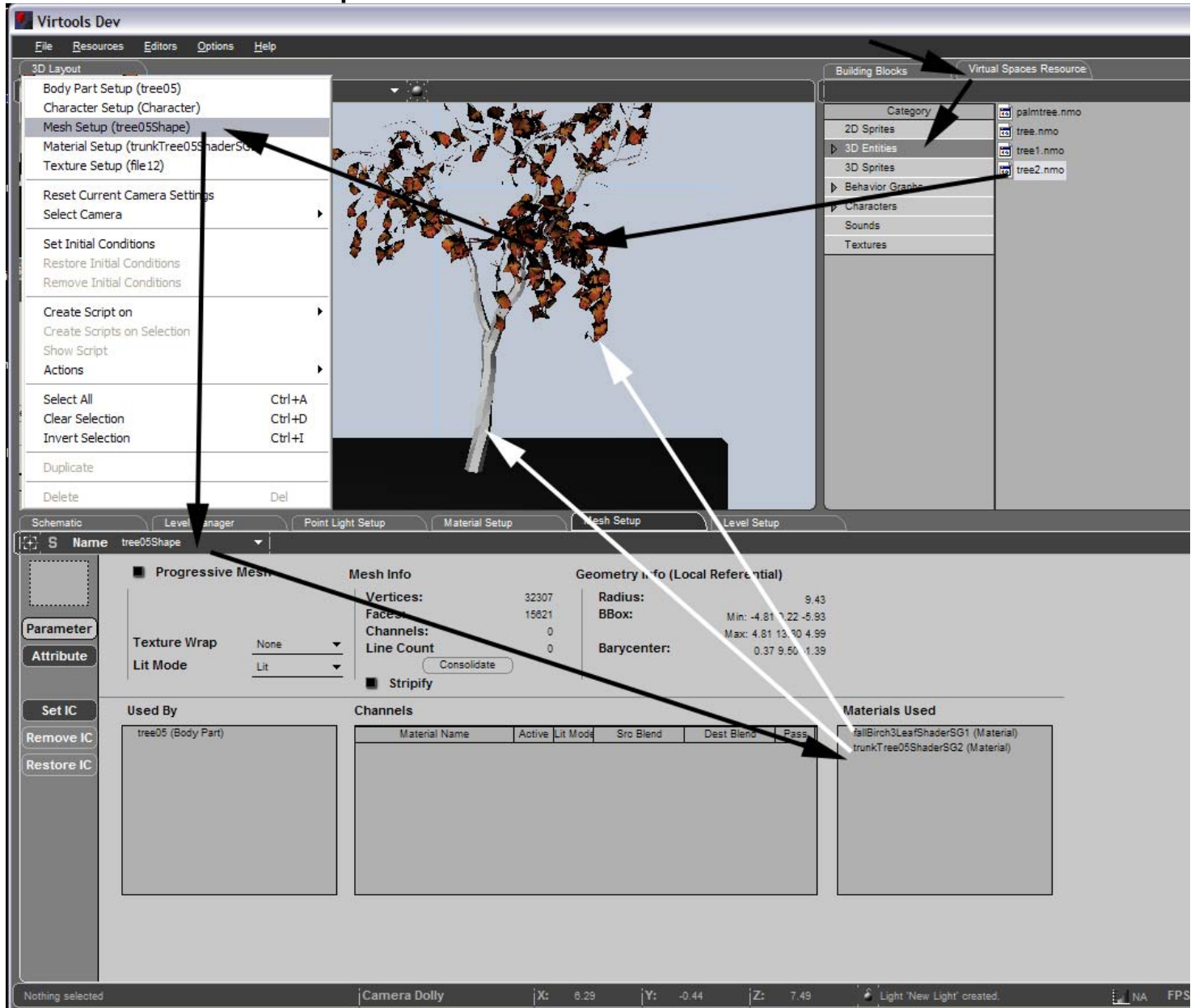


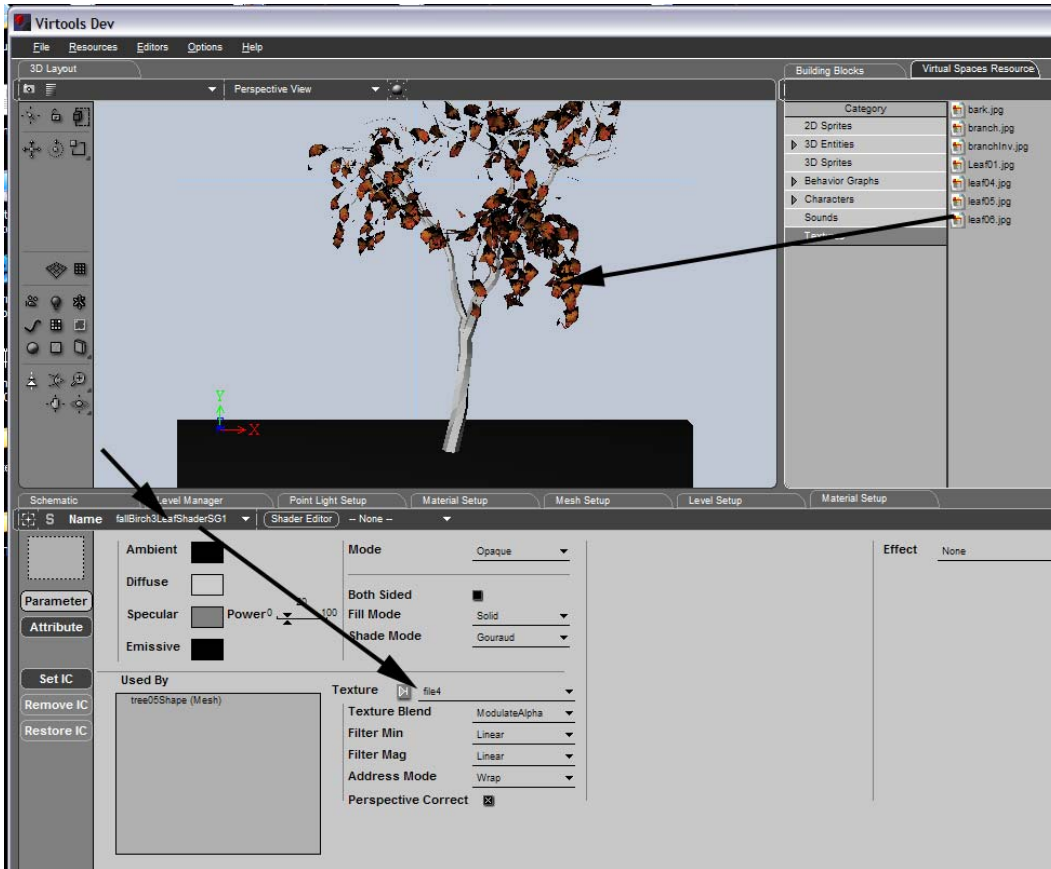
Cloning a tree in Virtools

This tutorial shows how to place a tree on a terrain and how to clone a small forest.

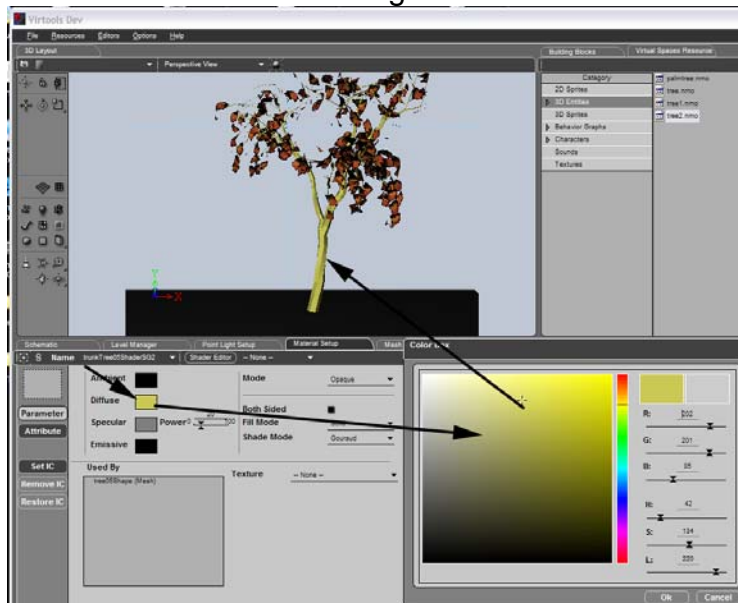


Import the tree created in Maya. Go to Data Resources, open your own dataResource.rsc file. Go to your own data resource folder on the top right, go to **3D Entities** > drag tree in 3D layout.

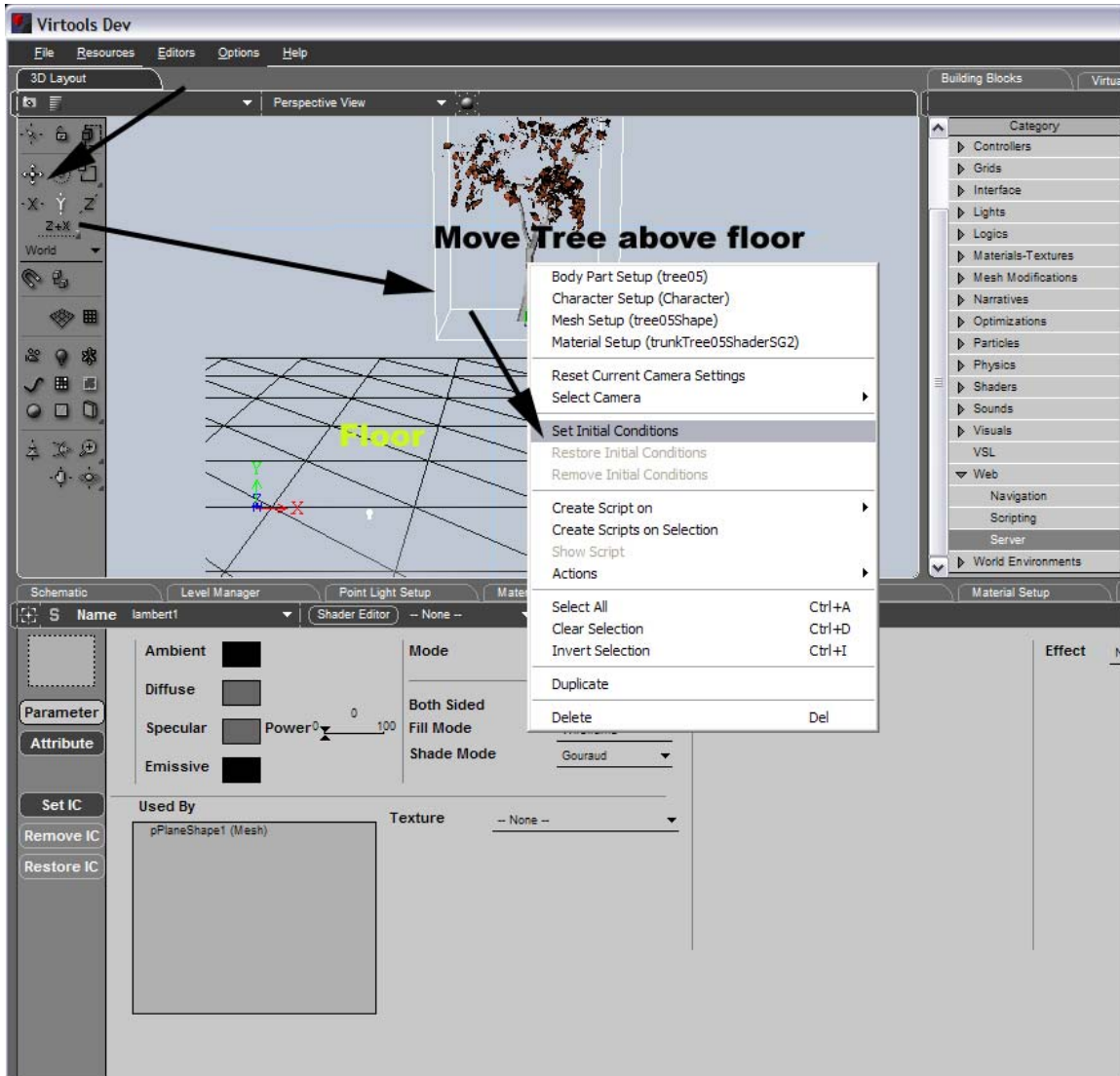
In order to re-attach textures that may be off RMB on the tree > **select Mesh Setup** > go to the Mesh Setup window > Select Materials for leaves and materials for the tree trunk.



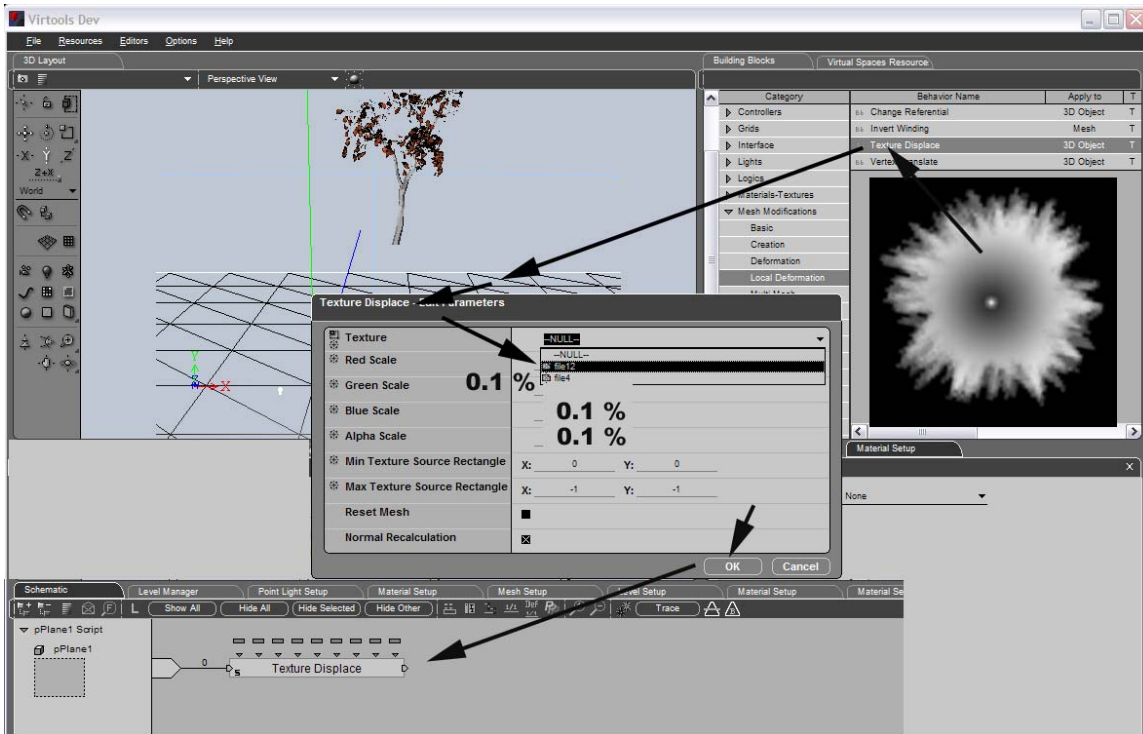
Reassign a texture for the leaves. Set initial conditions go to **“Set IC”** on the left.



For assigning a color for the trunk - go to materials > Diffuse. Set initial conditions go to **“Set IC”** on the left.



Move the tree above the terrain. Go to select top left > move > Y axis. In 3D Layout, move the tree. RMB on the tree, select **Set Initial Conditions**



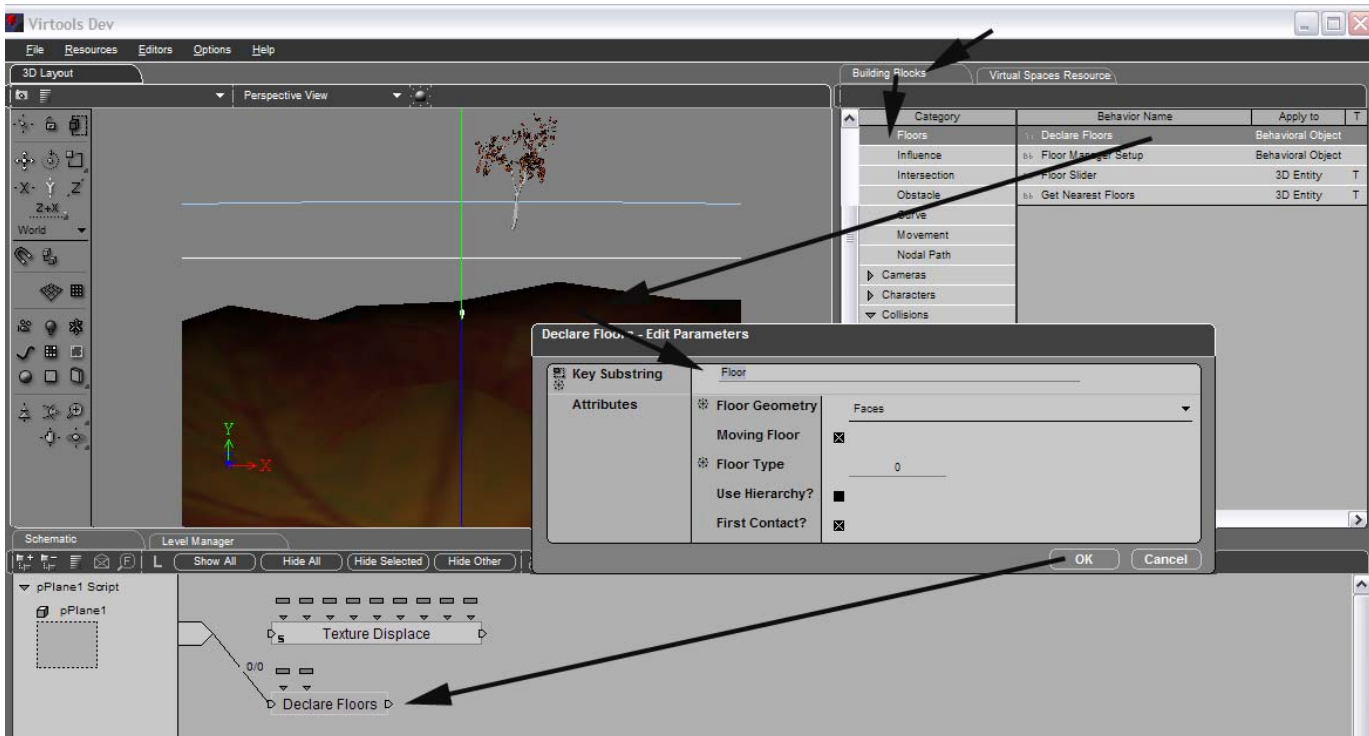
Assign a displacement map, go to **data resource folder > Textures**, choose a texture for the displacement map > drag and drop the texture in 3D Layout.

Go to **Building Blocks > Mesh Transformations > Local Transformations > Texture displace**, drag and drop on the floor.

Please keep in mind the following points;

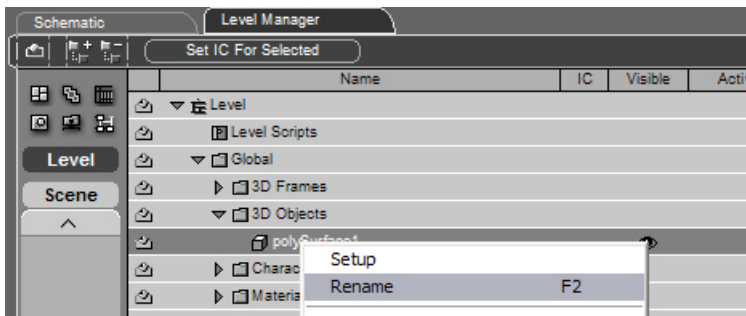
- 1- Scale numbers need to be kept low. 0.1% in this example
- 2- Set initial conditions on the floor before activating the BB. Go to Level Manager > Globals > 3D Entity > tree, RMB on the name select set initial conditions
- 3- Activate the BB only once and disconnect it this will prevent your terrain from getting bigger every time. Please note that the BB remains disconnected in later steps in this tutorial.

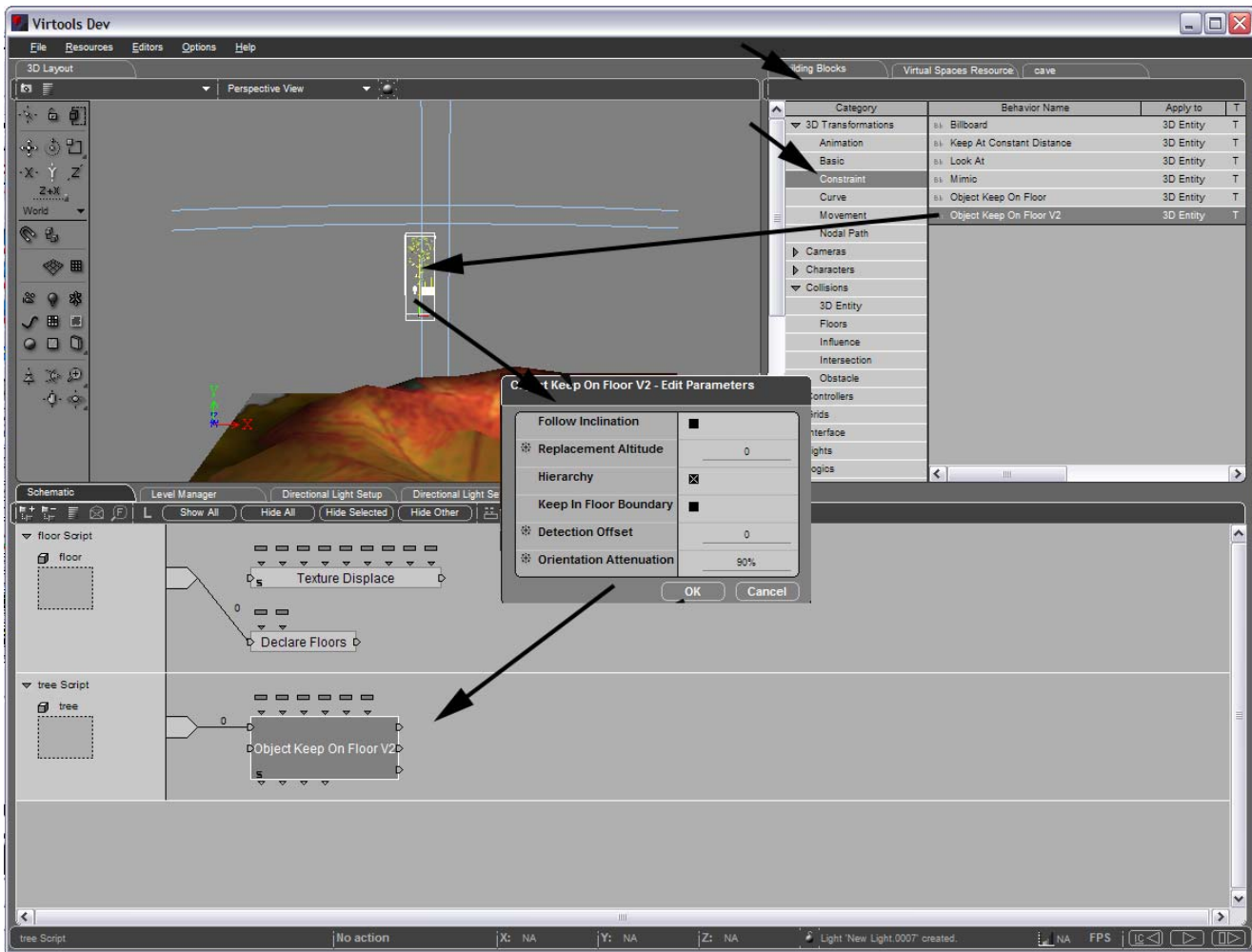
Hit play once, disconnect the Texture displace. Select RMB the link – becomes highlighted in white – hit delete. Save your composition.



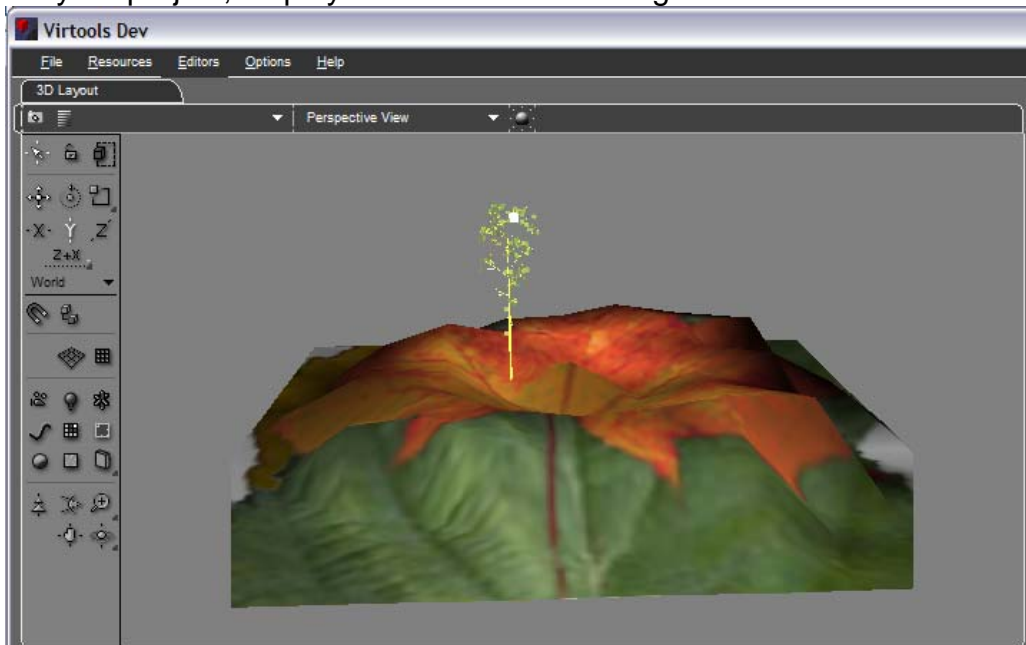
Add the Declare Floor BB to the floor. Go to **Building Blocks > Collisions > Floors > Declare Floors**

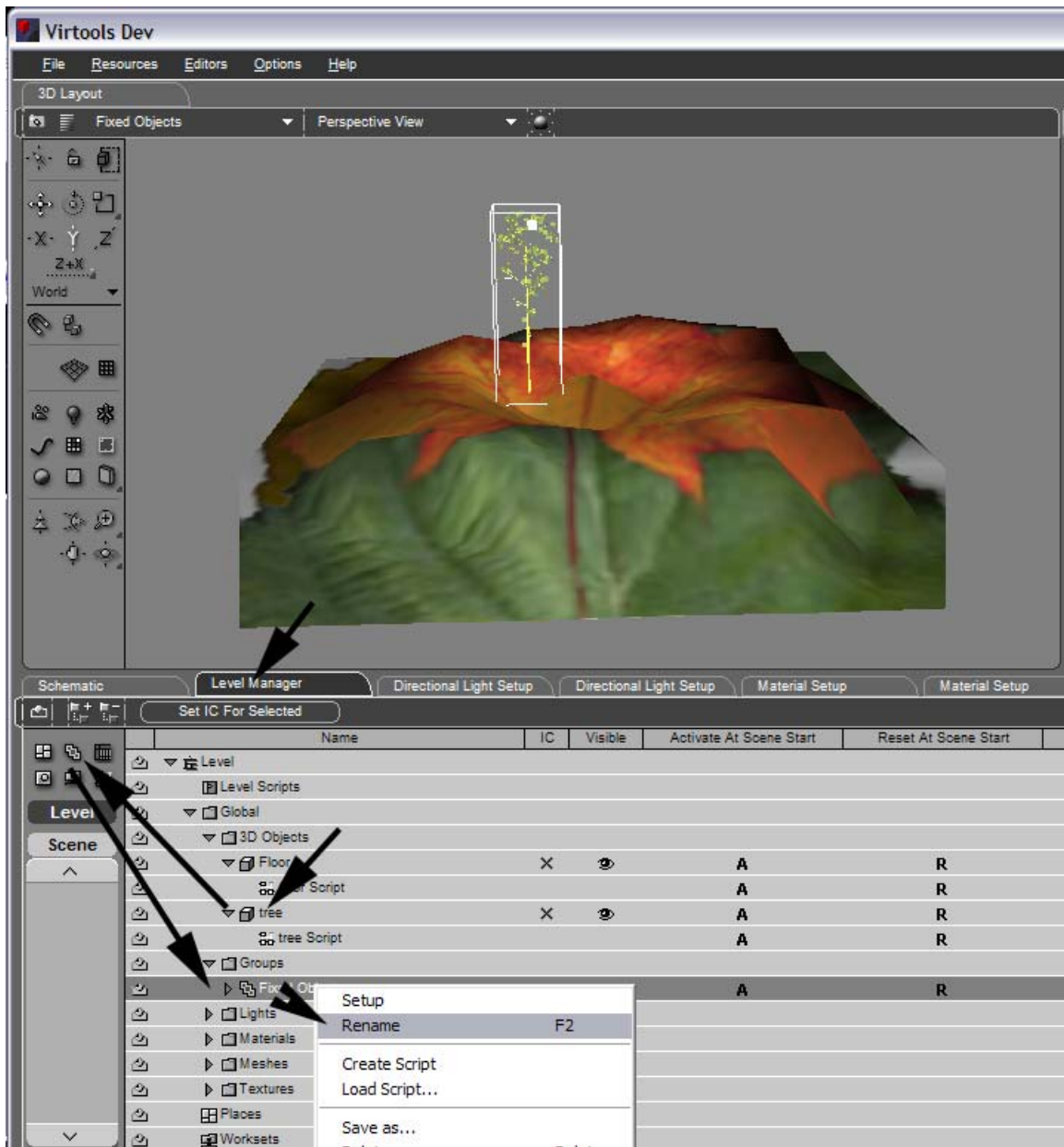
VERY IMPORTANT Go to **Level Manager > Globals > 3D Entities**, select the floor object, RMB, select Rename. Rename the floor "Floor" In this example the floor is called pPlane1 from Maya and needs to be renamed Floor. You can also choose to add the string Floor to the name of the floor.



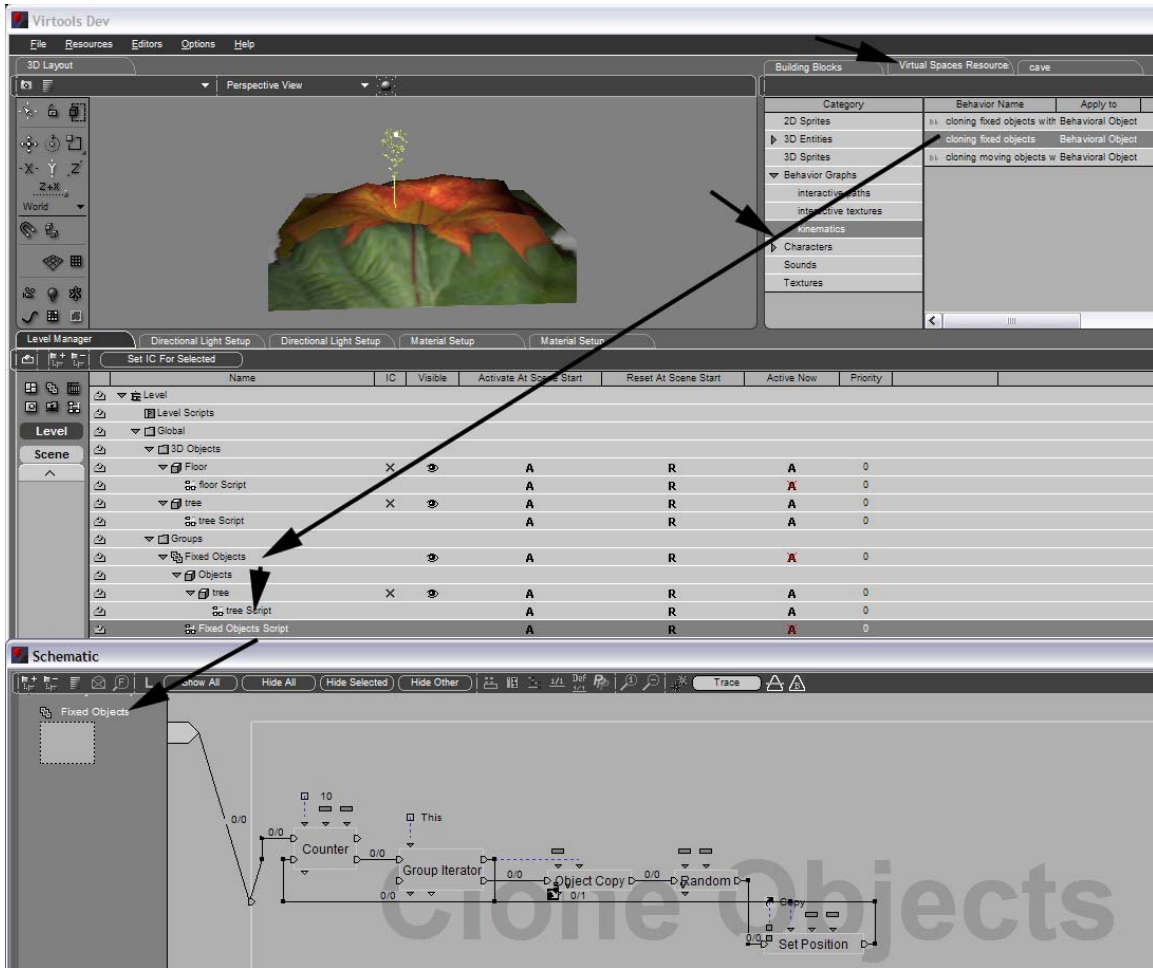


Add the Keep on Floor BB to the tree. Go to **Building Blocks > 3D transformations > Constraint > Keep on Floor**. Test your project, hit play. The tree falls on the ground.

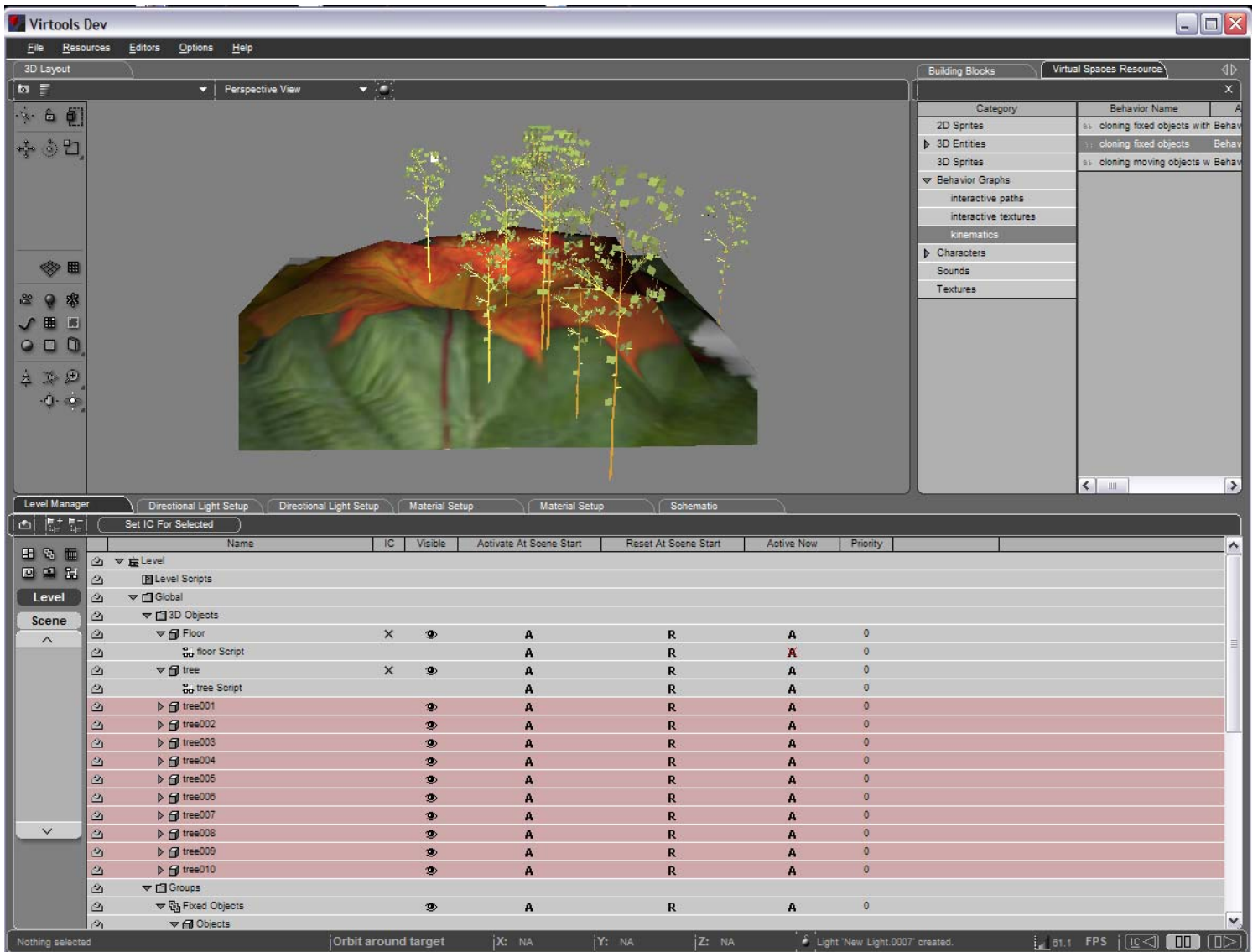




Let's clone the trees. Go to **Level Manager > Globals > 3D Entity**. Select tree > click the group icon. A new group is created under Groups. Rename new group Fixed objects.



Load the Virtual Spaces Resource folder Go top menu, **Resource > Open Data Resource**
Go to Eclipse > Intro 3D > open Virtual Spaces Resource.rsc
 In the Virtual Spaces Resource on the left > go to Behavior Graphs > kinematics > select cloning objects.
 Drag the BB on the group's name in **Level Manager > Globals > Groups > Fixed Objects**.
 In Schematics you can edit the cloning objects script. Counter controls the number of clones. Random controls the placement of the clones on the floor.



Test your file. The clones show up in red in level manager. Save.