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Unit 1 - Getting started with Blender

Lesson #3 - Working in 3D with Blender

CG Cookie Videos in this Lesson

These videos are part of the Free Blender Basics download, or can be streamed online here.

Chapter 3: Working in 3D with Blender
- Introducing the 3D Viewport   3 min
- Navigating the 3D Viewport   4 min
- Navigating the 3D Viewport (Laptop/2 Button Mouse)   2 min
- Selecting Objects in Blender   2 min
- Left Click Select   1 min

Key Training
- Definition of Objects in Blender.
- 3D Navigation in Blender using Orbit, Panning and Zooming
- Using Blender on a Laptop
- Resetting Blender to the Default view.
- Selecting Objects in Blender
- Setting up Right and Left Click options.

Instructor Focus and Tips
- Before watching the *Selecting Objects in Blender* video continue the Bellringer and make a list of types of Blender objects on the whiteboard.
- Ask why is Blender's default set to use the Right Button to select objects? Though it is well known Europeans drive on the opposite side of the road, apparently the software developed wanted to keep this tradition by making it right-click select. Truth be told, there is a reason behind it, and heated debates on why it exists. The key is the students do their own research and find what works best for their workflow. For additional reading check out: https://www.quora.com/Why-does-Blender-use-right-click-to-select-instead-of-left-click.
- **Update: As of Blender 2.8 the new default will be that of Left Click Select.**

ProTip: Make sure the students know that the numpad keys and the numbers keys above the letter keys do different things. The numpad keys change views and the number keys change layers.

Student Activities and Assignments
- During the Navigating the 3D Viewport video stop the video and practice using Orbit, Panning and Zooming when the video has you stop and practice.
- After watching the Selecting Objects in Blender video have the students practice selecting and deselecting objects.
- Assignment - Have the students practice orbiting, panning and zooming around the default cube and have the students submit a screenshot to be graded.

Blender Terminology, Commands and Hotkeys Introduced
- Orbiting (Center Mouse Button or scroll wheel)
- Pan (Shift + Center Mouse or Scroll Wheel)
- Zoom (Roll up or down on Scroll Wheel)
- Select objects (Right Mouse Button)
- Selecting multiple objects (Shift + Right Mouse Button)
- Selecting or Deselecting All objects (A Key)

BellRInger Prompts and Ideas
- List different Objects in Blend.

Exit Ticket Prompts and Ideas
- Do you prefer Left or RIght Clicking of the Mouse to select object?
- How comfortable are you navigating Blender?
- How comfortable are you selecting objects in Blender?
- Why do you think Blender's default set to use the Left Button to select objects?

Learning Targets
- Students can navigate blender using Orbiting, Pan, and Zoom.
- Students can select and deselect objects in Blender.
- Students can select and deselect multiple objects in Blender.
- Students can select and deselect all objects in Blender.

Extended Learning Activity
- If you are not using laptops in the classroom and the students have their own, direct the students to the Navigating the 3D Viewport (Laptop/2 Button Mouse) video.
- Let the students practice using both the right and left click for selecting object and choose what they like best.

Rubric

	Beginning	**Developing**	**Accomplished**	**Exemplary**
Navigation of the 3D viewport using orbiting, pan, and zooming.	Student has received a demonstration on navigating the 3D viewports using orbiting, pan, and zooming.	Student can demonstrate some navigation of the 3D viewport using orbiting, pan, or zooming with assistance.	Student can demonstrate navigation of the 3D viewport using orbiting, pan, and zooming without assistance.	Student can demonstrate navigation of the 3D viewport using orbiting, pan, and zooming without assistance and can explain to others.
Selecting objects	Student has received demonstration on selecting objects.	Student can select and deselect single objects.	Student can select and deselect single, and multiple objects.	Student can select and deselect single, multiple and all objects.

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
  - o Indicator 2: Identify parts of the 3D application interface
- **Objective 2: Manipulation of 3D application interface**
  - o Indicator 2: Navigating 3D space
  - o Indicator 3: Navigating views
- **Objective 3: Manipulation of objects**
  - o Indicator 1: Selecting and transforming objects