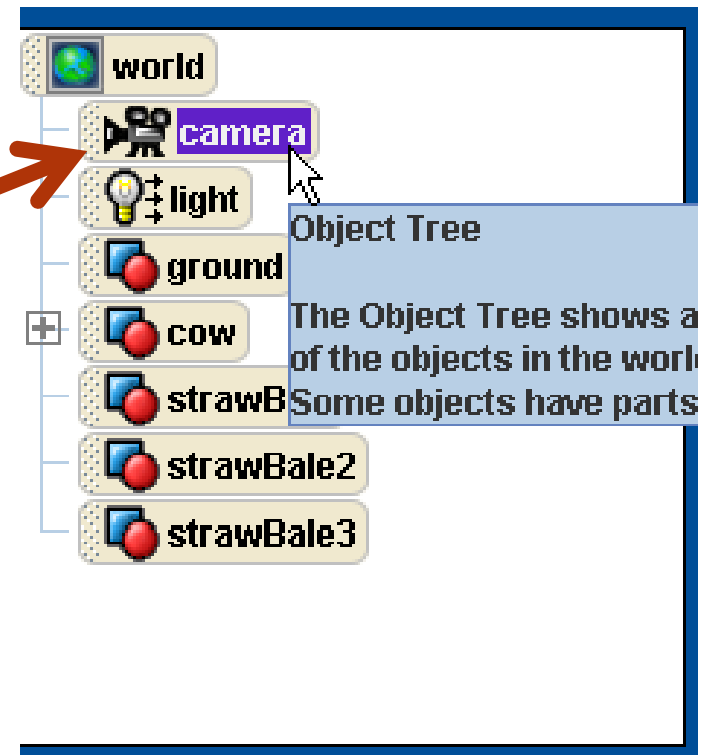
move Camera

- click and drag while loop into move camera method
- select true
- click and drag wait icon from bottom into while loop
- select other from the menu and enter 5 in the calculator and click okay



move camera

- select camera in object tree
- select the methods tab and scroll down
- click and drag the camera turn to face command into the while loop after the wait
- Select cow -> the entire cow from the menu

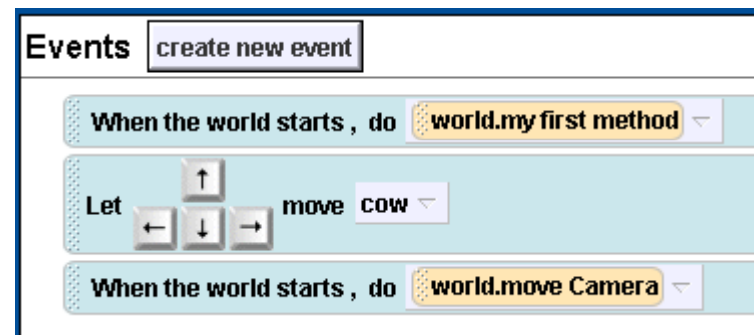
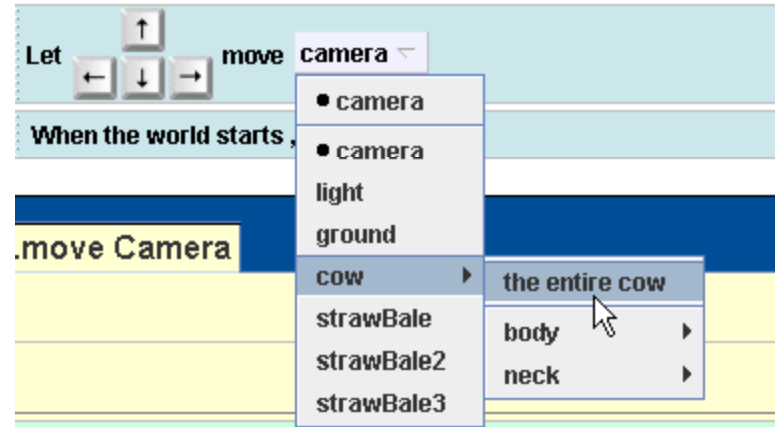


completed move camera

The screenshot shows the Alice programming environment. At the top, there are two tabs: 'world.my first method' and 'world.move Camera'. The 'world.move Camera' tab is active. Below the tabs, the method name 'world.move Camera' is displayed with the note 'No parameters'. Underneath, it says 'No variables'. The main workspace contains a 'While' loop with the condition 'true'. Inside the loop, there are two actions: 'Wait 5.0 seconds' and 'camera turn to face cow more...'. The 'While' loop and its contents are highlighted with a light green background.

Set events

- In the events click the camera in the let the arrow keys control event and change to the cow -> the entire cow
- click the world in the object tree and then the methods tab
- click and drag the move camera icon and replace the nothing event in the bottom when the world starts event



Final Events

Events

When the world starts , do world.my first method ▾

Let move COW ▾

When the world starts , do world.move Camera ▾

- Play!!!! Click the Play Button

Alice (2.2 8/1/2009) C:\Documents and Settings\Alice\My Documents

File Edit Tools Help

Play the world.
Opens the play window and starts the world running.

Possible changes and additions

- Make the hay bales move
- Make the camera move towards the cow when it turns to face the cow
- Change camera vehicle to cow
- Add instructions
- Add a message when player wins
- Add more bales of hay or other objects
- Play a sound when the bale is eaten