

**** Task 1**** Provide a summary of the main concepts that went through about solar radiation (formulas are not needed)

Solar Radiation

Solar radiation is radiant energy emitted by the sun from a nuclear fusion reaction that creates electromagnetic energy. The spectrum of solar radiation is close to that of a black body.

The rotation of the Earth is also responsible for hourly variations in sunlight. In the early morning and late afternoon, the sun is low in the sky. Its rays travel further through the atmosphere than at noon, when the sun is at its highest point. On a clear day, the greatest amount of solar energy reaches a solar collector around solar noon.

Direct (Beam) and Diffuse Radiation

Direct radiation is also sometimes called "beam radiation". It is used to describe solar radiation traveling on a straight line from the sun down to the surface of the earth.

Diffuse radiation describes the sunlight that has been scattered by molecules and particles in the atmosphere but that has still made it down to the surface of the earth.

Atmospheric Absorption

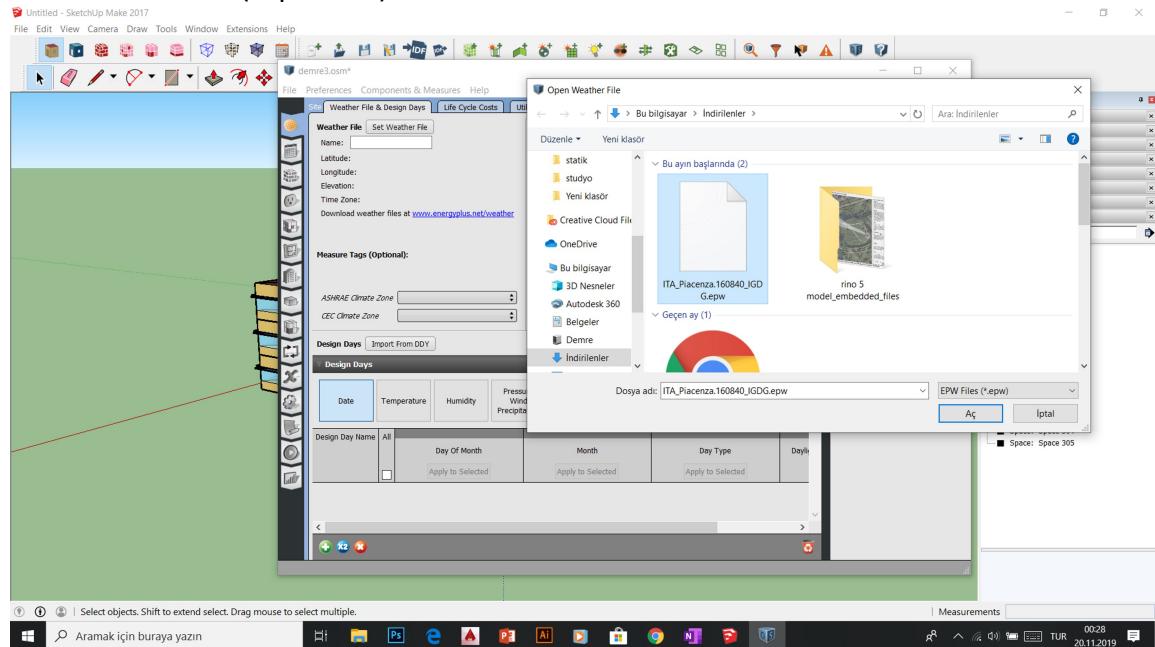
Atmospheric absorption is absorption by the earth's atmosphere of most of the X-rays and ultraviolet and infrared radiation emitted by the sun, except visible light. It prevents the earth's surface from becoming too hot.

Air Mass

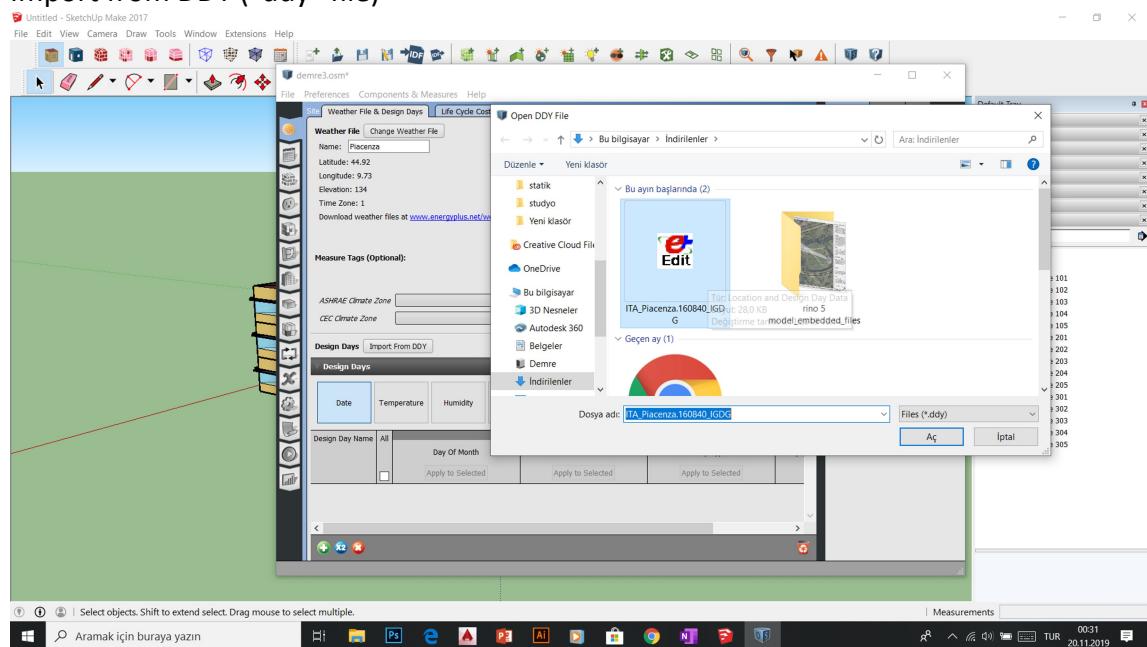
Air mass is a measure of how much atmosphere the sun's rays have to pass through on their way to the surface of the earth. Since particles in the atmosphere absorb and scatter light rays, the more atmosphere solar radiation passes through on its way to us, the less solar energy we can expect to get.

**** Task 2** Y create a pdf file with screenshots of all of the steps we went through in the second lesson on openStudio and explain briefly the reason behind the use of each step (in your own words!)**

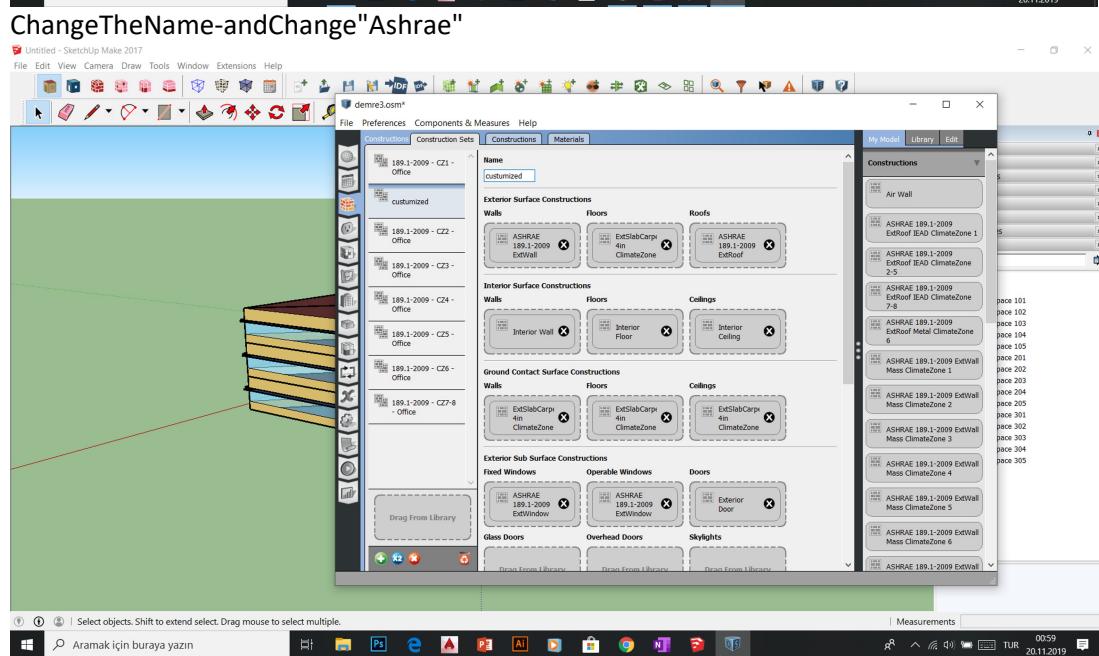
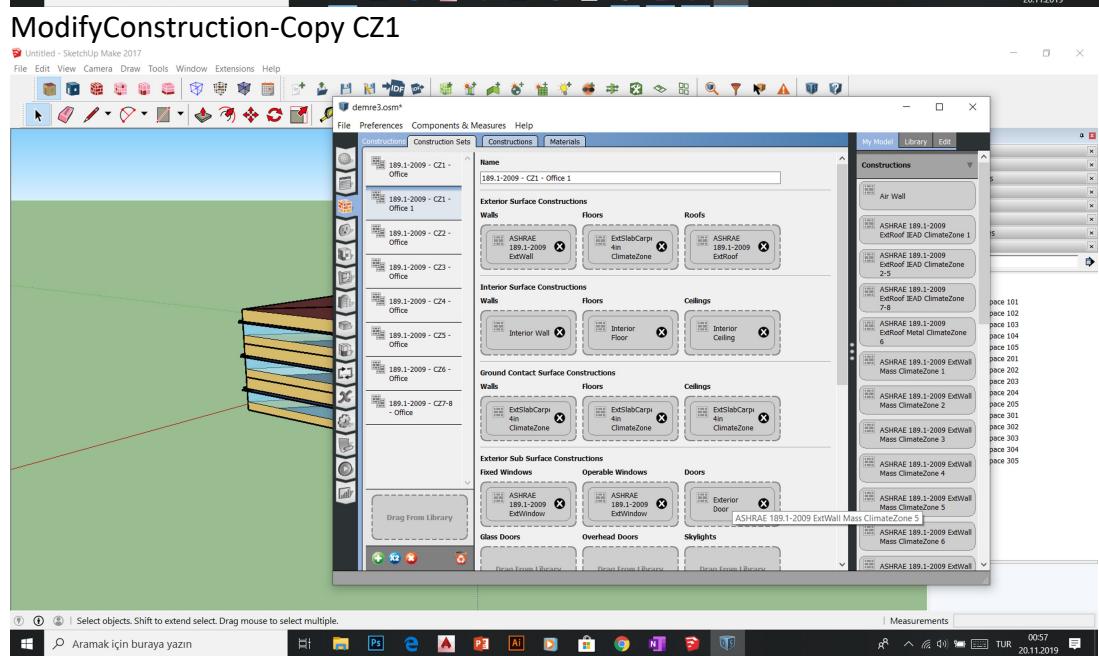
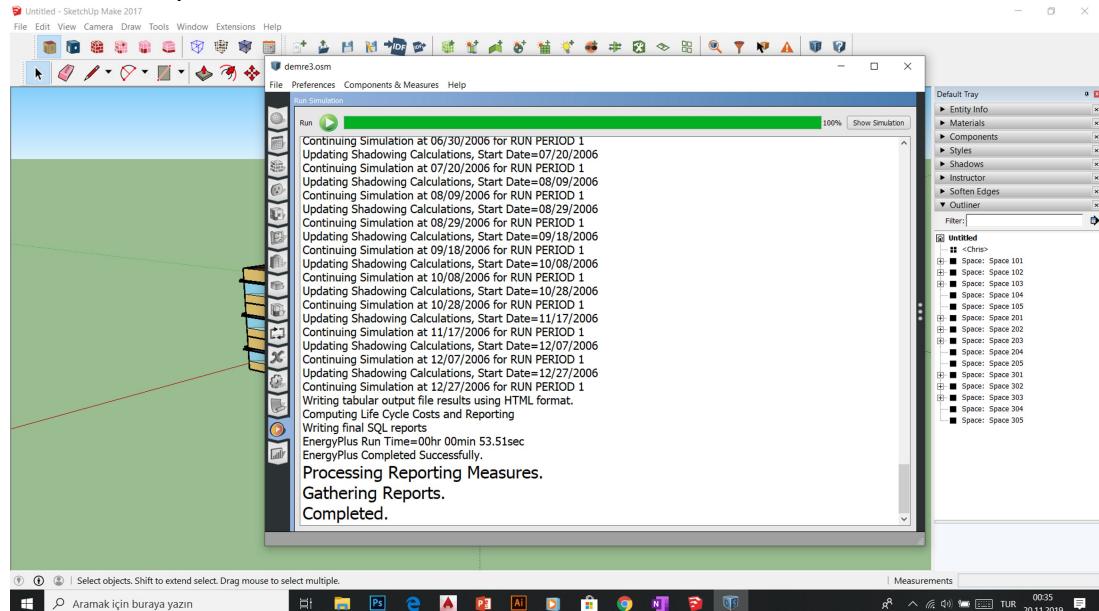
Set Weather File ("epw" file)



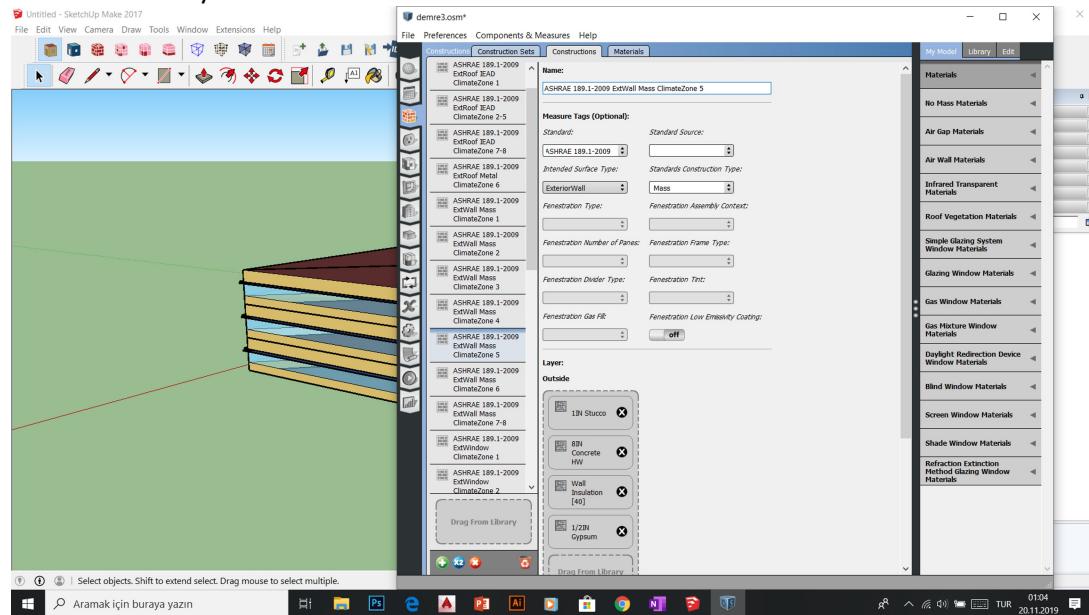
Import from DDY ("ddy" file)



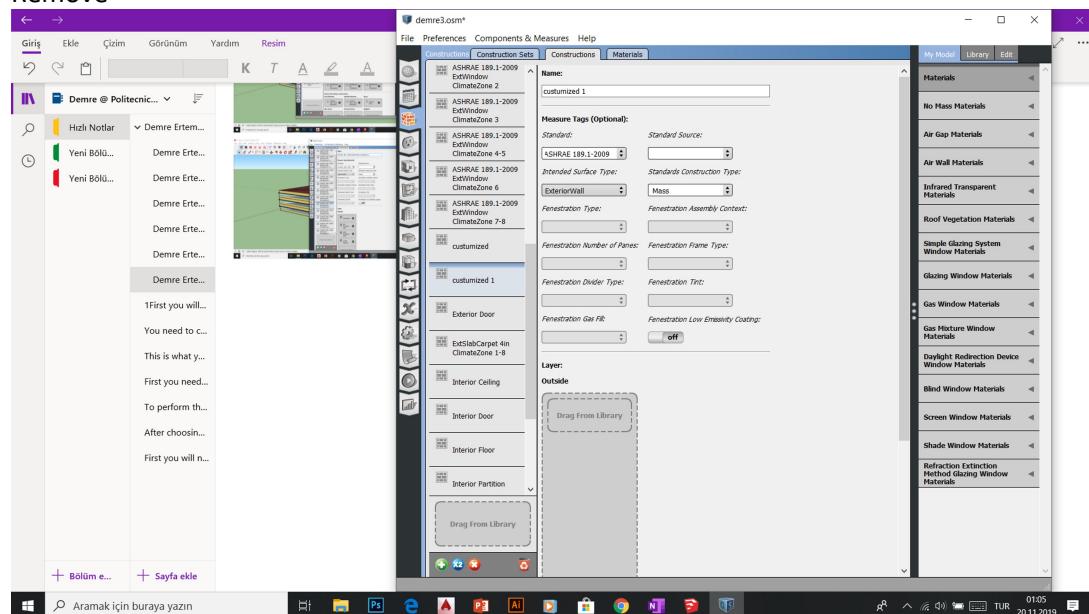
Run the analysis from the left box



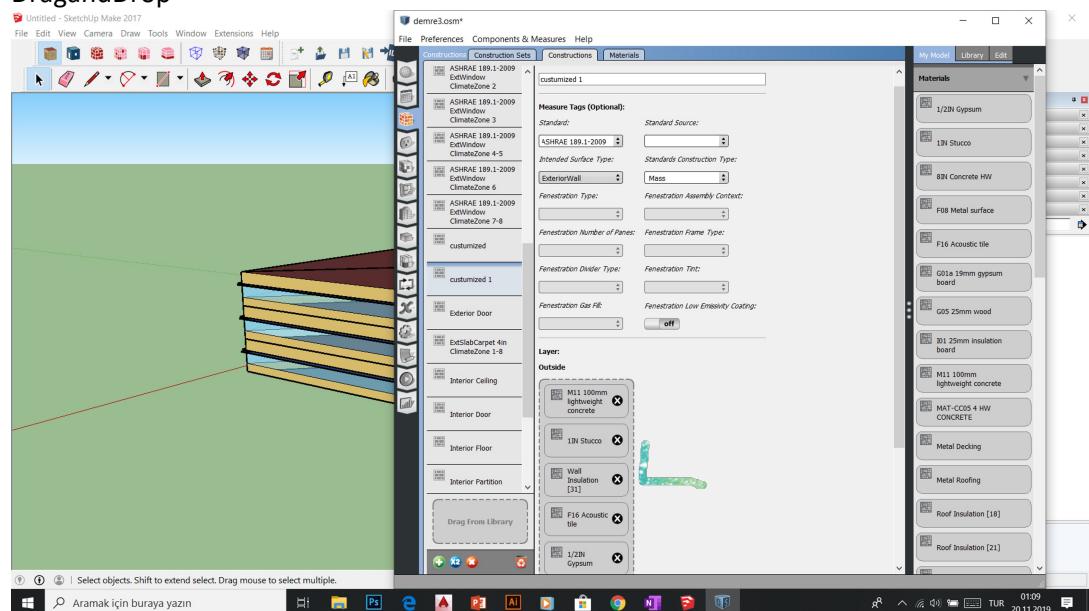
Go to the Construction page
 Find ClimateZone5, change the name
 Duplicate the layer



Remove

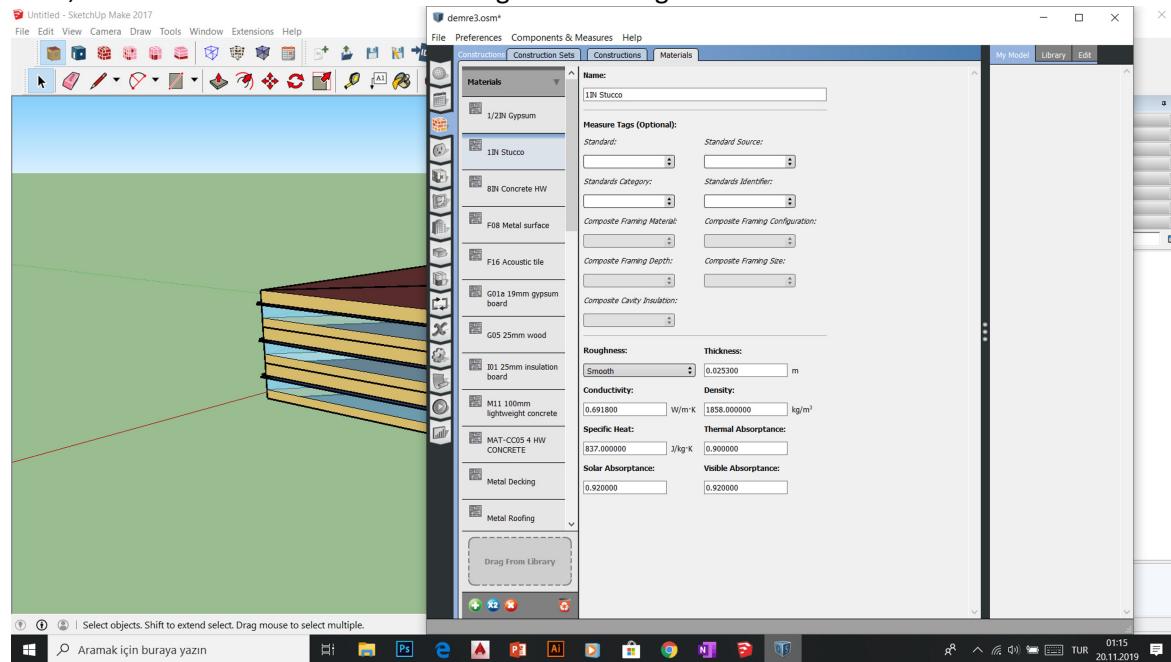


DragandDrop



Go to the Material TAB

Here, we can create new material or change the existing materials



Now, we can put the new wall into the project

