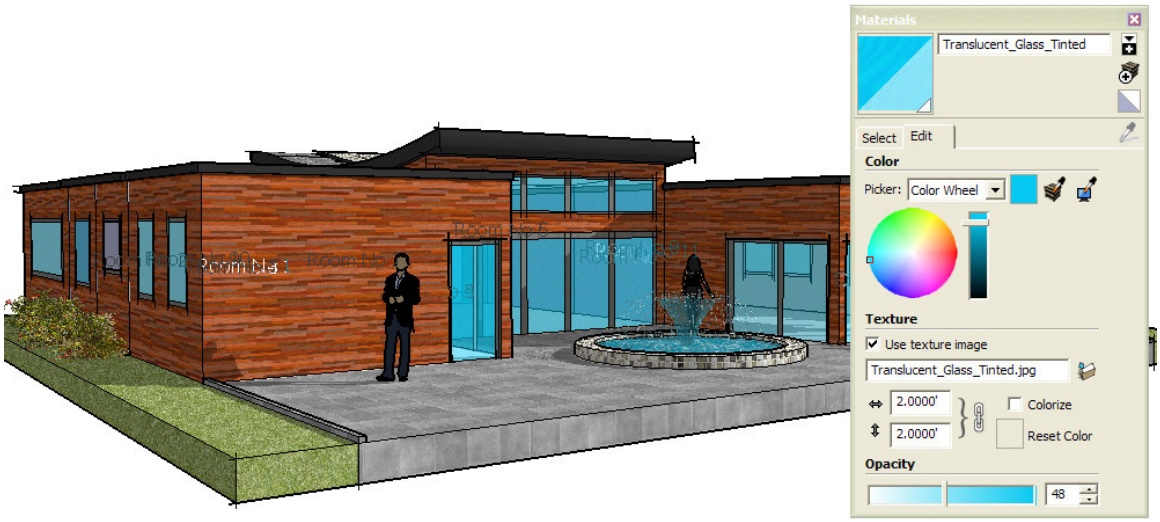
# How do I?

Please note: more detailed videos, help, forums and tutorials can all be found on [www.iesve.com/SketchUp](www.iesve.com/SketchUp)

## *Create glazing*

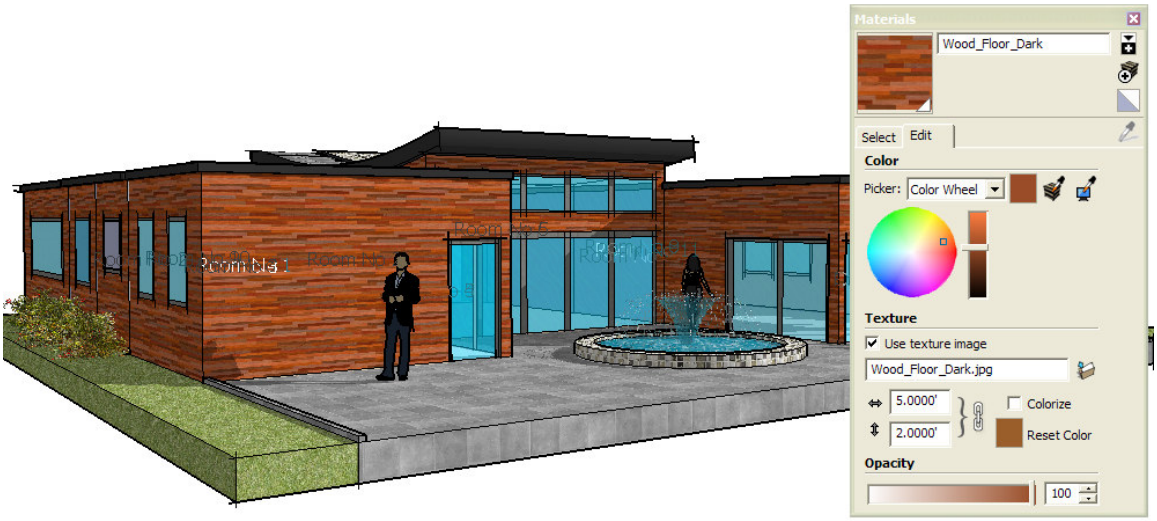
Glazing or windows are created by applying a material to a surface in SketchUp with an opacity of between 1 and 99.




Here the windows have been created by using the Paint Bucket tool to apply the Translucent_Glass_Tinted material which has opacity of 48.

## *Create walls / roofs / floors*

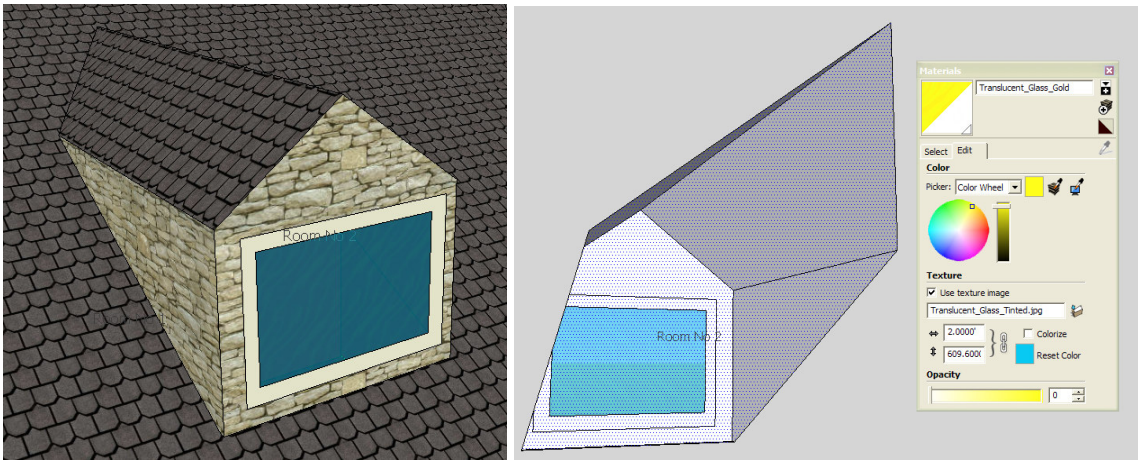
Walls, roofs, floors are created by applying a material to a surface in SketchUp with an opacity of 100.




Here the walls have been created by using the Paint Bucket tool to apply the Wood_Floor_Dark material which has opacity of 100.

## *Create holes*

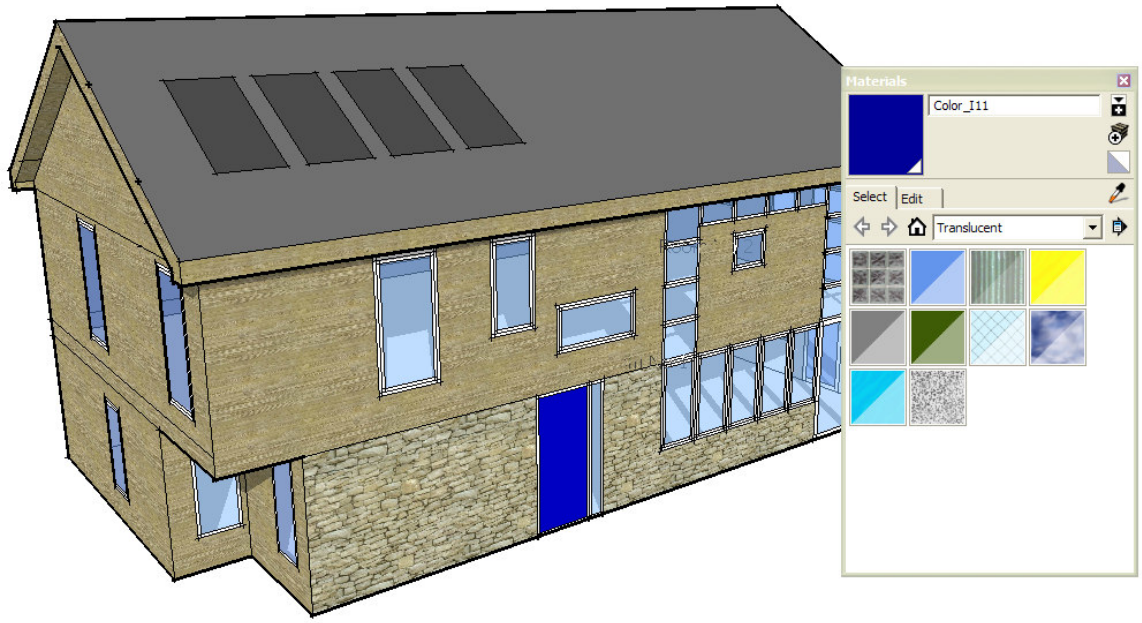
Holes are created by applying a material to a surface in SketchUp that has opacity of 0. Holes are used to create distinct thermal zones for energy modeling.




Here the hole has been used to create a separate zone for the dormer window by using the Paint Bucket tool to apply the Translucent_Glass_Gold material, which has opacity of 0, to the face that separates the dormer from the roof.
NOTE: external holes will be treated as windows in VE-Ware, VE-Toolkits & the <Virtual Environment>

## *Create doors*

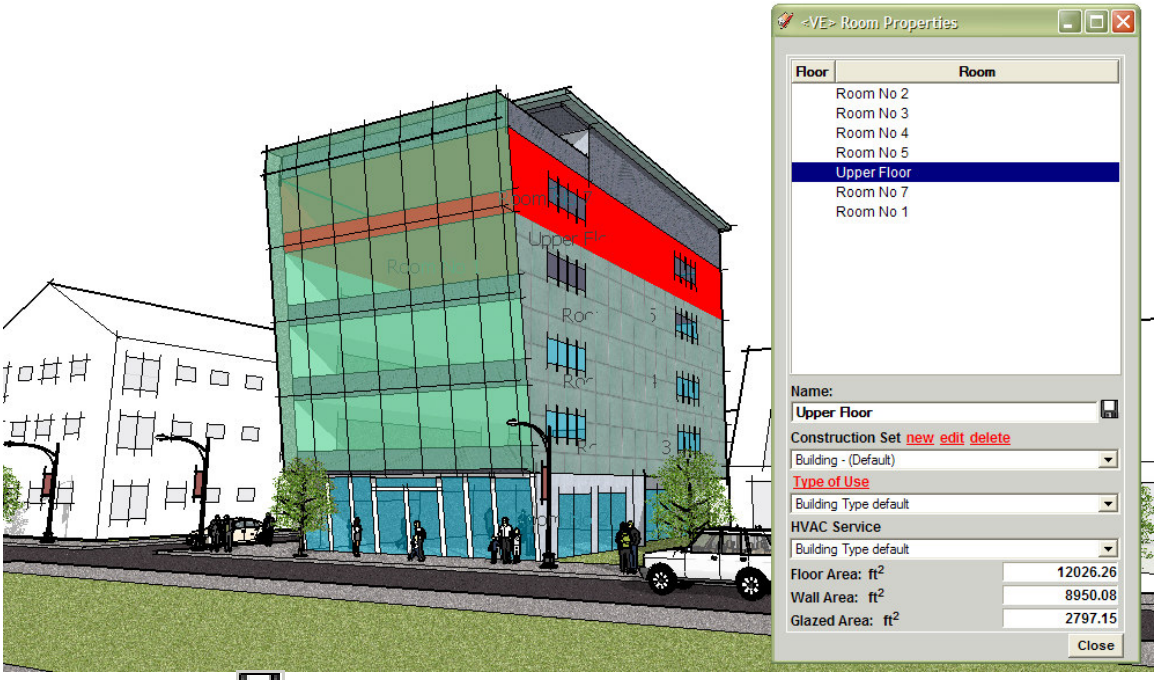
Doors are created by applying a material to a surface in SketchUp that has an edge coincident with an external wall with opacity of 100




Here the door has been created by using the Paint Bucket tool to apply the Colour_I11 material which has opacity of 100.

## *Save room names*

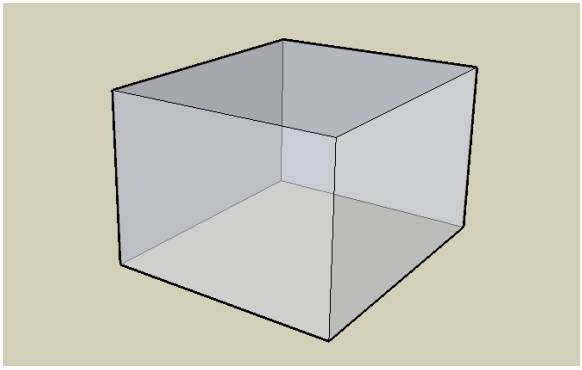
Room names can be saved to help navigate through the model when applying room properties.




Use the save icon  after typing in the Name edit box to change room names.

## *Create/identify rooms*

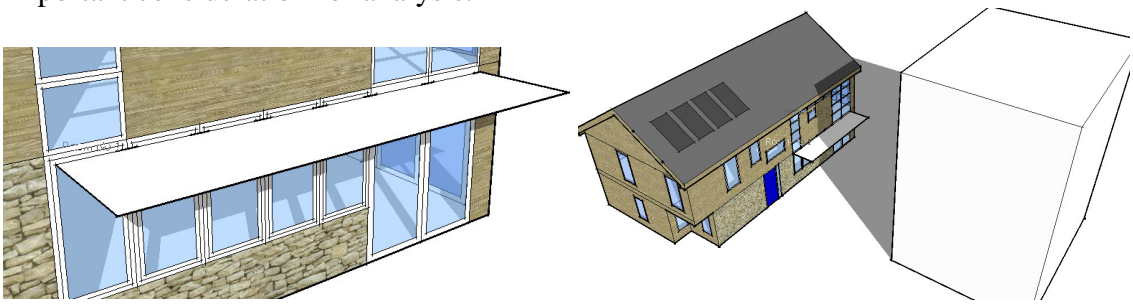
A room is a collection of faces that make up a “bound” volume. The simplest example of this is a cube:



The Toolbar button “Identify Rooms” will recognize this cube as a volume if there are 6 sides. If there are less than 6 sides the volume is incomplete and the cube above will not be used as a room for analysis; rather it will behave as a shading surface. See the User Guide and Help for further information.

## *Create shading devices / surrounding buildings*

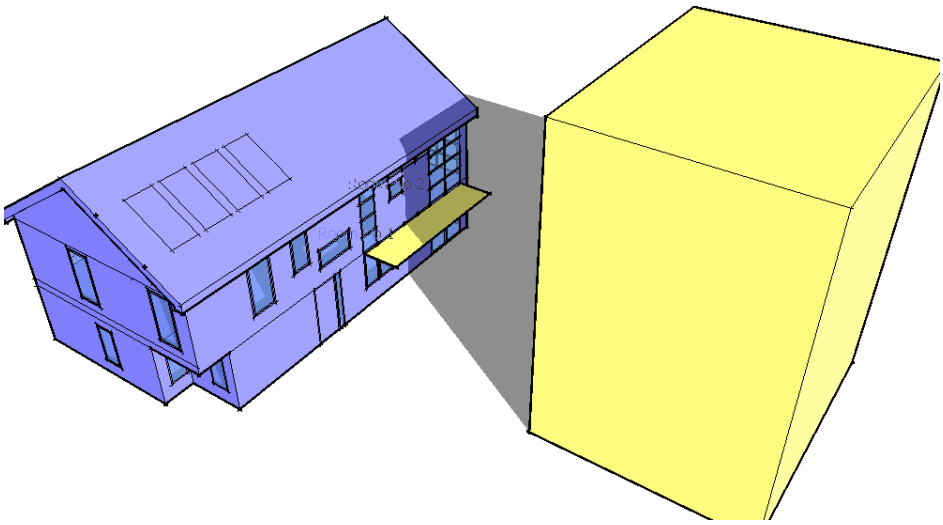
A shading device or an object that blocks the suns rays from your building is an important consideration for analysis.



A shading device is simply a face or an in-complete volume in SketchUp.

## *View rooms / view shades*

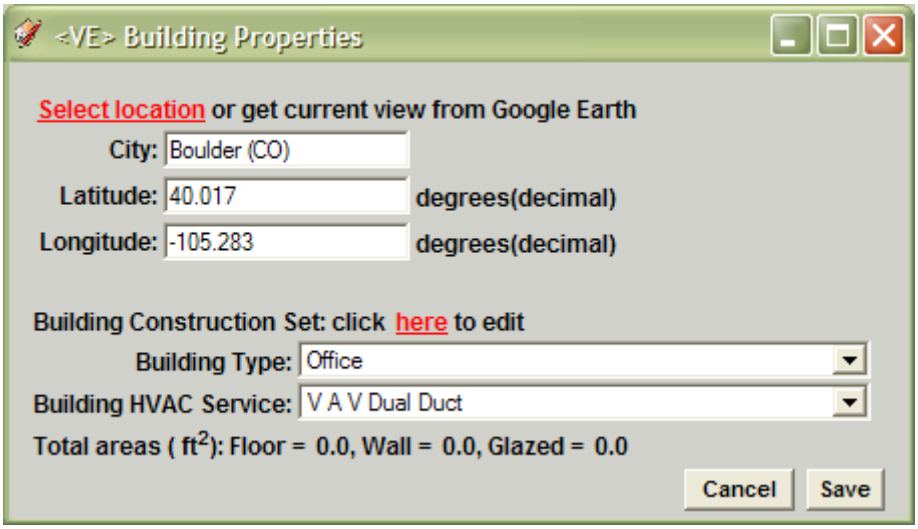
Before you launch any of the VE suite of tools, VE-Ware, VE-Toolkit, or <Virtual Environment> you can view what surfaces will be rooms and which will be shading surfaces.



Use the Toolbar button “Identify Rooms” to identify rooms and shading surfaces. Then use the Toolbar button “Select a Room” to left and then right click and then select the menu item “Toggle VE Model Shading”. Blue surfaces will be treated as zones and yellow surfaces are treated as shading surfaces.

## Get site location

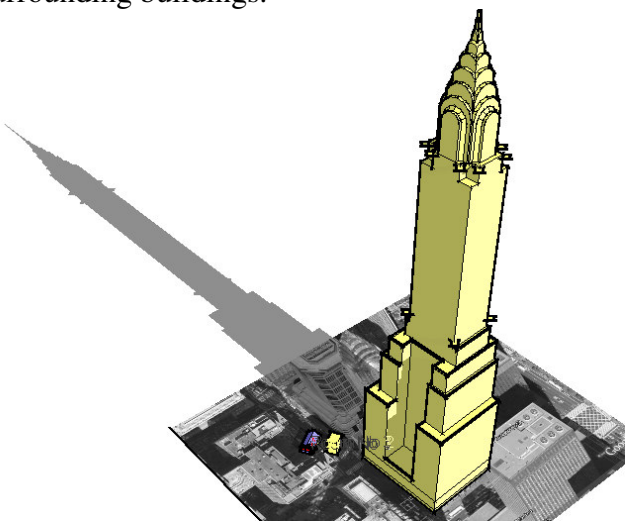
Site location is important for analysis as it dictates the local climatic conditions. Site location is defined by the latitude and longitude and can be set in three ways:




1. Choose "Select location" from the Toolbar button "Set VE Building Properties"
2. Get current view from Google Earth: see http://SketchUp.google.com/support/ / or check out the User Guide or Help Files to get details of how to import the Google Earth location
3. Type in the Latitude & Longitude

## Get surrounding buildings from Google Earth

Models stored on Google 3D Warehouse & Google Earth can be used to easily define surrounding buildings.



Check out http://SketchUp.google.com/3dwarehouse/ or browse in Google Earth for buildings located close to your site.

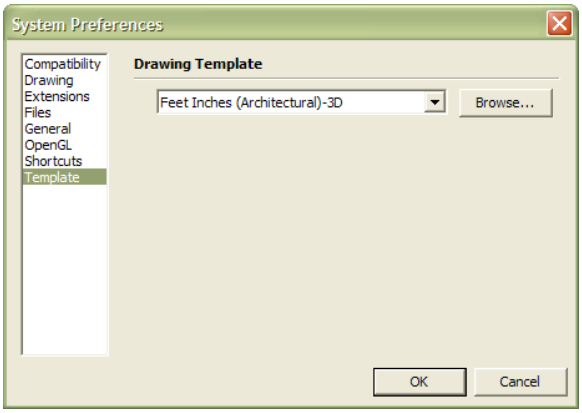
## *Set room types*

Setting room types enables greater detail in energy & daylighting analysis.

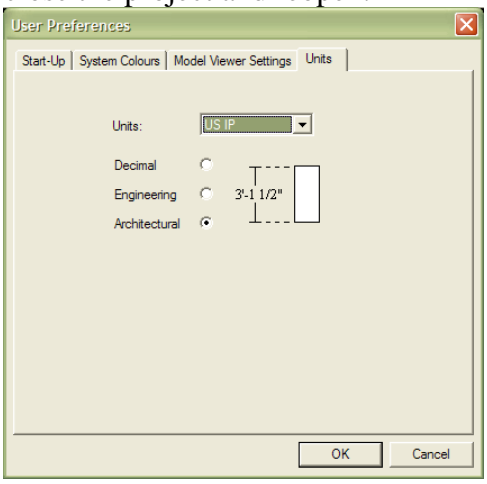

On the Toolbar select “Identify Rooms” (or “Set Room Properties” once rooms are already identified) then browse through the room list setting the constructions, room type and HVAC service. Refer to the help file and user guide for more information about these choices.

## *Set/change units*

Like SketchUp the IES <Virtual Environment> suite of tools will work in both IP and SI units.



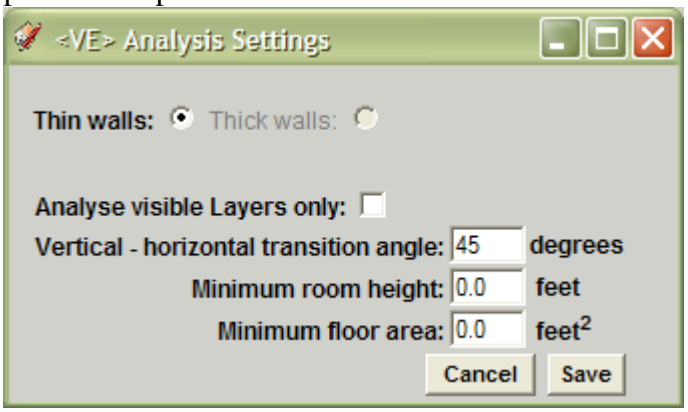

To change the units in SketchUp (& the IES Plugin) choose Window>>Preferences>> Template and change the Drawing Template. To see the change in the model, save and close the project and reopen.




To change units in the <Virtual Environment> suite of tools – open the <Virtual Environment> and use Settings>>Preferences>>Units; units are preset to be the same as the SketchUp default.

## *Only import elements of the SketchUp model*

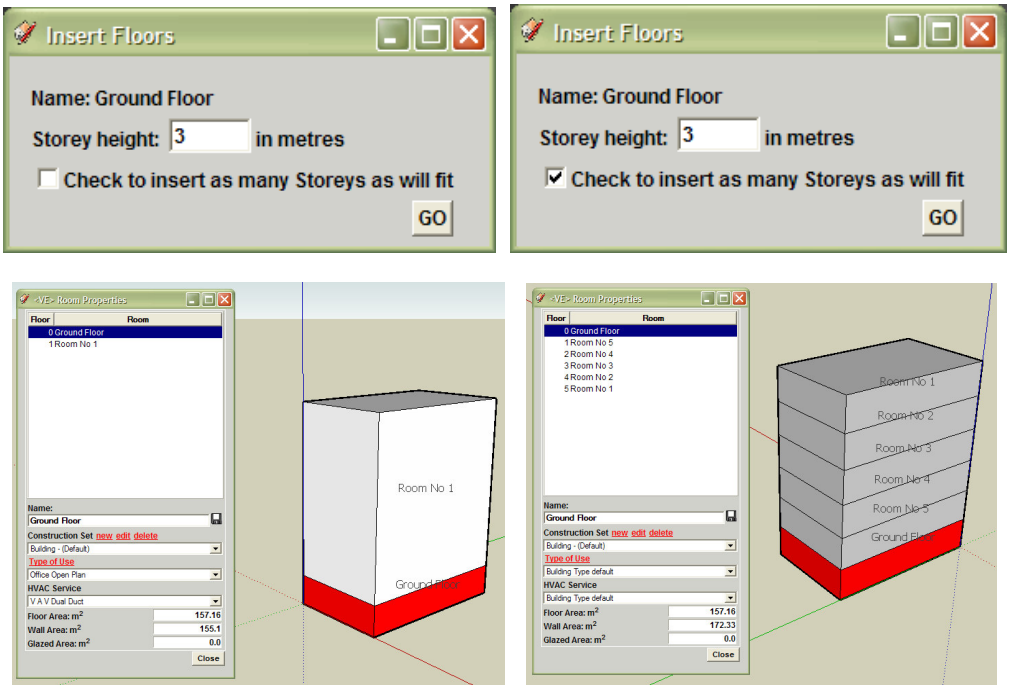
In a complicated model in SketchUp it is very likely that you won't want to analyze certain areas. Think of a residential tall tower; you may only want to analyze the penthouse apartment.




Select Tools>>IES>>Set VE Rooms Analysis Options. Tick "Analyse visible Layers only". Layers that are hidden will not be included in Find Rooms. So for the penthouse example above – hide all the other apartments apart from the penthouse.

## *Add multiple floors to my massing model quickly*

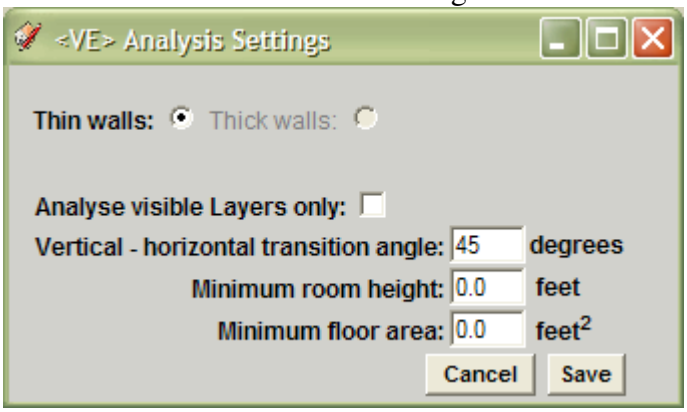
If you have a simple massing model of a tall building there is a way to quickly add floors:




Right click on an *already selected* room and choose the Insert Floors option. Either insert a single floor or add as many floors that will fit into your massed model

## *Not include small parts of the model*

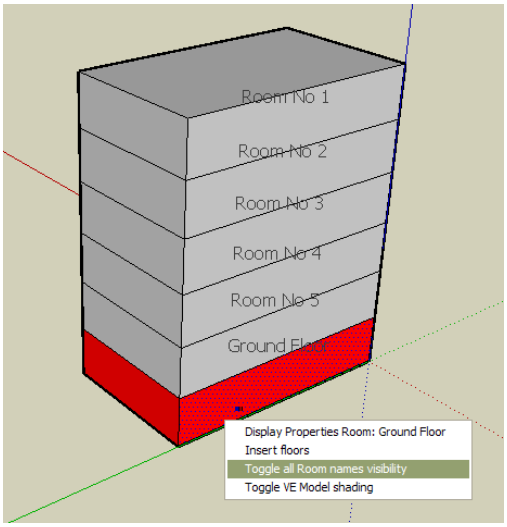
Analysis does not always need every finite detail of a SketchUp model to give good analysis outcomes. Settings can be used that make sure that smaller volumes – think of balustrades or stair treads – do not get included in the Find Rooms search:

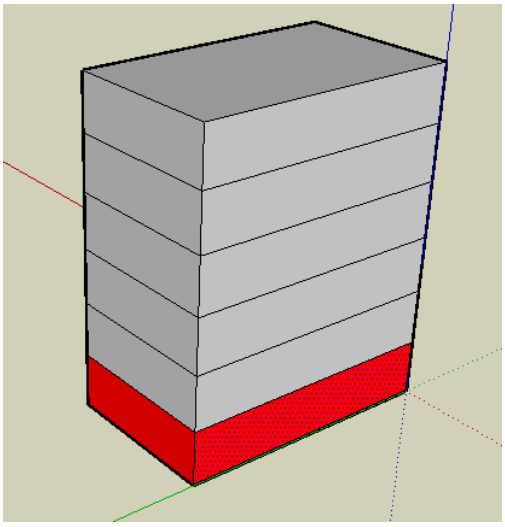



Select Tools>>IES>>Set VE Rooms Analysis Options. It is the Minimum room height and Minimum floor area that require attention. Put the physical sizes of the "volumes" you do not want to include. [*0.0 and 0.0 above mean all volumes will be identified*]. So for the example above – make sure the minimum room height and minimum floor area are greater than the stair treads or balustrades.

## *Remove room name text*

The room names text can get in the way when producing images of your SketchUp model.

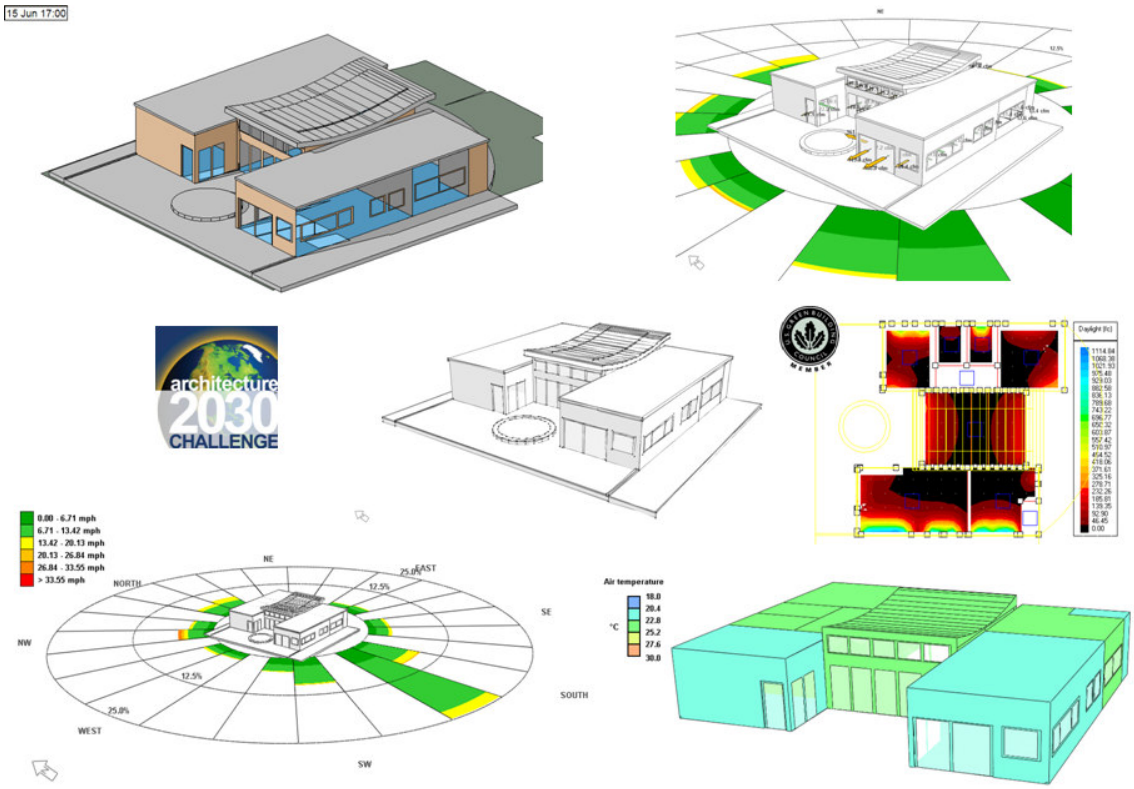


To avoid this use the right click menu option on a room selected using the Toolbar "Select a Room" button then toggle the display of the room names on or off

## *Upgrade to VE-Toolkits or the <Virtual Environment>*

There are a huge number of possibilities for further analysis beyond the free VE-Ware tool. Some examples of output are shown below.




Contact sales@iesve.com for further information

## *What data is behind my choice of Building / Room type / HVAC / Construction*

VE-Ware and VE-Toolkits make analysis simple by providing data accelerators that make choices about occupancy, lighting, equipment, constructions, and HVAC equipment for you. These choices are documented should you want to investigate further. Check out the IES support forums for further information.