Modelling a Jack-O-Lantern with Blender

by
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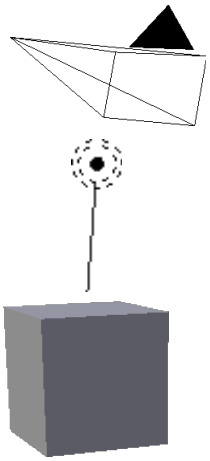
1. **Blender's User Interface**
   Blender has some wacky GUI stuff. You really should have a 3 button mouse with a scroll wheel to work with it. There are options to configure it to work with a 2 button mouse, but it's harder. And don't even think of doing it with a laptop touchpad. Press CTRL+S often to save your work. Sometimes blender crashes!

2. **New Scene**
   When you create a new scene in Blender, it starts with:
   A. a camera

   B. a lamp

   C. a cube

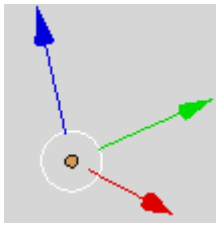


3. **Other things you'll see:**
   A. The 3D Cursor

   This is the position where new items are added to the scene. If you LEFT-CLICK in the scene, it will change the position of this.

   B. An axis indicator for the selected item. This shows which directions apply to the selected item.
   RED = X
   GREEN = Y
   BLUE = Z



4. **The mouse needs a home**
   Another thing to note is that the position of the mouse on the screen is important! Pressing keys on the keyboard behave differently depending on which area of the screen the mouse is over! (I told you it was wacky)

5. **Moving around the scene.**
   There are different ways to do this, but I think the easiest is to go into "First Person Game Mode".
   A. Put your mouse inside the area where the cube is, because that's where we want to move around
   B. Press SHIFT-F to get into First Person Gaming Mode.
   C. Now you can use WASD (or arrow keys) to move, use the mouse to look, and Q&E to move up and down.

D. Once you're in a position you like, LEFT-CLICK the mouse (or press the ENTER key). If you RIGHT-CLICK the mouse (or press the ESC key), then it will put you back to where you were previously.

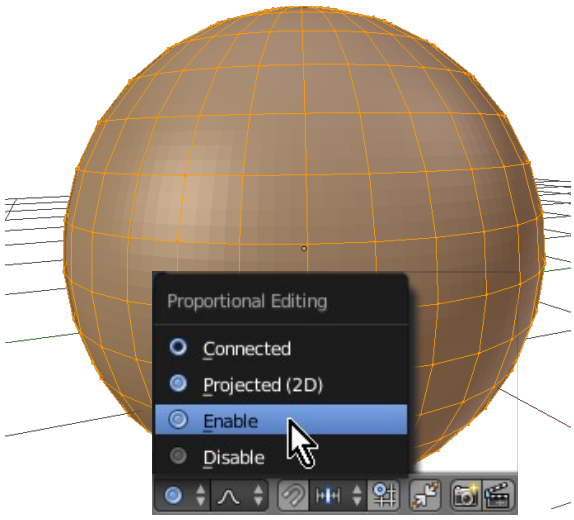
6. **Making Changes to an Entire Object**
   A. RIGHT-CLICK on the cube to select it. It will glow orange and show it's axis indicator.
   B. With the mouse still in the same area, press G (Grab). This will allow you to move the box with your mouse. LEFT-CLICK will save the change, RIGHT-CLICK will put it back where it was previously.
   C. Press S (Scale) and you can now grow/shrink the cube. If you only want to scale it in one direction, press that axis key. So if you press S X then you'll only scale it on the x axis. The axis limiters also apply to the Grab function.

7. **Making Changes to an Object's Vertices**
   A. Press TAB to toggle between OBJECT mode and EDIT mode. In Edit mode you can change individual vertices or edges.
   B. In EDIT mode you can press A to toggle ALL vertices between selected and not selected.
   C. Press B to draw a BOX around vertices to select them
   D. Press C to use a CIRCLE to drag over vertices to select them.
   E. Once you have vertices selected, you can use tools like G (Grab) to modify these

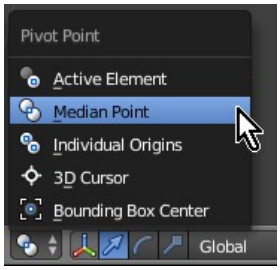
8. **Clean Up This Mess!**
   A. Press TAB to get back to object mode
   B. Press DELETE to remove the cube, or whatever mess you've made of the cube at this point.

9. **Wasn't this supposed to be somewhat pumpkin related?**
   A. LEFT-CLICK in the middle of your ground plane to place the 3D Cursor. This is where our new element will be created.
   B. Press SHIFT-A to bring up the ADD menu
   C. Select Mesh : UV Sphere
   D. Press the "." on the number pad to zoom into our new "pumpkin"
   E. Press CTRL-2 to Subdivide every face. This will make it appear smoother. It dosn't actually have that many faces (yet), these are just like virtual faces for now.
   F. Press TAB to go to edit mode, and you'll see the actual vertices.

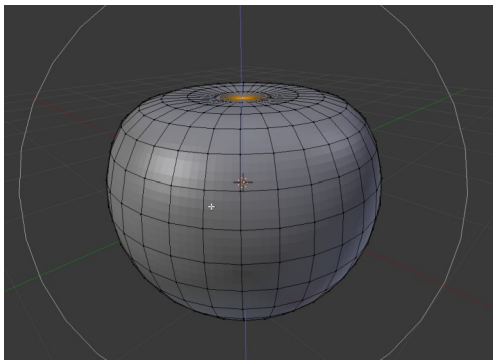
G. RIGHT-CLICK on the very top vertex so that it is the only one that is selected (orange).
H. We can now use G Z to grab this on the Z axis and drag it down. BUT, this will only drag the one point, and it won't look anything like a pumpkin.
I. Press ESC or RIGHT-CLICK to cancel that. Instead of moving one vertext, we want to proportionally move all the ones near it. We need to turn on Proportional Editing



J. While we're at it – also change the pivot point to the Median Point so that we don't need to worry about the 3D cursor.

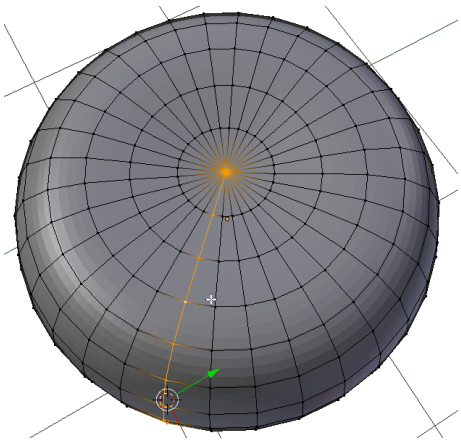


K. Now when you press G Z you'll see a white circle showing the area where the vertexes will be affected. The mouse scroll wheel changes the size of this circle. Make it big enough so that you can drag down just the top half of the sphere to flatten it out.
L. Do the same thing on the bottom. Adjusting the circle until you get a shape you like.

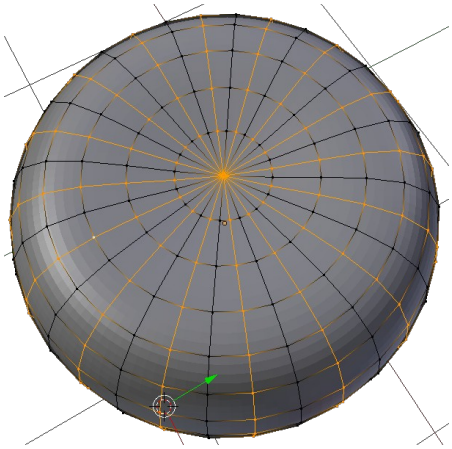


M. DISABLE proportional editing now, or it'll end up confusing us later.

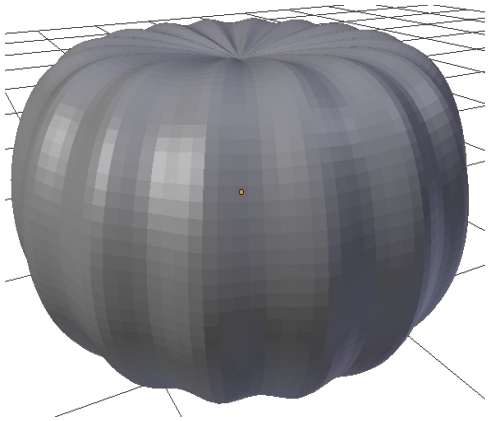
N. Position yourself above or below and ALT-RIGHT-CLICK one of the edges going away from the pole. This is a Ring Select.



O. We want to select every other ring. So hold down SHIFT and ATL-RIGHT-CLICK every 2nd one. Like this



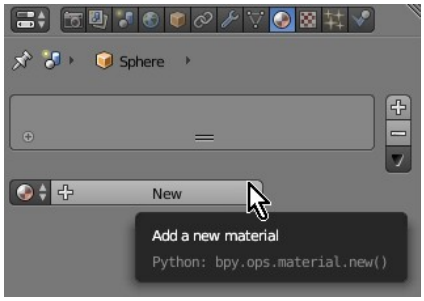
P. We want to make the ridges by shrinking these rings. Press S and then use the mouse to scale these down VERY SLIGHTLY! When you're happy press TAB to go back to object mode and you should have something like this.



10. Colour

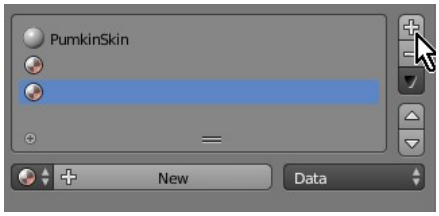
A. Our model can have any number of materials. For this one, we're going to make 3:
- Dark orange for the outside
- Yellow/orange for the inside
- Dull green for the stem

B. With the pumpkin object selected go over to the lower right menu and find the tab with the shiny sphere. This is the material tab. Then press the button to create the first new material.



C. Then type in a name for the material

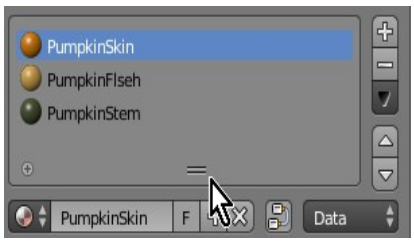
D. Press the + button to create two more material slots



E. Use the NEW button for each of these to generate materials for each of these slots, and give them names.

F. Select each of the slots and choose an appropriate “Diffuse” colour.

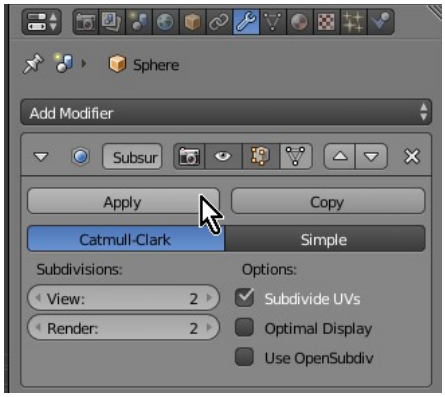
G. The model will default to the first material, so it should now display in orange.



11. No more virtual vertexes

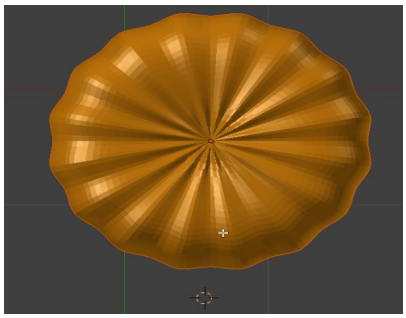
A. Once we’re happy with the shape, we can convert our virtual vertexes to real ones.

B. On the right menu select the spanner tab. This is for Modifiers. Then click the Apply button, and the modifier will become permanent.



12. CARVE!

A. On the number-pad press “1” then “7” to get a top view. Then left click below the pumpkin to place the 3D cursor in front of it. This is where we’ll do our drawing.

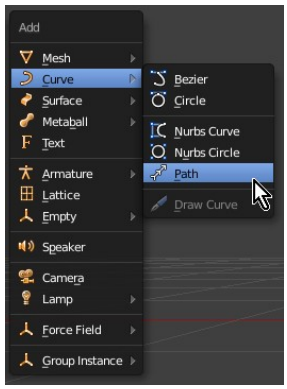


1

B. On the number-pad press “1” then “.” to get a side close up view of the pumpkin. Careful not to left-click or you’ll move the 3D cursor.

C. Press SHIFT-A and create a new Curve – Path

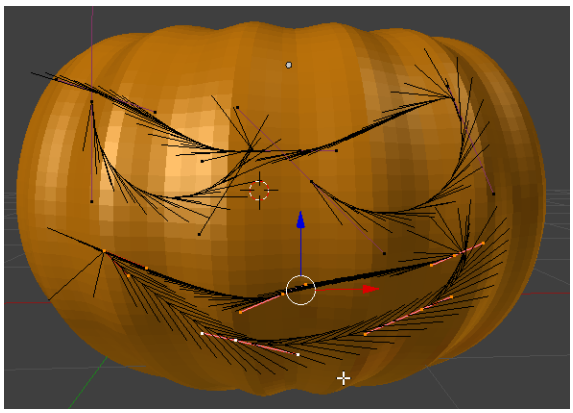
D. Press TAB then A then DELETE to delete all of the vertices in this path. We want to draw our own.



E. In the left menu select “Draw Curve” and use the mouse and left button to draw an eye shape.

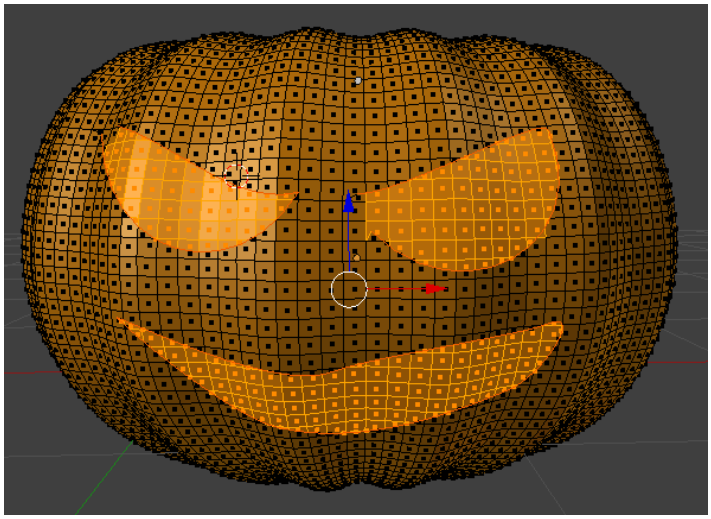
F. Press Draw Curve again for the other eye.

G. And repeat again for the mouth

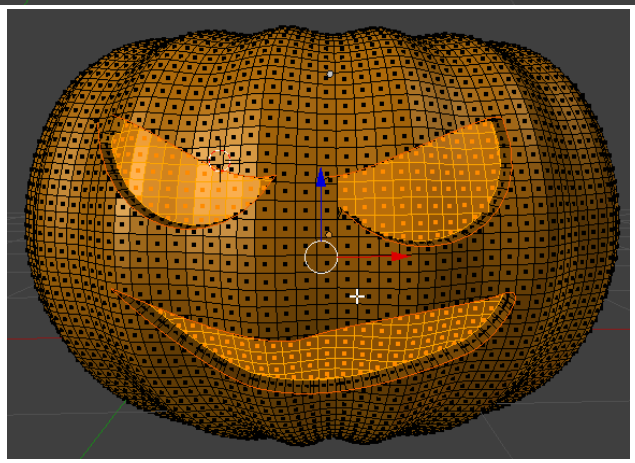


H. We want to take that set of shapes and cut them out of our pumpkin. Press TAB to get out of edit mode. Then SHIFT-RIGHT-CLICK the pumpkin to also select it. The shapes should be outlined dark-orange, and the pumpkin outlined light orange.

I. Press TAB to put the pumpkin into edit mode. Then on the left tools menu select “Knife Project”. This creates new vertexes on our model in the shapes we drew. They’re also selected now.



J. Press E for “Extrude” and Y to limit to the Y axis. Push it in just a little bit (the thickness of the pumpkin’s flesh. Then press ENTER



K. Press DELETE and select FACES to remove the selected faces, so we can see inside the pumpkin

L. Select FACE EDIT MODE

M. ALT-RIGHT-CLICK the flesh inside the mouth. This should select the entire ring. Then in the material tab on the right select “Pumkin Flesh” and press the “Assign” button.

N. Do the same again for the flesh inside each of the eye holes

O. Press TAB to get out of edit mode and it should look like this

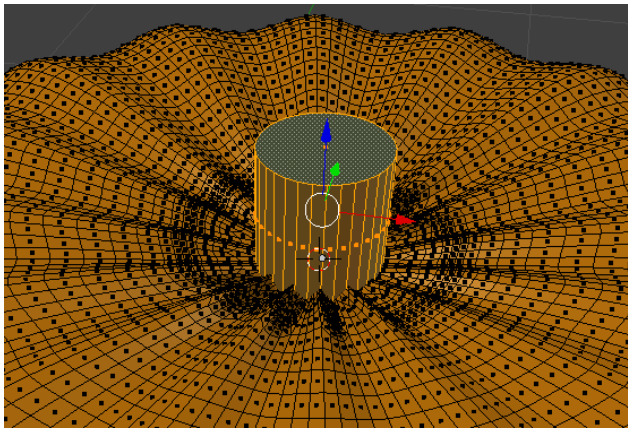
13. The Stem

A. Press TAB to get back in edit mode and rotate so you can see the top of your pumpkin. LEFT-CLICK to place the 3D Cursor.

B. Press SHIFT-A (Add) and pick Cylinder. It’s going to be HUGE.

C. Press S to scale it down with the mouse.

D. In the material panel select our stem material and press Assign



14. Rendering

A. With the pumpkin selected in edit mode, on the left menu select Tools – Shading – Smooth. This will smooth out the flat faces.

B. Now we’ll add a candle light. Press 7 on the number pad to view the top. Left click the centre, and press SHIFT-A (Add) – Lamp – Point.

C. Press 1 on the number pad to view the front. Then G (grab) Z, and drag the light down to the centre.

D. Use Shift-F to get into first person game mode to get the viewport the way you want to see it.

E. Press CTRL-ALT-NUMPAD-0 to align the rendering camera with the viewport

F. Press F12 to render an image from the camera

15. What's Next?

A. Improve the stem by making it longer and curved. Try the R (rotate) feature with the top of the stem selected.

B. Try improving the materials. Give the skin some texture.

C. Switch to the Cycles Renderer for even more realistic results

D. Add a spooky background image

E. Add other elements to your scene

Learn Blender 3d in a single sheet poster.

blender infographicmap

made by giudansky.com
follow me for updates
29/09/2016 VER. 1.6 FOR BLENDER 2.78

Object Mode / Edit Mode / Plugins / New feature

Does it looks too complex? Remember: size and thickness define IMPORTANCE

view - display & windows

shift+A Add object
object view, edit view, node editor
First thing you need to learn. Add a monkey head on top of that wonderful cube!

T left panel
tool shelf

N right panel
properties

top 7 8 9 opposite view
4 5 6 orthographic view / perspective view
front 1 2 3 right
camera / user persp. 0 canc zoom + center on selected

move Rotate view

shift+move Pan view

Zoom view

HOLD alt+F Pan around

shift+B crop zoom view

ctrl scroll tabs values -/+

divide view
ctrl swap view

shift align to active

ctrl+alt+Q 4 sides view
TOP | USER
FRONT | RIGHT

ctrl opposite view

Select object
shift add to selection

/ Isolation mode
shift+space Full view
alt+f10 Full screen

camera

ctrl+0 Active camera
set view on selected camera

ctrl+alt+0 set camera on current view

shift+F Navigation mode
tab activate gravity
1st person mode

cursor, origin, orientation

Cursor move

alt+space orientation
view, gimbal, normal, global, local

preferences > interface
cursor depth
Align cursor to clicked surface

shift+S cursor align

shift+C reset 3d cursor

shift+ctrl+alt+C set origin

shift+R repeat last action
The easiest way for repetitive actions

ctrl+L make links from active to selected
Transfer properties (materials, uv maps, groups, anim data, modifiers...)

select - organize

B border select

C brush select
brush size

HOLD ctrl lasso select

A Select all
×2 unselect

ctrl+I invert select

ctrl+L select linked

shift+G select grouped
select similar

ctrl+ select more
select less

NEW 2.78 ctrl+shift select region

alt loop select
ctrl ring select

ctrl+G Group selected objects

ctrl+P Parent element

alt+P clear parent

H Hide selected

shift+H hide unselected

alt+H unhide

M Move to layer
1..0 switch layers
shift activate/deactiv. layers

space Search

Can't find something? Search it!
Copy positions, scale, rotations, uvs, modifiers and more, from active object to selected.

ctrl+shift+X Carver cutting ops. space select tool

ctrl+C Copy attributes

tab

Edit / Object mode
interaction mode

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ctrl+tab mesh select mode
window: face, edge or vertex

ctrl+F face ctrl+E edge ctrl+V vertex
mesh window menu

shift+tab Snap activate

ctrl+shift+tab snapping type

vertex face edge volume increment align rotation absolute grid align

transform

G Move
×2 slide along vertex or edges
C slide over

R Rotate

S Scale
Scales along selected normals
alt Shrink - Fatten

x/y/z on axis
×2 switch orientation
shift+x/y/z lock axis
HOLD shift precision mode
HOLD ctrl snap to units
f6 translate menu
INPUTS
alt multiple objects value change
NEW 2.78 ctrl+D add driver

ctrl+A Apply transform
This fix strange behaviours in edit mode and modifiers. Be careful, you'll not be able to reset transformations by num. values.

ctrl+M Mirror
x/y/z on axis

ctrl+L copy linked to scene
U unlink instances

modeling (edit mode)

F Create face
or edge between selected
alt Fill with tri faces
shift Limit the cut to selected faces

K Knife
cut a face
ctrl snap on mid
+Z cut through
+C angle constrain

Intersect
alt+F selected
Inset (knife)
Menact (boolean)

V Rip
vertices or edges

J Connect
vertices path

alt+M Merge

P Separate
selected from mesh

ctrl+J Join selected

ctrl+B Bevel
faces or edges
+V bevel vertex
segments

O proportional edit

shift+D duplicate

alt+D extend vertices / duplicate linked
In edit mode add vertices to the shape mesh

ctrl+R Loopcut and slide
number of cuts
NEW 2.78 Offset edge slide
Extrude region or individual faces
alt

E Extrude
x/y/z on axis
ctrl click extrude

I Inset face

alt+R Spin
Spin works perpendicular to the view. STEPS. ANGLE

most used modifiers

Subdivision surface: Increase mesh detail. Use together with smooth shading and edge crease to obtain perfect detailed objects.
Auto Smooth
Better results with smooth shading and fixes black-edges problems in rendering

Array: duplicate a series of objects dynamically. In addition with the Curve deform modifier can bend and follow a path.

Skin: create an armature around the edge. Perfect for branches-like objects.
ctrl+A radius of the selected vertices

Multiresolution: increase mesh detail dynamically for detail sculpting.

Solidify: adds depth to a flat surface.

Bevel: bevel edges dynamically.

Shrinkwrap: shrink the mesh to the target object.
Can be used to retopologize a mesh in a minute.

Decimate: optimize a mesh and reduce polygons

sculpt mode

Brush size F
shift brush strength

M Mask paint
ctrl add / substract
shift soft

texture painting

S Color picker
add color swatch

move stencil
shift scale stencil

grease pencil

HOLD D Draw stroke free hand

ctrl+D draw stroke line
draw stroke poly line

D Erase

render

ctrl+B border render
ctrl+alt+B reset border

Render f12

W restrict to selected
f11 show last render

f3 Save image

mustload - add-ons

Looptools: Bridge faces, flatten faces, convert faces to circle shape, distribute vertex, etc.
Copy attributes menù
Import images as plane
Measure it Add labels and measure every distance or angles between elements.
Material utils Add material menu.
Extra objects (mesh and curves)
Add gears, diamonds, pipes, or the old dear teapot (SHIFT+A).

Add curve sapling Tree generator.
Bsurface Create surfaces with grease pencil.
Carve Cuts and holes made easy.
Archimesh Generate architecture dynamical elements: rooms, doors, windows, columns, stairs, fillet rails.
Node wrangler Material node previews and more.

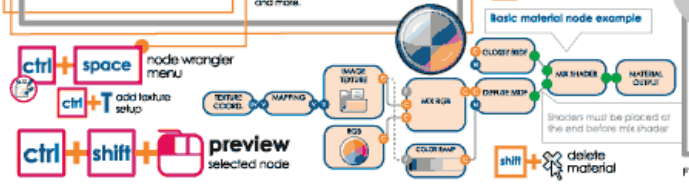
materials

shift+Q Material utils assign or select by material

F connect selected nodes

T node offset direction

Basic material node example



Shaders must be placed at the end before mix shader

ctrl+space node wrangler menu
ctrl+T add texture setup
ctrl+shift preview selected node
shift delete material

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