**How Do I Use the New Blocks?**

Here are instructions for new blocks in the beta version of Scratch.

[Video Sensing](http://info.scratch.mit.edu/prototype#camerablocks)  |  [Backdrop](http://info.scratch.mit.edu/prototype" \l "backdrops) [Blocks](http://info.scratch.mit.edu/prototype#backdrops) | [Clone Blocks](http://info.scratch.mit.edu/prototype#clone-blocks) | [Make Your Own Blocks](http://info.scratch.mit.edu/prototype#make-blocks) (Procedures)

**Video Sensing**



Triggers script when the motion **on the current sprite** is greater than that number.

**How to Use It:**

Requires webcam.

It turns on the webcam and keeps checking the motion on the current sprite.

Find this block in the Events category -- the block will look like this:   
     http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/when-loudness.png

**Sample Script:**

http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/when-video-motion-example.png

**Troubleshooting:**

**If your webcam isn't turning on**, here are things to try:

* Make sure the "Video on" checkbox (under the Stage thumbnail) is checked.
* Make sure **no other**webcam program is running on your machine (such as PhotoBooth).
* Make sure you have Adobe Flash permissions set to Allow Camera access. To right-click on the top gray menu bar, choose Settings, click Allow).  Or [visit the Flash site](http://www.macromedia.com/support/documentation/en/flashplayer/help/help09.html) for more info or access the [Flash Web Privacy Settings](http://www.macromedia.com/support/documentation/en/flashplayer/help/settings_manager06.html)



**If your webcam won't turn off**:  To turn the camera off, uncheck the "Video on" box under the Stage thumbnail.

**Example Project:**

See the project [Push the Butterfly](http://beta.scratch.mit.edu/projects/10016382/).



Senses how much **motion** is currently in the video image. Or, you can sense the **direction** of the video image.

**How to Use It:**

Requires webcam.

Use video motion this sprite blockto check the **amount of motion** in the video **under the current sprite**.

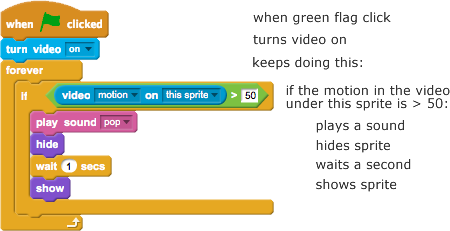
Use video motion on stage blockto check the **amount of motion** over the entire video image.

Use video direction this sprite blockto check the **direction** of motion in the video under the current sprite.

Use video direction on stage blockto check the **direction** of motion in the video image.

**Sample Script:**

This script lets you interact with a sprite by moving over it in a video image.



**Troubleshooting:**

* Make sure the video camera is on.
* Adjust the % of motion or direction to get it to respond more or less.
* Click the checkbox in the Sensing palette to show the current value:

http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/video-motion-checkbox.png

**Example Projects:**

See the [Video Sensing Gallery](http://beta.scratch.mit.edu/studios/190118/).



 Turns video on and off.

**How to Use It:**

Requires webcam.

Available in Stage only! In the looks category.

Use http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/turn-video-on(1).png to turn on web camera.

Use http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/turn-video-off.png to turn off web camera.

Use http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/turn-video-on-flipped.pnghttp://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/turn-video-on-flipped.png for the video to be flipped (a mirror image).

**Sample Script:**

http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/video-on-greenflag.png  

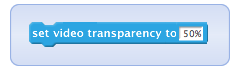
**Troubleshooting:**

If your webcam isn't turning on, here are things to try:

* Make sure the Video on checkbox (below the Stage thumbail) is checked on.
* Make sure **no other** webcam program is running on your machine (such as PhotoBooth).
* Make sure you have Adobe Flash permissions set to Allow Camera access (right-click on the Nav bar, choose Settings, click Allow).

**Example Project:**

See a [video camera basics project](http://alpha.scratch.mit.edu/projects/10002195).



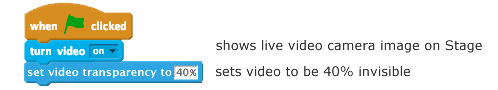
Sets transparency level of the video image on the stage.

**How to Use It:**

Requires webcam.

Type in a number from **0** (fully visible) to **100** (invisible).

**Sample Script:**



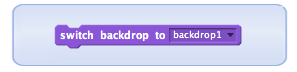
**Troubleshooting:**

* You'll first need to use this block http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/turn-video-on(1).pngto turn video on.
* See other troubleshooting for video above.

**Example Project:**

See a [video camera basics project](http://scratch.mit.edu/projects/10002195).

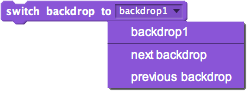
**Backdrop Blocks (Switch Scenes)**



Switches to that backdrop.

**How to Use It:**

     Available from the Looks palette - can be used in sprites or on Stage.

     Choose from the menu to select a backdrop name, or the next or previous backdrop:       
                                                                           

**Sample Script:**





Triggers script below whenever the backdrop switches to the named backdrop. Useful for scenes in a story or levels in a game.

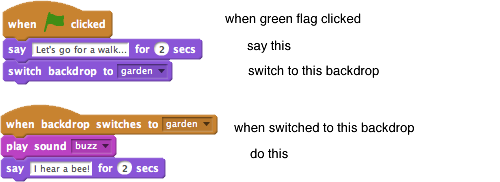
**How to Use It:**

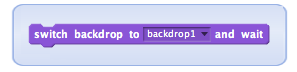
     Available from the Events palette.

     Choose the backdrop name from the menu.

     To make a new backdrop, click on one of the New Backdrop icons: http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/new-backdrop-icons.png

**Sample Scripts:**





Switches to that backdrop and pauses until all scripts starting with http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/when-backdrop-switches.pngare done before continuing. Useful for controlling scenes from the Stage.

**How to Use It:**

     Available from the Looks palette on the **Stage only**.

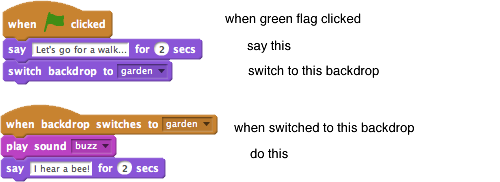
     Choose the backdrop name from the menu.

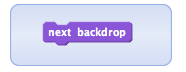
     This block waits for all scripts that start with http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/when-backdrop-switches.png  to finish before continuing.

**Troubleshooting**

* Make sure there is no forever block under the "when" hat, or it will keep waiting forever.

**Sample Code:**





Switches to the next backdrop.

**How to Use It:**

     Available from the Looks palette - **works on Stage only.**     Identical to using http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/switch-backdrop-next-backdrop.png

**Sample Script:**

**http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/when-space-next-backdrop.png**

**Clone Blocks**



Creates a clone of the specified sprite. (The clone is a duplicate that only lasts while the project is running.)

**How to Use It:**

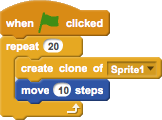
     Available from the Control palette.

     Choose which sprite to clone from the drop-down menu.

     The clone appears in the **same** location as the sprite.

      Use http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/when-i-start-as-a-clone.png to tell the clone what to do once it's created.

**Sample Script:**



**Troubleshooting:**

* If you can't see the clone, move it so the original sprite doesn't cover it.

Make sure to choose the name of the sprite you want to clone.

**Example Projects:**

See the [Clones Gallery](http://beta.scratch.mit.edu/studios/190120/).



Tells a clone what to do once it is created.

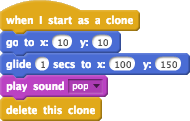
**How to Use It:**

     The block is available in the **Control** palette.

     The script is triggered as soon as the clone is created.

     The clone appears in the **same** location as the sprite, so you need to move it to see it.

**Sample Script:**



**Troubleshooting:**

* If you can't see the clone, move it so the original sprite doesn't cover it.
* Make sure you've chosen the sprite you want to clone from the menu in the http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/create%20clone%20of.png block.
* Clones **also** respond to all "**when...**" blocks triggered after they are created.

**Example Projects:**

See the [Clones Gallery](http://beta.scratch.mit.edu/studios/190120/).



Deletes the current clone.

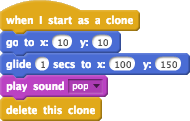
**How to Use It:**

     The block is available in the Control palette.

     Place this block in a script after the clone is done its actions.

     All clones are automatically deleted when the program is stopped.

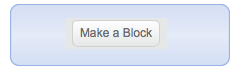
**Sample Script:**



**Example Projects:**

See the [Clones Gallery](http://beta.scratch.mit.edu/studios/190120/).

**Make Your Own Blocks**



Name your own block and then define what it does using a script. (Also known as making a procedure.)

**How to Use It:**

1) Click http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/make-a-block.png in the **More Blocks**... category. Type in a name for your block, such as "jump":



This will make a new block in the palette and a define block in the Scripts area.

2) Make a script under http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/define-jump(1).png to tells what the block will do.

3) Now you can use your block http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/jump(2).png in any script within that sprite.

4) **Optional**: If you want to add **inputs** (also known as *parameters*):

•Click http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/arrow.pngOptions.

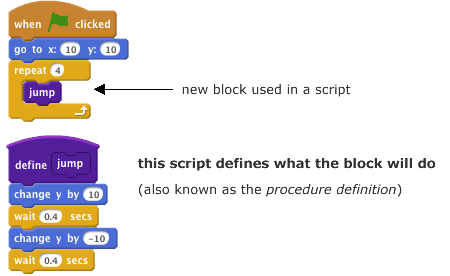
Or, you can right-click (Ctrl+click for Mac) onhttp://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/define-jump(1).png and select http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/edit%20block.png from the menu.

• Click  http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/parameter-oval.png for a number, http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/parameter-string.png for text, and http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/parameter-boolean.png for a boolean parameter. You can edit the name to describe the input (such as "number of times" or "how much").

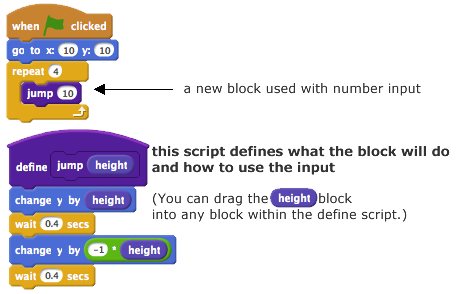
• A lighter purple block (for example, http://info.scratch.mit.edu/sites/infoscratch.media.mit.edu/files/image/height.png ) will appear in the define block. You can drag copies of that input block into other blocks **within** the define script.

**Sample Scripts:**

You can use a new block to make your scripts more organized and modular:



Here's an example of a new block with an input (parameter):



**Troubleshooting:**

* You need to have a define script to tell your block what to do. Keep the define script (don't throw it away).
* You can **only** drag inputs (parameters) into blocks that are **attached** to the define script!
* Right-click to edit the name of the block or add or delete parameters.

**Example Projects:**

See the [Make a Block gallery](http://beta.scratch.mit.edu/studios/190107/).