



كلية الفنون التطبيقية  
جامعة بنها



# مقرر التصميم بالحاسب الآلى

الفرقة الثانية-قسم طباعه المنسوجات والصباغه والتجهيز

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ميعاد المحاضره :الاربعاء ١٧-٤-٢٠٢٠

# CONTENT

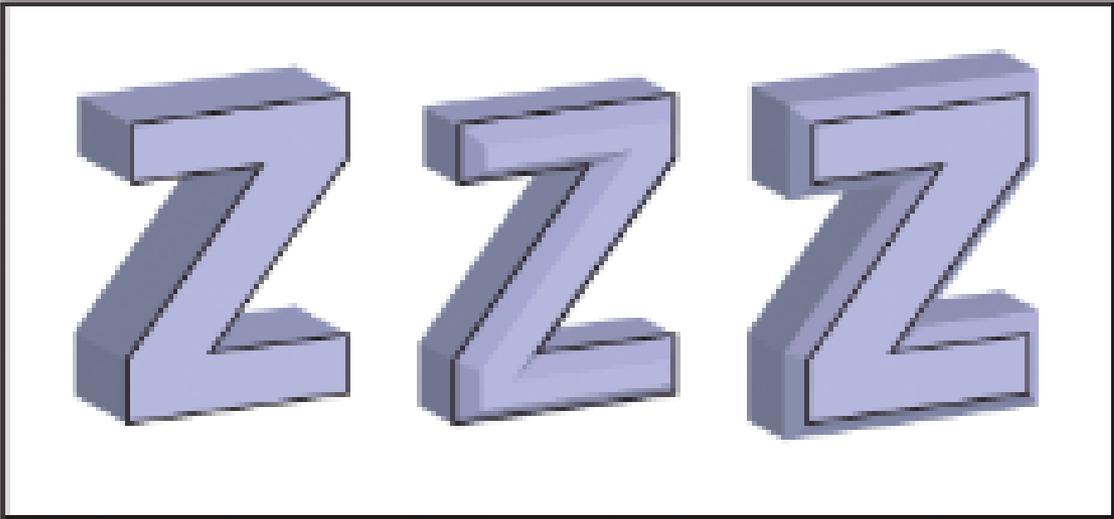
- Creating 3D objects.

# Creating 3D Objects

- ▶ 3D effects enable you to create three-dimensional (3D) objects from two-dimensional (2D) artwork. You can control the appearance of 3D objects with lighting, shading, rotation, and other properties. You can also map artwork onto each surface of a 3D object.
- ▶ There are two ways to create a 3D object: by extruding or revolving. In addition, you can also rotate a 2D or 3D object in three dimensions. To apply or modify 3D effects for an existing 3D object, select the object and then double-click the effect in the Appearance panel.

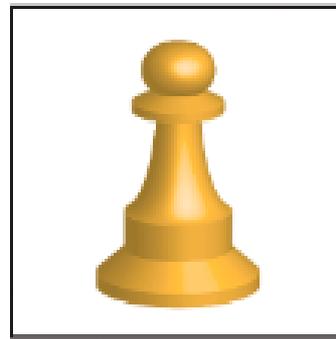
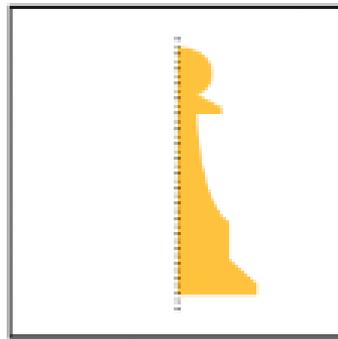
# Create A 3D Object By Extruding

- ▶ 1. Select the object.
- ▶ 2. Choose Effect > 3D > Extrude & Bevel.
- ▶ 3. Click More Options to view the complete list of options, or Fewer Options to hide the extra options.
- ▶ 4. Select Preview to preview the effect in the document window.
- ▶ 5. Specify options:
  - ▶ Position Sets how the object is rotated and the perspective from which you view it. (See Set 3D rotation position options.)
  - ▶ Extrude & Bevel Determines the object's depth and the extent of any bevel added to or cut from it. (See Extrude & Bevel options.)
  - ▶ Surface Creates a wide variety of surfaces, from dull and unshaded matte surfaces to glossy and highlighted surfaces that look like plastic. (See Surface shading options.)
  - ▶ Lighting Adds one or more lights, varies the light intensity, changes the object's shading color, and moves lights around the object, for dramatic effects. (See Lighting options.)
  - ▶ Map Maps artwork onto the surfaces of a 3D object. (See Map artwork to a 3D object.)
- ▶ 6. Click OK.



# Create A 3D Object By Revolving

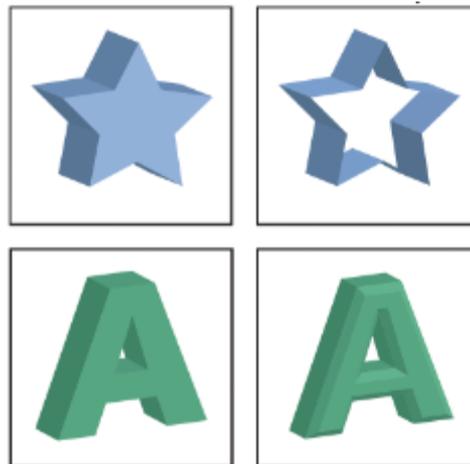
- ▶ Revolving sweeps a path or profile in a circular direction around the global y axis (revolve axis) to create a 3D object. Because the revolve axis is vertically fixed, the open or closed path that you revolve typically needs to depict half of the desired 3D object's profile in a vertical and front-facing position.



- ▶ 1. Select the object .
- ▶ 2. Choose Effect > 3D > Revolve.
- ▶ 3. Select Preview to preview the effect in the document window.
- ▶ 4. Click More Options to view the complete list of options, or Fewer Options to hide the extra options
- ▶ Position Sets how the object is rotated and the perspective from which you view it. (See Set 3D rotation position options.)
- ▶ Revolve Determines how to sweep the path around the object to turn it into three dimensions. (See Revolve options.)
- ▶ Surface Creates a wide variety of surfaces, from dull and un shaded matte surfaces to glossy and highlighted surfaces that look like plastic. (See Surface shading options.)
- ▶ Lighting Adds one or more lights, varies the light intensity, changes the object's shading color, and moves lights around the object, for dramatic effects. (See Lighting options.)
- ▶ Map Maps artwork onto the surfaces of a 3D object. (See Map artwork to a 3D object.)
- ▶ 5. Click OK

# Set 3D Rotation Position Options

- ▶ Extrude & Bevel options Extrude Depth Sets the depth of the object, using a value between 0 and 2000. Cap Specifies whether the object appears solid (Revolve Cap On ) or hollow (Revolve Cap Off ).
- ▶ Bevel Applies the type of beveled edge you choose along the depth (z axis) of the object.
- ▶ Height Sets the height between 1 and 100. Bevel heights that are too large for an object may cause the object to self-intersect and produce unexpected results .
- ▶ Bevel Extent Out Adds the bevel to the object's original shape.
- ▶ Bevel Extent In Carves the bevel out of the object's original shape.



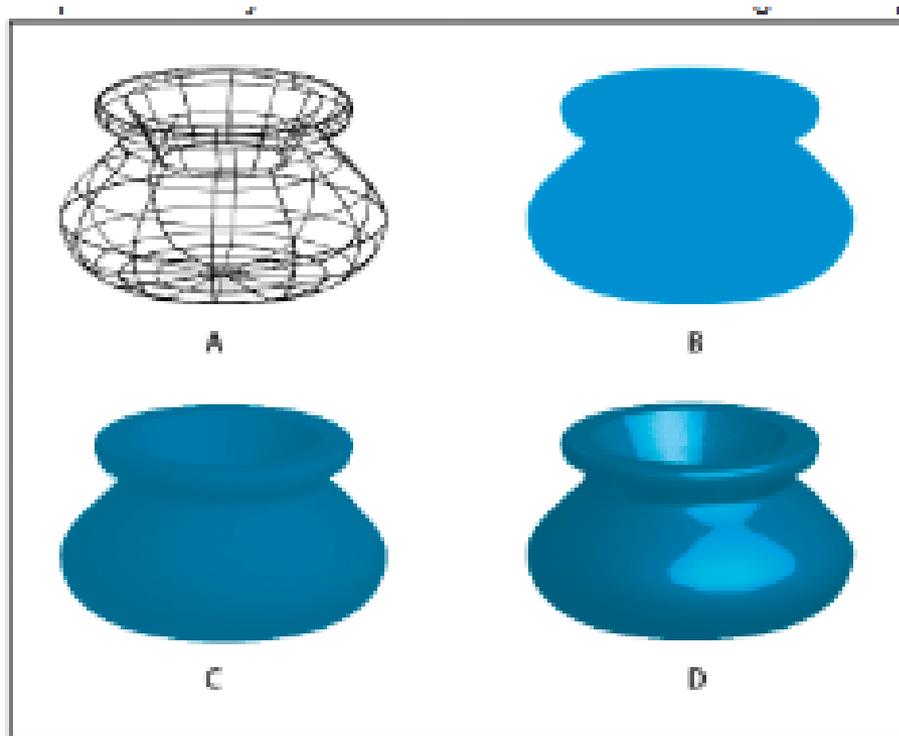
# Revolve Options

- ▶ Angle Sets the number of degrees to revolve the path, between 0 and 360.
  - ▶ Cap Specifies whether the object appears solid (Revolve Cap On ) or hollow (Revolve Cap Off )
  - ▶ Offset Adds distance between the revolve axis and the path, to create a ring-shaped object, for instance. You can enter a value between 0 and 1000.
  - ▶ From Sets the axis around which the object revolves, either the Left Edge or Right Edge.
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# Surface Shading Options

- ▶ Surface Lets you choose options for the shading surfaces :
- ▶ Wireframe Outlines the contours of the object's geometry and makes each surface transparent .
- ▶ No Shading Adds no new surface properties to the object. The 3D object has the same color as the original 2D object .
- ▶ Diffuse Shading Makes the object reflect light in a soft, diffuse pattern.
- ▶ Plastic Shading Makes the object reflect light as if it were made of a shiny, high-gloss material . Note: Depending on what option you choose, different lighting options are available. If the object only uses the 3D Rotate effect, the only Surface choices available are Diffuse Shading or No Shading.

- ▶ Light Intensity Controls the light intensity between 0% and 100%.
- ▶ Ambient Light Controls the global lighting, which changes the brightness of all the object's surfaces uniformly. Enter a value between 0% and 100%.
- ▶ Highlight Intensity Controls how much the object reflects light, with values ranging from 0% to 100%. Lower values produce a matte surface, and higher values create a shinier-looking surface .
- ▶ High light Size Controls the size of the highlight from large (100%) to small (0%).
- ▶ Blend Steps Controls how smoothly the shading appears across the object's surfaces. Enter a value between 1 and 256. Higher numbers produce smoother shades and more paths than lower numbers .
- ▶ Draw Hidden Faces Displays the object's hidden back faces. The back faces are visible if the object is transparent, or if the object is expanded and then pulled apart .
- ▶ .Preserve Spot Color (Extrude & Bevel effect, Revolve effect, and Rotate effect) Lets you preserve spot colors in the object. Spot colors can't be preserved if you chose Custom for the Shading Color option



*Examples of different surface shading choices*

*A. Wireframe B. No shading C. Diffuse shading D. Plastic shading*

# Add A Custom Bevel Path

- ▶ 1. Open the Bevels.ai file, which is located in the Adobe Illustrator CS5\Support Files\Required\Resources\en\_US \ folder(Windows) 2. Create a single open path in the Bevels.ai file.
- ▶ 3. Choose Window > Symbols, and do one of the following to make the path a symbol:
  - ▶ Drag the path to the Symbols panel .
  - ▶ With the path selected, click the New Symbol button in the Symbols panel or choose New Symbol from the panel menu.
- ▶ 4. To rename the symbol, double-click the symbol in the Symbols panel, enter a name in the Symbol Options dialog box, and click OK.
- ▶ 5. Choose File > Save.

- ▶ 6. Quit Illustrator and then relaunch Illustrator . The Bevel menu in the 3D Extrude & Bevel Options dialog box lists the bevel.
- ▶ 7. To apply the custom bevel, do one of the following :
- ▶ To apply the bevel to an extruded 3D object, select the 3D object, and then double-click the 3D Extrude & Bevel effect in the Appearance panel. In the 3D Extrude & Bevel Options dialog box, choose the bevel from the Bevel menu.
- ▶ To apply the custom bevel to 2D artwork, select the 2D object, and then choose Effect > 3D > Extrude & Bevel. In the 3D Extrude & Bevel Options dialog box, choose the custom bevel from the Bevel menu.

# Rotate An Object In Three Dimensions

- ▶ 1. Select the object.
- ▶ 2. Choose Effect > 3D > Rotate.
- ▶ 3. Select Preview to preview the effect in the document window.
- ▶ 4. Click More Options to view the complete list of options, or Fewer Options to hide the extra options.
- ▶ 5. Specify options:
  - ▶ Position Sets how the object is rotated and the perspective from which you view it. (See Set 3D rotation position options.)
  - ▶ Surface Creates a wide variety of surfaces, from dull and unshaded matte surfaces to glossy and highlighted surfaces that look like plastic. (See Surface shading options.)
- ▶ 6. Click OK

# Map artwork to a 3D object

- ▶ Every 3D object is composed of multiple surfaces. For example, an extruded square becomes a cube that is made of six surfaces: the front and back faces, and the four side faces. You can map 2D artwork to each surface on a 3D object. For example, you might want to map a label or text onto a bottle-shaped object or simply add different textures to each side of an object.



3D object with artwork mapped to each side

A. Symbol artwork B. Symbol artwork C. A and B mapped to 3D object

- ▶ 1. Select the 3D object.
- ▶ 2. In the Appearance panel, double-click the 3D Extrude & Bevel or 3D Revolve effect.
- ▶ 3. Click Map Art.
- ▶ 4. Choose the artwork to map to the selected surface from the Symbol pop-up menu.
- ▶ 5. To select which object surface you want to map, click the first , previous , next , and last surface arrow buttons, or enter a surface number in the text box . A light gray color mark appears on the surfaces that are currently visible. A dark gray color mark appears on the surfaces that are hidden by the object's current position. When a surface is selected in the dialog box, the selected surface is outlined in red in the document window.

- ▶ 6. Do any of the following:
- ▶ To move the symbol, position the pointer inside the bounding box and drag; to scale, drag a side or corner handle; to rotate, drag outside and near a bounding box handle .
- ▶ To make the mapped artwork fit to the boundaries of the selected surface, click Scale To Fit. To remove artwork from a single surface, select the surface using the Surface options, and then either choose None from the Symbol menu or click Clear.
- ▶ To remove all maps from all of the 3D object's surfaces, click Clear All.
- ▶ To shade and apply the object's lighting to the mapped artwork, select Shade Artwork.
- ▶ To show only the artwork map, not the geometry of a 3D object, select Invisible Geometry. This is useful when you want to use the 3D mapping feature as a three-dimensional warping tool. For example, you could use this option to map text to the side of an extruded wavy line, so that the text appears warped as if on a flag .
- ▶ To preview the effect, select Preview.
- ▶ 7. Click OK in the Map Artwork dialog box

**Please Email Me if there Any Questions**  
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**Thank you!**