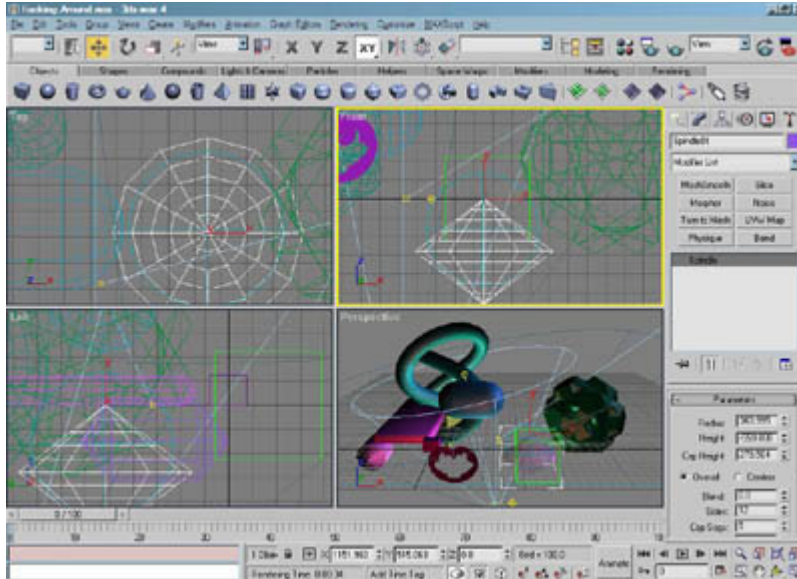


3D Studio Max Lesson 1.1: A Basic Overview of 3DSMax's Main Tool Bar

Introduction



In this tutorial, we'll just be taking a look at parts of the environment of 3D Studio Max version 4.26, and helping you to get more familiar with the tool panels, how to navigate them, and how to use the sets of basic tools you'll need to begin animating; in this tutorial, we'll only be looking at the viewports and the top toolbar, so that we can cover each set of tools in more detail in successive tutorials.

If you're using a version later than 4.26, don't worry; the basics still apply. Because we're covering the principle foundations of animating in three dimensions, we won't be looking at the more advanced plugins and automated functions that come with later versions of the program.

When you first open 3D Studio Max, it can look a little daunting, with dozens of buttons and tabs, screens and panels. But don't worry; just follow along, and we'll get started on figuring out just what's what.

Main Tool Bar



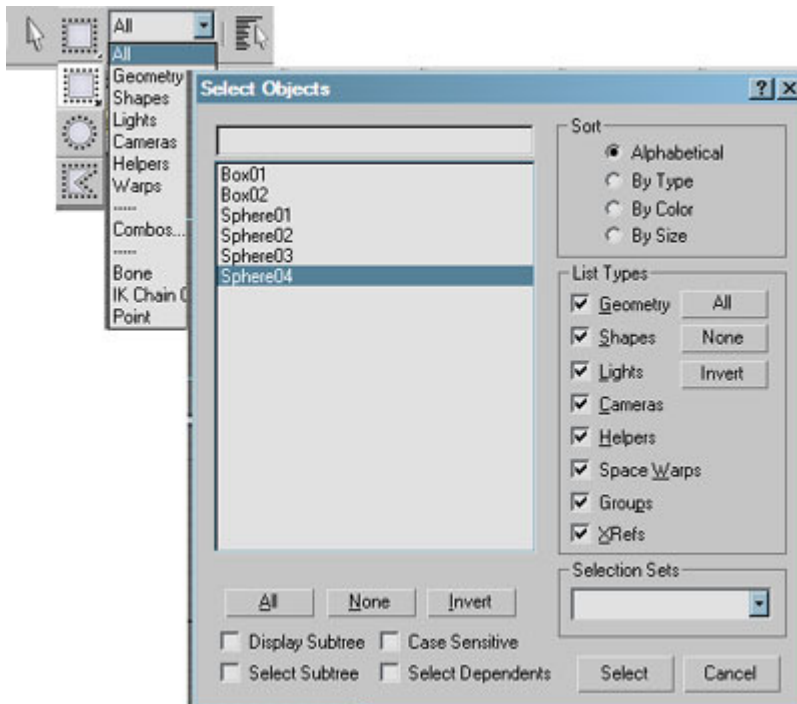
For this lesson, let's look at the tools displayed below the File menu, above the viewports. This toolbar contains many tools and settings required to manipulate your scene and control how various point-and-click tools work. The toolbar actually contains so many buttons that you have to click and drag the right edge to pull the remaining objects into view, creating a sort of sliding/scrolling toolset that you'll soon get used to when working in various areas. In the next pages, we'll go over the individual buttons.

Undo, Redo, Linking, and Space Warps



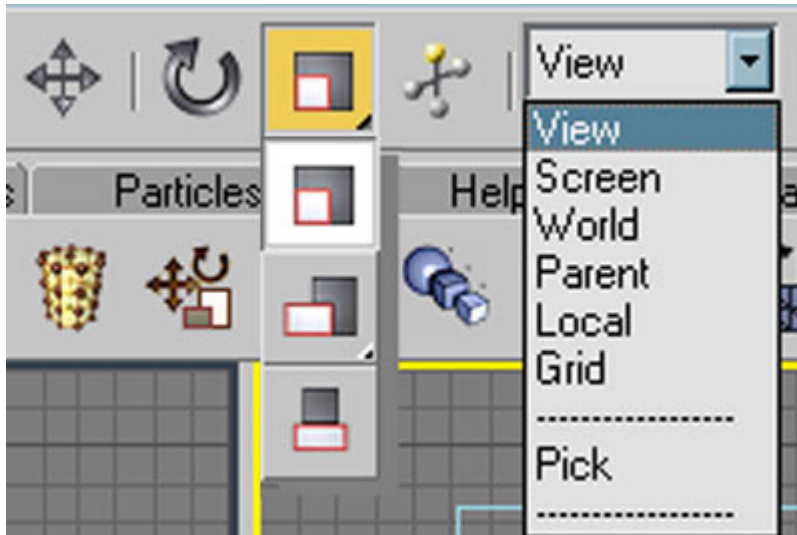
- **Undo:** Undoes your last action.
- **Redo:** Redoes an undone action.
- **Select and Link:** Groups any number of selected objects together so that they can be acted on as a whole.
- **Unlink Selection:** Breaks selected objects away from their link group to once more act as individual objects.
- **Bind to Space Warp:** Click this button, and then click and drag from a renderable object to an object modifier called a “space warp” to bind the two together so that the space warp’s forces will affect the object.

Selection Tools



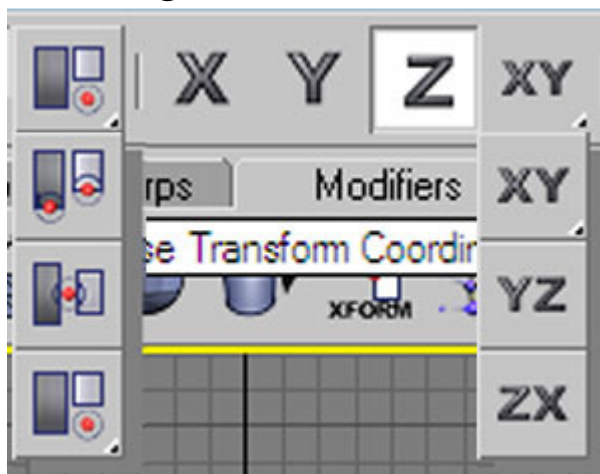
- **Select Object:** Selects clicked objects to make them active for editing.
- **Selection Region:** Defines the shape of a click-drag-release selection region. It defaults to rectangular, but clicking on the small tick in the lower right corner of the button will expand it to allow you to select a circular region or a “fence” region outlined by your mouse selections.
- **Selection Filter:** Dropdown menu that allows you to define which classes of objects are affected by your selections. Defaults to all, but can be set so that only mesh objects, or lights, or other specific objects are selected.
- **Select by Name:** Opens a second dialogue with a list of all objects in your scene, allowing you to select them by name one at a time or in multiples.

Moving, Rotating, Scaling, Manipulation, and Coordinate Systems



- **Select and Move:** Allows you to move the object selected in any range of three-dimensional space.
- **Select and Rotate:** Allows you to rotate the object selected in any range of three-dimensional space.
- **Select and Scale:** Breaks down into three tools—**Select and Uniform Scale**, **Select and Non-Uniform Scale**, and **Select and Squash**. The first allows you to select an object and scale it larger and smaller in all dimensions; the second allows you to scale an object larger and smaller only in selected or unlocked dimensions. The third is a tool that you will rarely use; it “squashes” your shapes and can severely interfere with any modifiers applied.
- **Select and Manipulate:** Allows you to select a shape and manipulate it in several ways.
- **Reference Coordinate System:** Determines what coordinate planes are used when tools are choosing planes to work in; this can be World (universal), View (the selected viewport), and many others. Try experimenting with them to see the different effects that using the tools in different reference coordinate systems causes.

Centering and Axis and Coordinate Plane Restrictions



- **Center Controls:** Breaks down into “Use Pivot Point Center”, “Use Selection Center”, or “Use Transform Coordinate Center”. These settings define whether or not an object or group of objects rotate around the central pivot points of individual objects, the center of a group of objects, or the central pivot point of the axis that it/they are being rotated on.
- **Restrict to X:** Locks a transformation (move, rotate, scale) so that it occurs only on the X plane/coordinate.
- **Restrict to Y:** Locks a transformation (move, rotate, scale) so that it occurs only on the Y plane/coordinate.
- **Restrict to Z:** Locks a transformation (move, rotate, scale) so that it occurs only on the Z plane/coordinate.
- **Restrict to Coordinate Plane:** Instead of locking to a single coordinate, it locks transformations to a set of coordinates; can be the XY plane, the XZ plane, or the YZ plane.

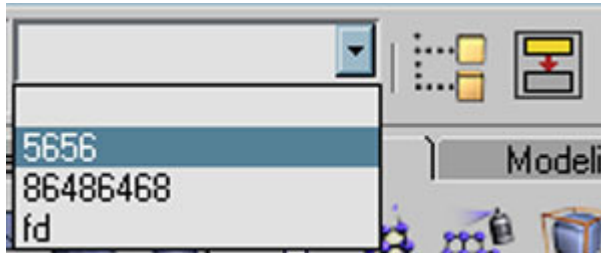
Mirroring, Array, Snapshot, Spacing, and Alignment Tools



- **Mirror Selected Objects:** Opens a separate dialogue that lets you “mirror” the selected object(s) along the X, Y, or Z axes, or along the XY, XZ, or YZ coordinate planes. They can be mirrored as originals, copies, instances (copies that reflect changes to the original) or references of the original. You can also mirror the IK (inverse-kinematics animation specifics) or bones (objects used to add structure to models for animation).
- **Array, Snapshot, and Spacing:** Array lets you create an array of objects based on the current selection, with as many objects as you want with various settings for offsets, etc (available in a dialogue that opens when you select the tool.) Snapshot lets you create a clone of an object over time, taking “snapshots” or captures of an image at either a single frame or along an animated motion path. Spacing lets you distribute objects (based on settings in the Spacing dialogue) as clones, instances, or references along a path or just at set intervals, guaranteeing perfectly even spacing.
- **Alignment Tools:** Breaks down into Align, Normal Align, Place Highlights, Align Camera, or Align to View (the latter opens a separate dialogue box to select a coordinate axis to align the

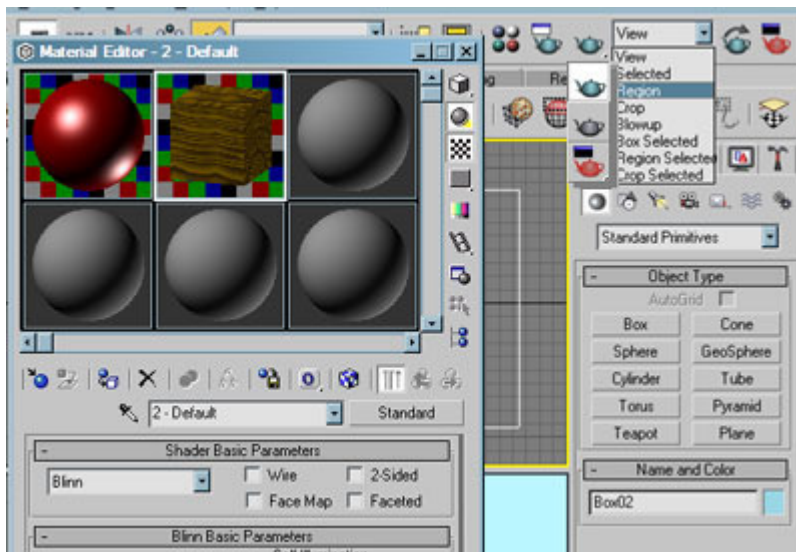
View to.) These tools let you align your objects to your scene or other objects, align your highlights to your scene, align your camera to your scene, or align your scene to the viewports.

Selection Sets, Track View, and Schematic View



- **Named Selection Sets:** Allows you to assign a name to a selection set (a group of selected objects). This can let you conveniently re-select groups of objects rather than selecting them again individually, by picking the name from the dropdown menu.
- **Open Track View:** Opens the Track View toolbox, where you can view and edit all of your keys/keyframes in a linear environment, as well as assign controllers to those keys.
- **Open Schematic View:** Opens a display that shows objects and their subsets in a hierarchy graph.

Material Editor and Rendering Tools

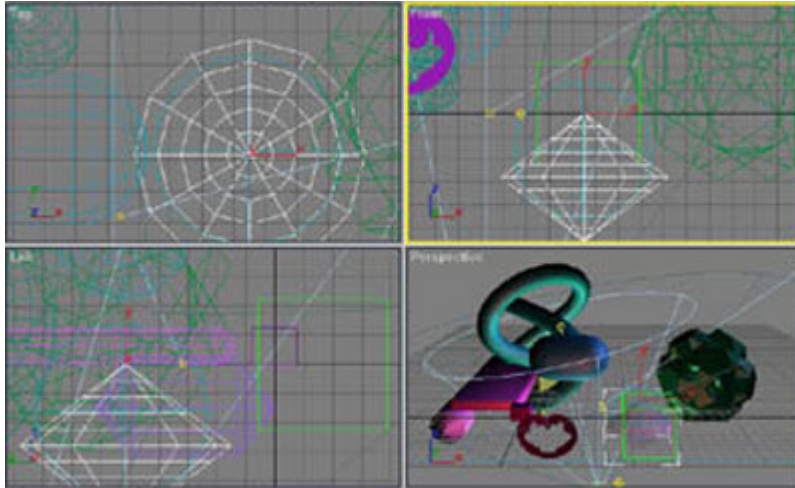


- **Material Editor:** Opens the Material Editor window, where you can edit individual materials (surfaces/textures applied to the surface of your modeled objects to create a texture, such as wood grain).
- **Render Scene:** Renders a file in a specified format (image, video, image sequence, etc.) with the contents of the scene from the selected viewport or camera view. This can be a still image, or an animated sequence spanning specified frames. The “Render Scene” button creates the final product, and thus can take a long time as it calculates all effects to create each frame. Clicking the Render button also opens your Custom Parameters dialogue, where you can set the options that will affect your final render or your Quick Render.
- **Quick Render:** Renders a faster version without full detail (using the current render production settings on the default of “Quick Render (Production)”). Also expands to Quick

Render (Draft) and Quick Render (Active Shade). The former performs a quick render without displaying the Render Scene dialogue; the latter renders with selected ActiveShade parameters (such as the effects of changing lighting in a scene).

- **Render Type:** Allows you to render only a portion of the scene, selected from the dropdown menu.
- **Render Last:** Re-renders an exact copy of the last thing rendered.
- **Active Shade Floater:** Clicking this displays an Active Shade rendering in its own window.

Viewports



Lastly, let's look at the four views portrayed in the majority of the screen. When you first open the program, it defaults to four views, with a top, side, and front view of your workspace displaying the wireframes of your objects, and a fourth perspective view displaying an angled, solid-surfaced view that lets you get a more realistic idea of the final results as seen by a camera. You can change your views to have anywhere from one to four windows, and change the windows to display from the top, left, right, front, back, bottom, perspective, or any camera that you have set up in the scene. The views displayed here (starting at the top left and going clockwise) are the top, front, perspective, and left-side views.

Right-clicking on any viewport will bring up a list of more options to let you further customize the windows or edit the objects and their assigned modifiers.