

Exercise 1: Primitives and 3d Space (make a robot)

This exercise should help you become acquainted with the basic 3ds Max tools for creating and translating primitives as well as an overall experience of 3d space and how to navigate in it using multiple viewports. Using boxes, spheres, cylinders and other basic primitives create a simple robot. Use all 4 views and the transform, rotate, and scale tools to shape your person or animal. You should also become familiar with using the tripod axis to transform your objects.

Step 1

Configure your viewports so that you have a TOP, FRONT, LEFT, and PERSPECTIVE view.

Customize: Viewport Configuration – Layout tab

Step 2

Create a primitive from the PERSPECTIVE viewport on the center world axis (this should be the belly of your critter – use a box or a cylinder).

Create: Standard Primitives...

The same options for creating primitives are also on the side panel. I recommend using the Command Panel on the default right side of the interface.

Step 3

Alter the view of this primitive in the perspective viewport by panning, zooming in or out on the object, arc rotating around the object.

Views can be altered using the button set on the bottom right side of the interface

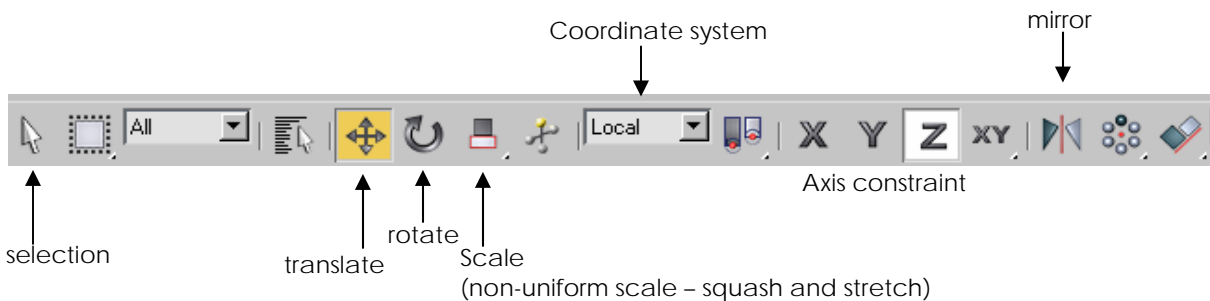
Step 4

Create a second shape using the FRONT viewport (notice that it is automatically created on the center world axis (use another similar shape as above). Notice that objects are drawn differently dependant on the viewport your draw it in! Generally draw all your primitives in the TOP or PERSPECTIVE viewports for consistency.

If you do not like the direction it is facing rotate it or delete it and start again from a different viewport. (*delete using the delete key*)

Step 5

Continue to create objects in different viewports noting how you created each one. Use the transform, rotate and scale tools to alter their position. (these tools are at the top of the interface in the MAIN TOOLBAR.



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Step 6

When you have completed the robot critter use the minimize/maximize viewport to maximize the perspective view to full screen. (*You will show me that you know how to do this is class*)

Step 7

Save your scene into the 'idst147' folder with your name on it and present to me for credit.

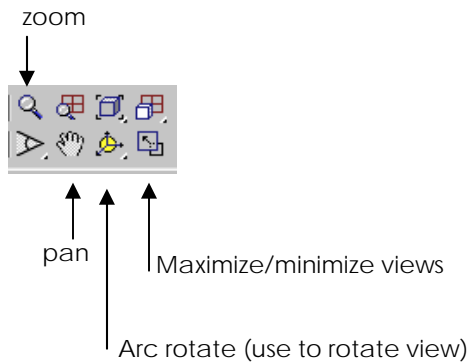
Tips:

Consistently create your primitive shapes by starting from the top view or perspective view.

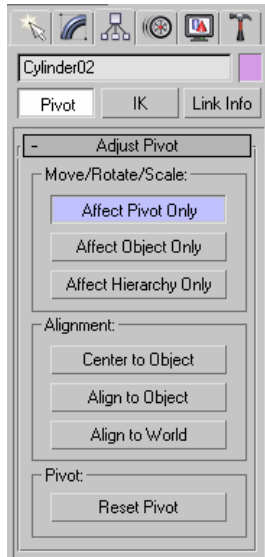
Learn to use the Middle mouse button: Press down to pan view; press down with the alt key down to arc rotate view. Right Button provides access to your menus.

Always create your shapes on the center world axis. All new objects are created based on the convergence of the X Y and Z world axis center.

Move your shapes and keep an eye on all views simultaneously. In the beginning attempt to move in the TOP, LEFT, RIGHT or FRONT view using the axis tripod and constrain your translations in one axis only! Keep an eye on the perspective view for your personal visual composition.



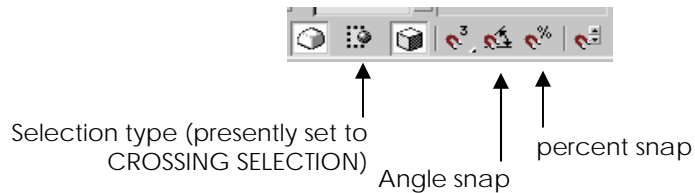
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Changing the Local Axis on an Object:

The default axis on a cylinder and square is at the bottom – change it to be centered on the object (*Command Panel – Hierarchy – Pivot – Affect Pivot Only – Center to object*)

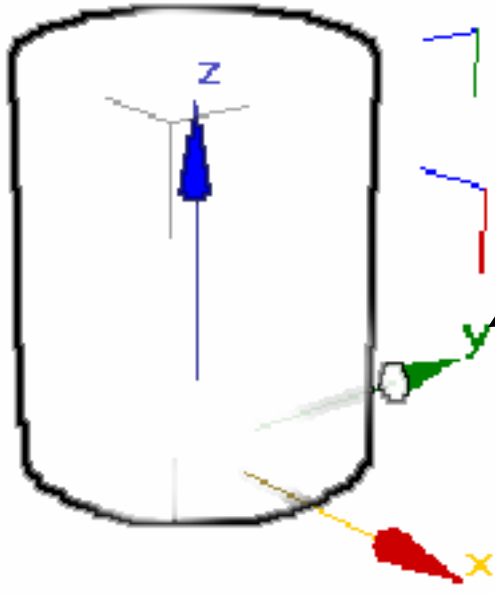
SNAP - When rotating use angle or percent snap to create accurate adjustments (*bottom right portion of interface – toggle on*)



Crossing Selection / Window Selection – this determines how much of the object you need to cross in order for it to be selected. **CROSSING SELECTION** = just need to cross over into the object to select. **WINDOW SELECTION** = need to completely surround it to select.

Transform Gizmo (axis tripod) – An axis tripod appears in the viewports whenever you select one or more objects, to assist you visually in your transforms. If your axis tripod does not appear check to make sure it is not turned off (Menu Item *Views: Show Transform Gizmo*) or that you have not accidentally tapped the X key on the keyboard (*which makes the axis gizmo unavailable*).

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Axis gizmo showing X, Y, Z axis; click on one of these axes to constrain movement on just one axis.



Click and drag on one of these corners to constrain movement on 2 axes.