

Tinkercad Training (25 pts.)

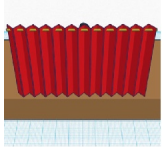


Students will begin to learn how to use Tinkercad by completing a series of online tutorials with a partner. Students will show their partners that they completed a tutorial and the partner will initial their partner's grade sheet that they saw it was completed. Here are the online tutorials that will be followed:



#1. Learning Moves – You will learn to move shapes along the workplane.

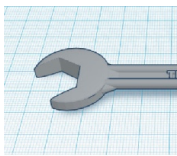
| | | |
|---|------|--|
| • Practice moving the shapes along the work plane. Use both the mouse and the arrows on the keyboard. | 1pt. | |
| • Position the shape on the target. | 1pt. | |



Camera Controls

#2. Camera Controls – You will learn to check out your design by changing your view of the model using the View Cube.

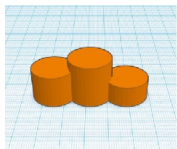
| | | |
|---|------|--|
| • Use the View Cube to rotate your view to see who is behind the curtain. | 1pt. | |
| • Use the scroll wheel on your mouse (or trackpad) to zoom in and zoom out. | 1pt. | |
| • Rotate your view by holding the right mouse button and then move the mouse (With a touchpad, either ctrl+leftclick+drag, or rightclick+drag). | 1pt. | |



Creating Holes

#3. Creating Holes – You will learn how to remove material from another shape using the hole feature.

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| • Drag a blue polygon shape to the work plane and place it in the area outlined in orange. | 1pt. | |
| • You can make any shape into a hole: Select the polygon, then select the Hole option in the inspector window (next to the color option). | 1pt. | |
| • Now you have both your shapes, but you need to group them to remove the hole material. First, select both objects by pressing and holding the Shift button, then click on each shape with your left mouse button. Then group them together by clicking the Group button in the toolbar above...A hole has been formed. | 1pt. | |



Scale, Copy & Paste

#4. Scale, Copy & Paste – You will learn how to scale shapes on the work plane.

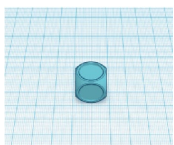
| | | |
|---|------|--|
| • Find the orange cylinder in the Basic Shapes list. Click and drag the cylinder onto the work plane. Drop it into the area outlined in orange. Do it twice. | 1pt. | |
| • Scale the orange cylinder you just dragged onto the work plane to a height of 15mm. Try both clicking on the white square and pulling it or selecting the white square and then typing in the height. | 1pt. | |
| • Add one more cylinder onto the work plane by Copy and Pasting it. | 1pt. | |
| • Scale this cylinder to the height of 10mm. | 1pt. | |



Key Ring, Letters!

#5. Key, Ring & Letters – You will learn to make a key ring with text.

| | | |
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| • Drag the letters to the red base. | 1pt. | |
| • Change the snap grid setting from 1.0 to .25. | 1pt. | |
| • After placing the letters, nudge them with the keyboard in any direction. | 1pt. | |
| • Resize the base using the black dot until it matches the size of the letters. | 1pt. | |
| • Select the remaining letters by click and drag. Delete these letters. | 1pt. | |
| • Select the remaining letters and group them. | 1pt. | |



Die on the Workplane

#6. Die on the Work Plane – You will learn how to make the work plane work for you.

| | | |
|--|------|--|
| Drag a work plane to the front of the die. | 1pt. | |
| Drag a #5 to the work plane. Scale the thickness to 1mm. Change the Snap Grid from 1.0 to .25 so that it is easier to position the #5 on the dice. | 2pt. | |
| Now position the #6 on the dice the same way you positioned the #5. | 2pt. | |
| Set the work plane back to its original location. Click on the work plane on a blank portion of the work area...Not on a shape. | 1pt. | |
| Group all the shapes on the dice together by selecting them and the die while continuing to hold the shift key. Then select Group on the toolbar. | 1pt. | |