SketchUp *in the Classroom*

Google SketchUp

What is it?

Google SketchUp is a free software application that empowers students to become designers who can create 3D models of anything they like. Most people get rolling with SketchUp in just a few minutes. Dozens of video tutorials, an extensive Help Center and a worldwide user community mean that anyone who wants to make 3D models with SketchUp, can.

Model anything you can imagine.

Redecorate your living room. Design a new piece of furniture. Model your city for Google Earth. Create a skatepark for your hometown, then export an animation and share it on YouTube. There's no limit to what you can create with SketchUp.

Get models online for free.

You can build models from scratch, or you can download what you need. People all over the world share what they've made on the Google 3D Warehouse. It's a huge, searchable repository of models, and it's free.

Why use it?

Students can use SketchUp to:

- Visualize geometry and other mathematical concepts.
- Model buildings and learn about architectural design and engineering.
- Design interiors, landscapes, and buildings in 3D.
- Easily share their designs with others via the web.

Teachers can use SketchUp to:

- Engage students who are more adept visual learners.
- Introduce the world of 3-dimensional design.
- Illustrate geometry and other mathematical concepts.
- Help students learn to model existing real world buildings, such as local historical or school buildings, and geo-locate them in Google Earth.

Expert Tip

Everything you need to get started with Google SketchUp can be accessed from within the application. The first thing you should do is watch the Quick Start videos by clicking on "View Tutorials" in the Help menu.

Instructional Ideas

Elementary. Draw basic 2D shapes such as circles and polygons. Extrude these shapes into 3D. Apply colors/textures to each one from the materials library.

Middle School. Search for existing castle images online, then recreate one by modeling it in SketchUp. Use the materials library for applying textures like stone or brick. Upload your model to the Google 3D Warehouse with meta data about it.

High School. Model your high school. Start by importing the footprint snapshot image location from Google Earth. Trace the perimeter of the building outline and extrude up to correct height from data collected by physically measuring the height of the building. Apply photo textures from digital photos taken of each facade. Export your geographically located model back into Google Earth, and upload to the Google 3D Warehouse. Wait for it to be judged and possibly see it in the permanent layer of Google Earth for the world to view!
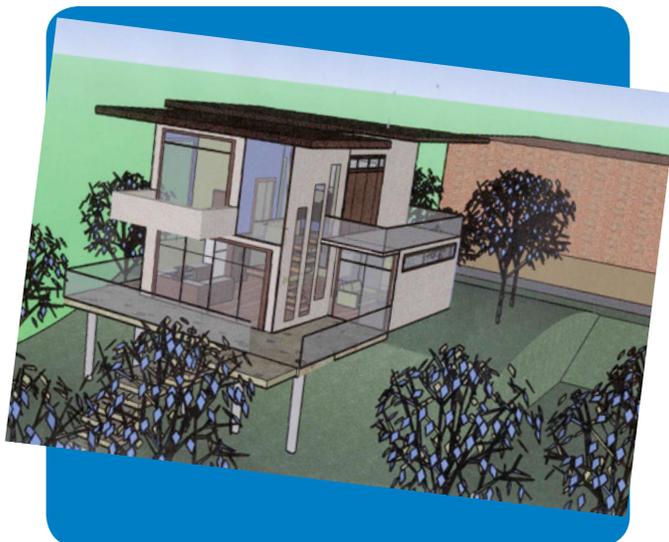
SketchUp in Action

Project: Build a "Solar Passive Cabin"
Grade/Subject: 11th and 12th Grade, Computer Design
School: Lake Ginninderra College, Australia

For this project, students were asked to design a "green cabin" for a real rock star. He wanted ideas for an environmentally friendly house that would sit on Lake Ginninderra. There were strict criteria: it could be no larger than 150 sq meters maximum with one bedroom and a recording studio. The students used SketchUp to design the whole house, including furniture and features right down to the pictures on the wall. One student, inspired by designs in the Caribbean, even built an imaginary extension that could hang over the lake. One of the keys to the project was having a real "client" to design for.

Additional Resources

More on SketchUp

Google SketchUp free download link:
http://sketchup.google.com/product/gsu.html

Google SketchUp Video Tutorials:
https://sites.google.com/site/sketchupvideo/
OR *www.youtube.com*
search "sketchup new user"

Google SketchUp Self-paced Tutorials:
http://sketchup.google.com/training/videos.html
select self-paced tutorials from the left menu

Google SketchUp Community Resources:
http://www.google.com/sketchup/community/

Google SketchUp K-12 Gallery:
http://picasaweb.google.com/gallery.sketchup/EducationK12#

Google SketchUp Help Center:
http://sketchup.google.com/support/

Complementary Tools

Google Earth
http://earth.google.com

Google 3D Warehouse
http://sketchup.google.
com/3dwarehouse