

Objectives

To provide additional sources for learning 3ds Max commands & techniques.

Getting Started

It's a good operating practice when starting a new session to:

1. Configure the Viewports
2. Shading
3. Units Setup & Display grid

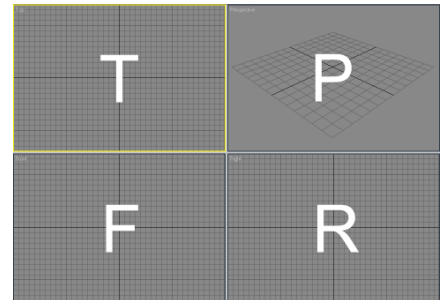
Configure the Viewports

A good Viewport layout to start with has 3 orthographic views and a perspective view:

Top	Perspective
Front	Right

The following keyboard shortcuts can be used to reset the Viewports at any time:

- T → Top
- F → Front
- L → Left
- P → Perspective



Sometimes your Perspective Viewport may look distorted. If this happens you can reset as follows:

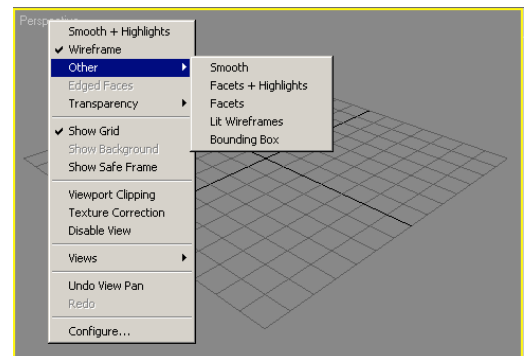
- F to change it to the Front Viewport
- Then P: the view doesn't change, but the Viewport is now in Perspective
- Use the Arc Rotate tool to adjust the orientation of the view.

Shading, Units Setup & Display grid

To set the shading for the active Viewport, right-click over that view's name to open a view control menu (see right image). Set "Wireframe" shading for the Top, Front, and Right views. Set "Smooth+Highlights" shading for the Perspective view.

The grid in the Viewports displays "generic units." You can set the scene's units to Metric or US Standard with the Customize → Units Setup menu.

The keyboard shortcut "G" toggles the grid visibility in the active Viewport: G → Show Grid on/off



Modeling, Maps & Materials, Lights, Cameras

Concepts to review and sources of further training from 3DS Max User Reference & Tutorials. Use these specific key words when searching in the User Reference help file. (Tip: search titles only)

Modeling

Mesh Editing	Max User Reference	Max Tutorial
Vertex	Editable Mesh (Vertex)	Modeling a Chess Set
Face Extrude / Bevel	Editable Mesh (Face/Polygon/Element)	Modeling a Claw
Compound Objects		
Boolean	Boolean Compound Object	Making a Power Charger → Cutting Holes in Objects
Loft	Loft Compound Object	Lofting a Telephone

Maps & Materials

Maps	Max User Reference	Max Tutorial
Environment/Backgrounds	Environment Panel → Common Parameters rollout → Environment Map	Introduction to Materials and Mapping → Adding Stars to the Sky
Diffuse, Bump, Opacity, Reflection, Shininess, Displacement	Types of Maps & Maps Rollout (Standard Material)	Introduction to Materials and Mapping → Mapping and Mapping Coordinates
2D generated maps	2D Maps	Texturing the Chess-board
3D generated maps	3D Maps	Applying Mapped Materials , 3D Materials
Mask maps	Mask Map	Mapping and Mapping Coordinates
Mixing maps	Compositor Maps	Material Combinations
Reflection / Refraction	Reflection and Refraction Maps	Texturing the Chess-board, Using Raytrace Materials, Using the mental ray Renderer
UVW Mapping	UVW Map Modifier	Using the UVW Map
Materials		
<i>Standard type</i> Material Basic Parameters (Color, / Self-Illumination, Opacity, Filter Color)	Color Controls, Self-Illumination Setting, Opacity, Translucency Setting	Creating Basic Materials, Introduction to Materials
<i>Standard</i> Material Shading types (ie: Phong, Blinn, Isotropic)	Standard Material → Shader Basic Parameters Rollout	Understanding Shaders

Advanced type Materials (Architectural, Raytrace)	Architectural Material, Raytrace Material	Use an Architectural Material, Using Raytrace Materials
Compound Materials (Blend, Composite, Multi/Sub-object, Top/Bottom)	Blend Material, Composite Material, Multi/Sub-Object Material, Top/Bottom Material	Material Combinations, Applying Multiple Materials to One Object
Ink 'n Paint Material	Ink 'n Paint Material	Using Ink 'n Paint
Managing materials in the Scene -vs- Editor	Sample Slots, Material/Map Browser, Update Scene Materials Dialog	Accessing Materials
Creating and Managing Libraries	Put to Library, Material/Map Browser	Accessing Materials
File Handling Utilities	Bitmap / Photometric Path Editor Utility, Resource Collector Utility	n/a

Lighting

Lighting Design	Max User Reference	Max Tutorial
3ds Max Lighting basics	Using Lights, Properties of Light	Introduction to Lighting
Types (Standard, Photometric, Sunlight)	Standard Lights, Photometric Lights, Sunlight and Daylight Systems	Introduction to Lighting, Rendering a Daylight Scene
Placement/Cloning: Instances -vs- Independent	Clone Options Dialog, Light Include/Exclude Tool	Simulating Bounced Lighting, Adding a Shadow Map
Overall light level, Exposure control	Exposure Controls	Rendering a Daylight Scene
Management of scene Lights	Light Lister	Simulating Bounced Lighting
Parameters		
Common light controls: Exclude/Include, Shadow Spotlight, Advanced Effects.	General Lighting Parameters	Introduction to Lighting, Understanding Ambient Color and Light
Standard lights: types, parameters	Standard Lights	
Standard lights: additional controls	Intensity/Color/Attenuation Parameters, Directional Parameters	
Photometric lights: types, parameters	Photometric Lights	Advanced Lighting and Global Illumination
Photometric lights: additional controls	Intensity/Color/Distribution Rollout, Linear Light Parameters, Area Light Parameters, Web Parameters	

Shadows		
Global variables	Shadow Parameters	Introduction to Lighting
Shadow maps	Shadow Map Parameters	Adding a Shadow Map
Area Shadows	Area Shadows Rollout	Using Area Shadows
Ray-Traced Shadows	Ray-Traced Shadow Parameters	<i>n/a</i>
Advanced Ray-Traced	Advanced Ray-Traced Parameters	<i>n/a</i>

Cameras

	Max User Reference	Max Tutorial
Free -vs- Targeted	Cameras, Free Camera, Target Camera	Adding a Camera
Clipping plane	Using Clipping Planes	<i>n/a</i>
Lens choice -vs- required Field Of View	Characteristics of Cameras	
Traditional camera motion	Animating Cameras, Dolly Camera, Roll Camera, Truck Camera	
Blocking, Storyboarding, Multi Camera planning	Video Safe Frame	

Effects (optional-advanced)

	Max User Reference	Max Tutorial
Environment		
Fog (Distance -vs- Layered)	Fog Environment Effect	Adding a Volume Light and Volume Fog
Fire	Fire Environment Effect	Creating Explosions
Lighting		
Volume light	Atmospheres and Effects for Lights	Adding a Volume Light and Volume Fog
Camera		
Depth of Field, Motion Blur	Multi-Pass Rendering Effects	Using mental ray Depth of Field