

Unit 2 - Intro to Modeling with Blender

Lesson #5 - Mesh Selection and Visibility Tools

CG Cookie Videos used in this lesson

Videos for this unit are available within the [Mesh Modeling Fundamentals](#) Download, or Included within the [Educator Blender Bundle](#).

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|---------------------------------|-------|
| ● Select or Deselect All | 1 min |
| ● Select More or Less | 1 min |
| ● Box and Circle Select | 2 min |
| ● Edge Loops | 4 min |
| ● Edge Rings | 2 min |
| ● Solid & Wireframe Shading | 1 min |
| ● Limiting Selection to Visible | 2 min |
| ● Mesh Hiding | 2 min |

Key Training

- Introduction to Mesh Selection Tools.
- The difference between Solid & Wireframe shading.
- Hiding and Unhiding mesh selections.

Instructor Focus and Tips

- This lesson is focused on productivity tools and students will be introduced to tools that will make them more productive. Some students will use these tools naturally and start to progress faster in their modeling skills. Some students will revert back to familiar tools and their modeling skills will stagnate. Encourage these students to always try new tools and assist them if you see them reverting back to old habits.
- Box Select and Circle Select work both in Object Mode and Edit mode. When using Box and Circle Select, some students will need help with escaping and changing the size of their selection.
- Be on the watch for students hiding and unhiding the objects instead of the mesh selection.
- As more tools are introduced you will see a larger disparity of understanding within the class. This is normal, though it is important to ensure everyone grasps the fundamentals before moving on,

Student Activities and Assignments

- Have the students watch and practice with all of the videos. After watching the video you can have the student practice on a different objects.
- **Assignment** - Have the students start a new Blender File, delete the Cube and insert 2 Monkey files. Have the students change to the ortho front view of the monkeys. Turn on solid shading, select the first monkey, tab into edit mode and select the face with box select and scale the selected vertices. Unselect the first monkey, switch from solid shading to wireframe shading. Select the 2nd monkey tab into edit mode and select the face with box select and scale the selected vertices. Have the students orbit the monkeys and view the difference between selecting vertices in solid, and wireframe mode.
- **Assignment** - Have the students start a new Blender File delete the Cube and insert a new plane. Scale the plane by 10 and subdivide 6 times. Have the students practice selecting the mesh using Circle Select and Box Select. Have the student extrude their selections into a small landscape.

Blender Terminology, Commands and Hotkeys Introduced

- Select and Deselect All (A Key)
- Select More (Ctrl Key +) or Less (Ctrl Key -)
- Box Select (B Key while in edit mode)
- Circle Select (C Key while in edit mode)
- Edge Loops (Alt Key + Select)
- Edge Rings (Alt Key + Select)
- Toggle between Solid and Wireframe (Z Key)
- Hide mesh selection (H Key while in edit mode)
- Unhide mesh Selection (Alt Key + H Key while in edit mode)

BellRinger Prompts and Ideas

- What are some ways to select components of a Mesh?

Exit Ticket Prompts and Ideas

- Give examples of when you would use Box Select or Loop Select.

Learning Targets

- Student can use Mesh Selection Tools.
- Student can switch between solid and wireframe shading.
- Student can hide and unhide mesh selection.

Extended Learning Activity

- Have the students research other ways to select Mesh Components. Ask the question are there other ways to select Mesh components.

Rubric

	Beginning	Developing	Accomplished	Exemplary
Selecting object	Student has received a demonstration on different ways to select and deselect mesh objects.	Student demonstrates some of the ways to select and deselect mesh objects with assistance.	Student demonstrates most ways to select and deselect mesh objects.	Student demonstrates all ways to select and deselect mesh objects and can assist others in selecting and deselecting mesh objects.
Edge Loops and Edge Rings	Student has received a demonstration on Edge loops and Edge Rings.	Student demonstrates use of the Edge Loop command or the Edge Ring command.	Student demonstrates the use of the Edge Loop and the Edge Ring commands.	Student demonstrates the use of the Edge Loop and Edge Ring commands and can explain the difference to others.
Mesh Hiding	Student has received a demonstration on hiding and unhiding mesh objects.	Student demonstrates hiding and unhiding mesh objects with assistance.	Student demonstrates hiding and unhiding mesh objects without assistance.	Student demonstrates hiding and unhiding mesh objects without assistance and can explain to others.

Aligned Standards

Standard 1: 3D Modeling Application Interface

- **Objective 1: Introduce basic 3D terminology and the 3D application interface.**
 - o Indicator 1: Know 3D modeling terminology
- **Objective 2: Manipulation of 3D application interface**
 - o Indicator 4: Use different shading modes (solid, wireframe)
- **Objective 3: Manipulation of objects**
 - o Indicator 1: Selecting and transforming objects

Standard 2: Modeling 3D Objects

- **Objective 3: Edit Models**
 - o Indicator 1: Modify edges, faces, vertices
 - o Indicator 2: Edit an object after its been created
 - o Indicator 4: Extrude edges, faces, vertices
 - o Indicator 8: Deleting and duplicating edges, faces, vertices