Tutorial 1: Working with Shapes

OBJECTIVE: In this tutorial, students will learn how to create a custom document with multiple artboards. By setting up a grid and guides, students will observe the benefits of working within set boundaries to create consistent styled icons. Students will also gain skills in drawing various shapes, editing shapes, and combining shapes to make more complex forms. This tutorial is designed to work within web parameters including hex code color, appropriate size and resolution, creating a library for sharing, and exporting icons as individual PNG assets.

Step 1: Setting up a New File

Launch Adobe Illustrator. On the Home Page, click the **New File** button.

In the **New Document** window on the right side are the document Present Details. Name the by your lastname: *Lastname-T1*.

Set the **Width** and **Height** to **100 pixels**.

At the bottom of the Preset Details section, click **More Settings** *(Figure 1)*.

Change the **Number of Artboards** to **9** and choose the first Artboard arrangement icon to the right.

Set the **Spacing** to **20px** and **Columns** to **3**.

Make sure the **Units** is set to **Pixels**, as we are creating a document for web purposes.

Under the Advanced dropdown, set the **Color Mode** to **RGB** and **Raster Effects** to **Screen (72 ppi)**. Then hit **Create Document**.

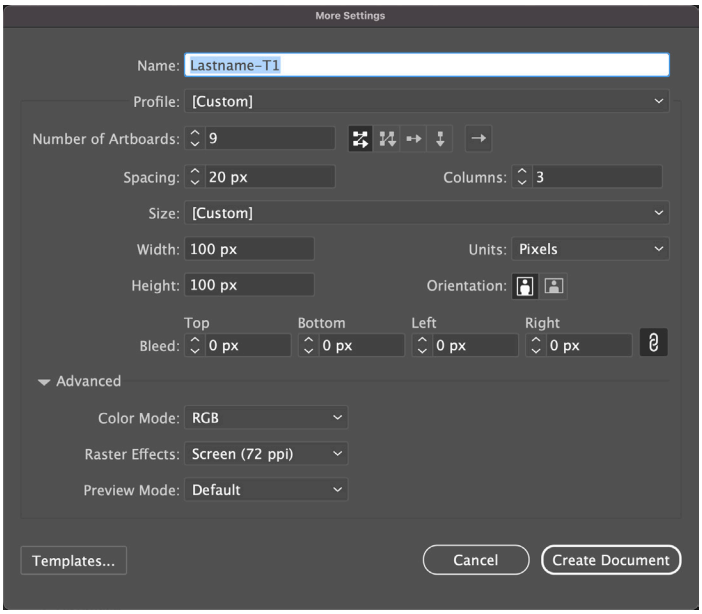


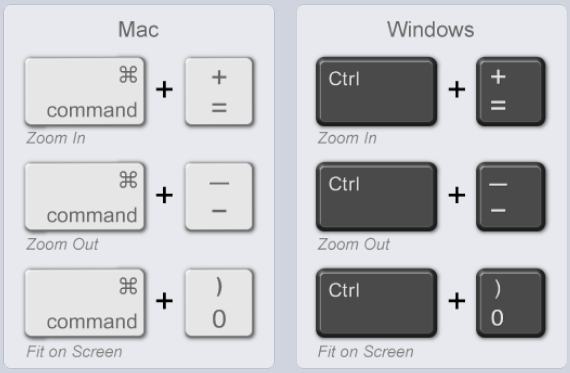
Figure 1

TIP

Once open, you will see 9 white Artboards. To zoom in to the first Artboard, use the **Zoom Tool (Z)**. By clicking, you will zoom in. Hold the **OPTION (mac) / ALT (win)** to zoom out.

You can use the keyboard shortcuts:

- **Cmd (mac) / Ctrl (win)** "+" to zoom in
- **Cmd (mac) / Ctrl (win)** "—" to zoom out
- **Cmd (mac) / Ctrl (win)** "0" to fit Artboard to screen



Menu > View > Zoom In, Zoom Out, Fit on Screen

Step 2: Setting up Grids and Guides

Go to your Illustrator **Preferences**. If using a Mac, this is located under ILLUSTRATOR > PREFERENCES. If using Windows, this is located under EDIT > PREFERENCES.

Click on the **Guides and Grid** category. In the **Grid** section *(Figure 2)*, feel free to lighten the color of the grid to light gray but double-clicking on the color swatch. This opens the **Color window**. Click on the **Color Sliders** icon and change the **Brightness** of the gray to **80%**. Close the window by clicking on the "x" in the upper right corner (Win), or the red dot in the upper left corner (Mac).

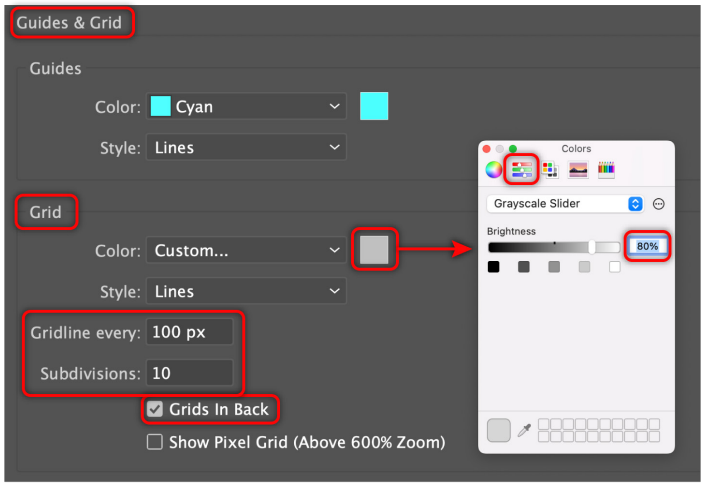


Figure 2

Change the **Gridline every** to **100px** and **Subdivisions** to **10**.

Make sure the **Grids In Back** option is checked, then hit **OK**.

Go to VIEW > SHOW GRID. You will now see the grid appear over the Artboards.

Go to VIEW > SMART GUIDES. to turn this on. If there is a "check" beside it, it is already active.

Then go to VIEW > SNAP TO PIXEL. This ensures that shapes draw are rounded to the closest number, rather than have decimals after their value.

Step 3: Making a Sun

Use the **Ellipse Tool**. Position your cursor in the middle of Artboard 1.

Draw a circle from the center by holding the OPTION/ALT key. Holding the SHIFT key will allow you to draw a perfect circle.

Drag and draw until you reach **60px**. You can always set this in the Properties panel under the Transform section in Width and Height.

Double-click on the **Fill swatch**. This can be found in three places: the Tools panel, the Options bar, and in the Properties panel under Appearance.

Once you double-click on the swatch, it opens the **Color Picker** window. Start by checking the **Only Web Colors** option *(Figure 3)*.

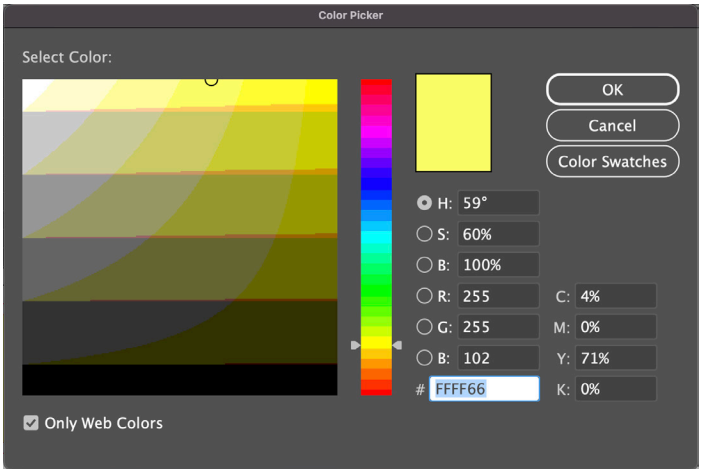


Figure 3

Choose the web safe color: **FFFF66** then hit **OK**.

To make the suns rays, go to OBJECT > PATH > OFFSET PATH... Set the **Offset** to **10px**. and hit **OK**.

With this offset circle selected, change the **Fill color** to **FFCC33** *(Figure 4)*.

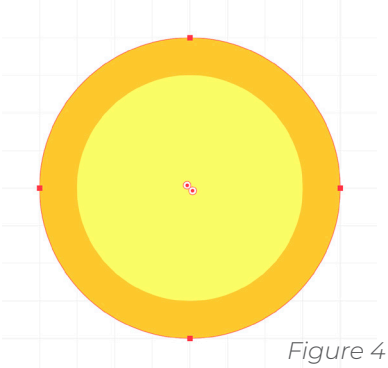


Figure 4

Go to EFFECT > DISTORT & TRANSFORM > ZIG ZAG... In the Zig Zag options window, Change the **Size** to **10px**. and the **Ridges per Segment** to **4**. Choose the **Corner** option under Points and hit **OK**.

Notice that the path of the sun's rays is still a circle. To modify the shape, you'd want to expand it by going to OBJECT > EXPAND APPEARANCE.

Using the **Direct Selection Tool (A)**, click on the sun's rays shape. In the Options bar, change the **Corners** to **2px**. (Figure 5).

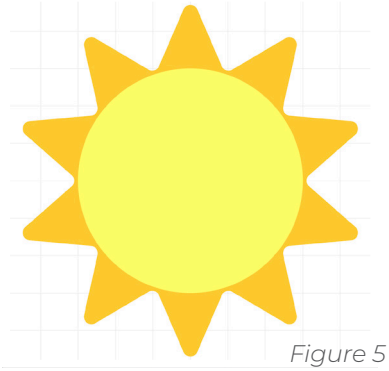


Figure 5

Open the **Layers panel**. You'll find this tabbed with the Properties panel. Double-click on the word *Layer 1* and rename the layer *Sun*.

Step 4: Making a Moon

Create a **New Layer** by clicking on the "plus" icon  at the bottom of the Layers panel.

Name this layer *Moon*.

Navigate to Artboard 2 and use the **Ellipse Tool** to draw a perfect circle from the center of the Artboard. Remember to hold the OPTION/ALT to draw from the center of the objects and SHIFT to draw proportionally so the shape is a perfect circle.

Keep the color the same as the suns rays (FFCC33). Create a second circle that is **80px by 80px**. large.

Center is on top the 90px. circle. Then move it to the right **20px**. *(Figure 6)*.

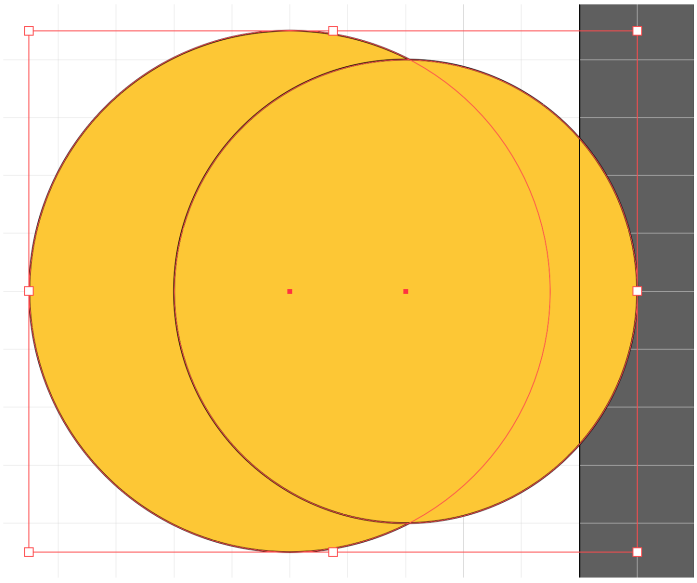


Figure 6

TIP

To move an object by **1px**, tap the arrow keys.

- Arrow Up ▲ or ↑
- Arrow Down ▼ or ↓
- Arrow Left ◄ or ←
- Arrow Right ► or →

To move an object by **10px**, hold the SHIFT key.

- Arrow Up ▲ or ↑
- Arrow Down ▼ or ↓
- Arrow Left ◄ or ←
- Arrow Right ► or →

Select the two circles.

In the **Properties panel**, click the **Minus Front** icon located Pathfinder.

Then rotate your moon 45°. Do this using the **Selection Tool (V)**. Hover your cursor slightly outside the bounding box near a corner. You'll notice the cursor changes from a black arrow to a "rotate" symbol.

Hold the SHIFT key down while rotating the moon **45° counter-clockwise** *(Figure 7)*.

Once rotated, check the new size of the moon. It is less than 90px. Resize it to **90px**. in the Properties panel.

Reposition the moon so it is in the center of Artboard 2. Notice that both the sun and the moon have **5px**. padding from the edge of the Artboard.

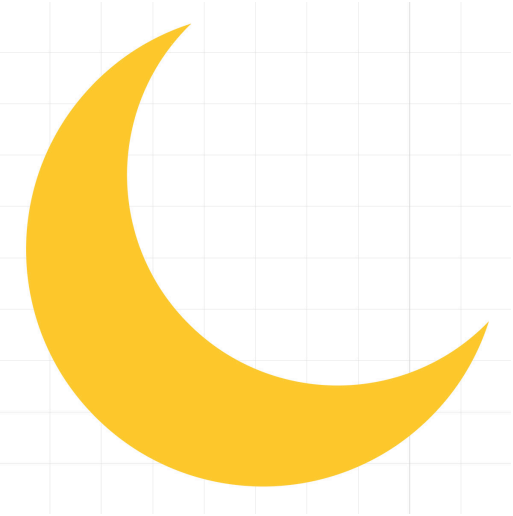


Figure 7

Step 5: Making a Cloud

Create a **New Layer** and rename it *Cloud*.

Use the **Ellipse Tool** to draw four circles that will define the puffy top of the cloud.

Change the color to **66CCFF**.

The left and right circles are **30px.** The largest circle is **45px.** and the smallest circle is **20px.**

Align the bottoms of the two 30px. circles. You can do this by selecting the two circles and clicking the **Vertical Align Bottom** in the Options bar *(Figure 8)*.

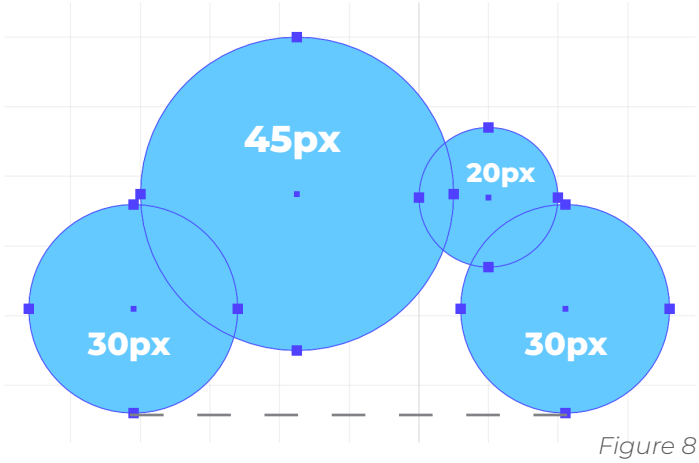


Figure 8

Use the **Rectangle Tool** to draw a rectangle that fills the bottom base of the cloud and gaps between circles.

Select all shapes and combine them into one solid shape by clicking the **Unite** icon in the Properties panel under Pathfinders *(Figure 9)*.

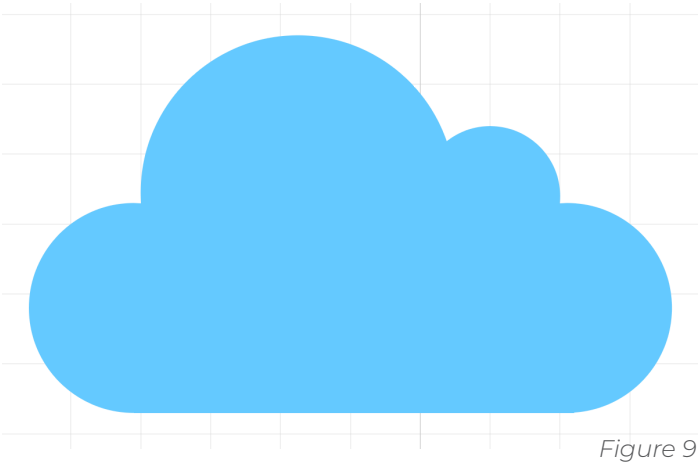


Figure 9

Center the cloud on Artboard 3.

Save your file.

TIP

When saving your file for the first time while working on it, your will get a prompt asking if you'd like to save it to your cloud storage or on your computer.

Since tutorials will later be uploaded to a submission folder, it will be easier to find them if they are saved to your desktop. But do keep a file in your cloud storage for yourself as well.

Step 6: Making a Rain Cloud

Create a **New Layer** and rename it *Rain*.

Use the **Selection Tool (V)** to select the cloud in Artboard 3.

Double-click the **Scale Tool (S)**. In the Scale options window, type **90** in the **Uniform** scale field and click **Copy**. This will make a smaller copy of the cloud.

Use the **Selection Tool (V)** to position the smaller cloud 5px. from the top edge on Artboard 6. While the cloud is selected, drag the **Selected Art** box on the *Cloud* layer and drag it to the *Rain* layer *(Figure 10)*.

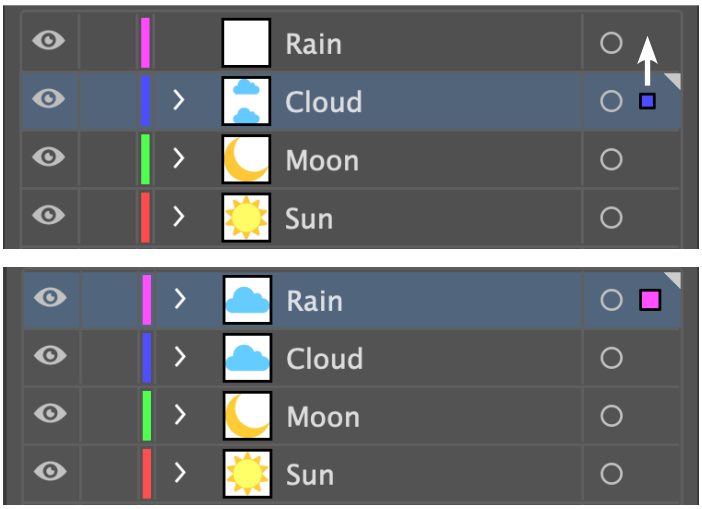


Figure 10

Change the cloud color to **CCCCCC** and deselect the gray cloud.

Use the **Ellipse Tool** to draw a small **10px.** circle.

Change the color to **99CCFF**.

Use the **Direct Selection Tool (A)** and select the top anchor point. The use your keyboard **Arrow Up** to move the point **5px.** upward.

With the anchor point still selected, click on the **Convert selected anchor point to corner** icon in the Options bar. This changes the shape to look like a rain droplet *(Figure 11)*.

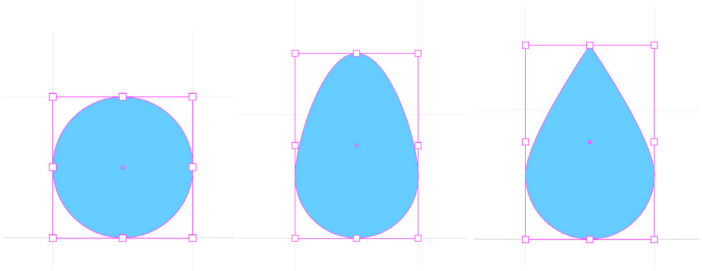


Figure 11

Rotate the droplet by double-clicking the **Rotate Tool** and set the **Angle** to **26°**. Hit **OK**.

Duplicate the rain drop several times and position them under the gray cloud. Do this by holding the **OPTION/ALT key** down, then click and drag the copy to a new location *(Figure 12)*.

Figure 12

Step 7: Making Lightning

Create a **New Layer** and name it *Lightning*.

Use the **Selection Tool (V)** to select the cloud in Artboard 6.

Double-click the **Scale Tool (S)**. In the Scale options window, type **80** in the **Uniform** scale field and click **Copy**. Move the new copy to the *Lightning* layer. Then position it **5px.** from the top edge of Artboard 9.

Change the cloud color to **999999** and deselect the gray cloud.

Select the **Polygon Tool** and click on an empty area beneath the dark cloud to open the Polygon options window.

Set the **Radius** to **30px.** and the **Sides** to **3**. Then hit **OK**.

Using the **Selection Tool (V)**, rotate the triangle up-side-down or **180°**.

Use the **Eyedropper Tool (I)** and sample the yellow color used on the moon.

Use the **Selection Tool (V)** to resize the triangle. Make the **width 32 px.** and the **height 47 px.** You can also type these in the Properties panel.

Locate the **Knife Tool** (which is located in the **More Tools** option in the Tools panel  , and looks like a saw ).

Holding the SHIFT key down and starting outside the triangle shape, click and drag a line from left to right that "cuts" through the triangle shape. This divides the triangle into two pieces *(Figure 13)*.

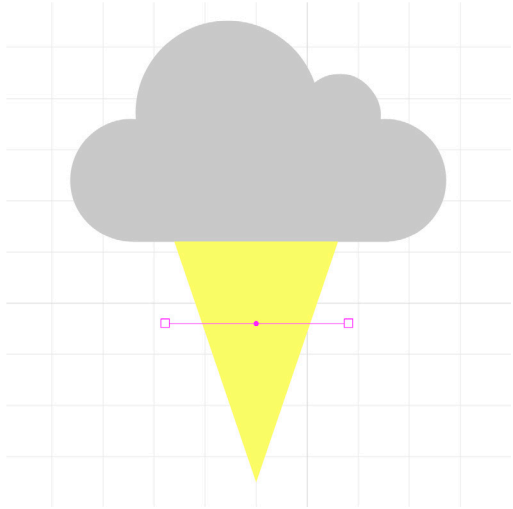


Figure 13

Use the **Selection Tool (V)** and select the bottom section of the triangle. Nudge it to the left **10px**.

Select both pieces and reunite them back to one shape using the **Unite** function in Pathfinders.

With the triangle selected, go to OBJECT > TRANSFORM > SHEAR... Set the **Angle** to **320°**.

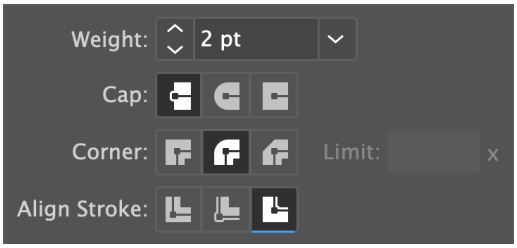


Figure 14

You can use the **Direct Selection Tool (A)** to modify the shape further. For example, the upper right anchor point was nudges to the left 4px.

Add a stroke to the lightning shape. Double-click on the **Stroke swatch** to open the **Color Picker**. Use the color, **FFFF66**. Then change the weight of the stroke to **2px**.

To open the **Stroke panel**, click on the word "Stroke" in the Properties panel. You can further edit the stroke by changing the **Corner** to **Round Join** and the **Align Stroke** to **Align Stroke to Outside** option *(Figure 14)*.

Arrange the lightning bolt to sit beneath the cloud by going to OBJECT > ARRANGE > SEND TO BACK. Position the lightening bolt and cloud so they are in the center of the Artboard *(Figure 15)*.

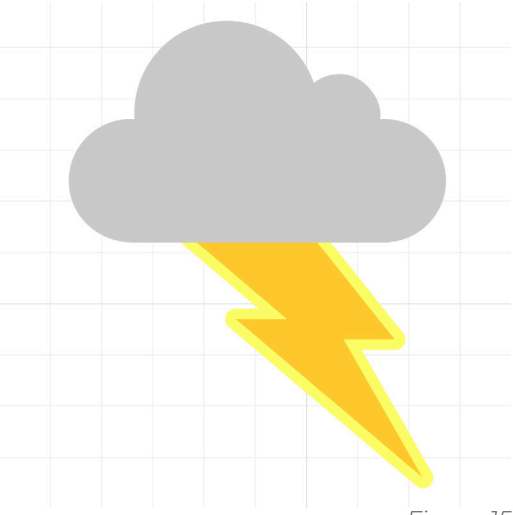


Figure 15

Step 8: Making Wind

Create a **New Layer** and name it *Wind*.

Navigate to Artboard 4.

Use the **Line Segment Tool** and create three horizontal lines. Two of the lines need to be **63px. long**, and the third should be **44px. long**.

Make sure these lines have no fill by choosing on the **No Fill icon** when selecting the Fill color. Change the **Stroke** swatch to **99CCFF**.

Set the **Stroke Weight** to **5px.** and the **Cap** to **Rounded Cap**.

Create three circle with the same color property as the lines. Make one circle **25px.**, another **47px.**, and the last **27px.**

Position the lines and circles so that the right anchor point of the line snaps to the bottom anchor point of a circle. Match the appropriate lines to circles *(Figure 16)*:

- Line 1 (63px.) to Circle 1 (25px.)
- Line 2 (63px) to Circle 2 (47px.)
- Line 3 (44px.) to Circle 3 (27px.)

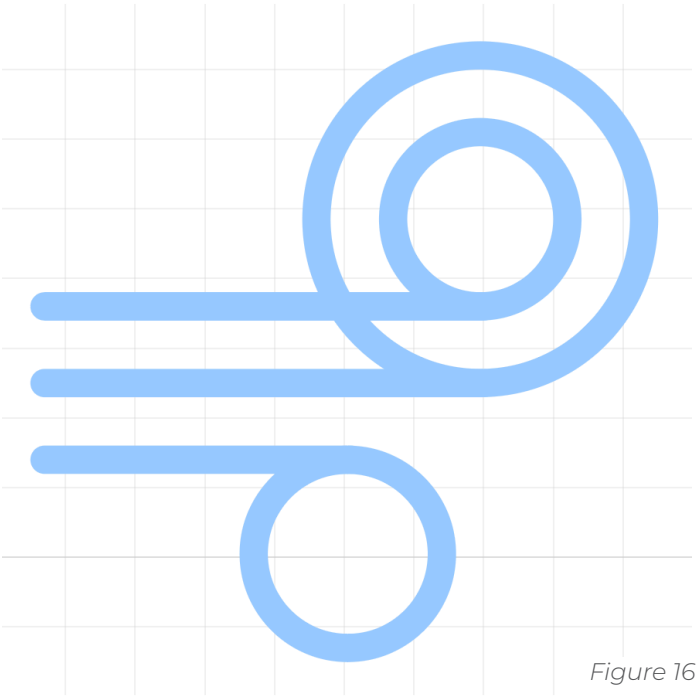


Figure 16

Using the **Direct Selection Tool (A)**, select the segment from the circle to remove. This would be the section of the circle that is on the left and is touching the line. Once the section is selected, hit the DELETE key (mac) / BACKSPACE key (win) *(Figure 17)*.

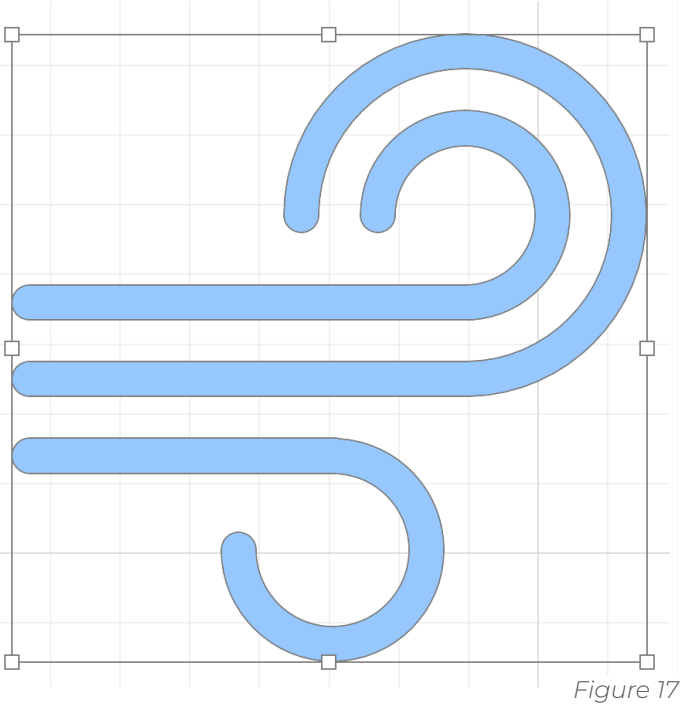


Figure 17

This all lines and circles selected, go to OBJECT > PATH > OUTLINE STROKE. This turns paths into objects. While still selected, **Unite** the shapes from the Properties panel.

Step 9: Making a Snowflake

Create a **New Layer** and name it *Snow*.

Navigate to Artboard 5.

Use the **Line Segment Tool** and draw a vertical line that is **40px. long**. Remember to hold the SHIFT key down to draw a straight line.

Open the **Stroke panel** as a free-floating panel by going to WINDOW > STROKE. If you don't see the stroke options, click on the three lines on the upper right corner of the panel. This is your **panel menu**. Click **Show More** to expand the panel showing all the options for strokes *(Figure 18)*.

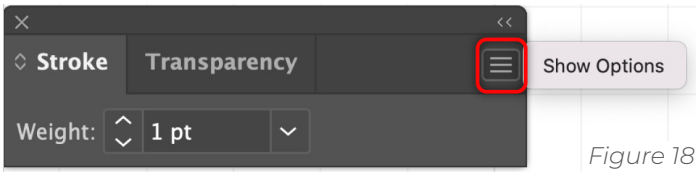


Figure 18

Keep the stroke **weight** set to **1 pt**. In the Arrowheads section, click on the dropdown and choose **Arrowhead 21** for both ends of the stroke. The circle ends are a bit large, so reduce the **Scale** to **40%** on each *(Figure 19)*.

With the line selected, double-click on the **Rotate Tool.** Set the **Angle** to **30°** and hit **Copy** instead of OK *(Figure 20)*. This creates a duplicate line that is rotated 30° of the original.

Repeat the rotate copy four more times, totally 6 lines. The lines should begin to resemble a snowflake *(Figure 21)*.

Use the **Selection Tool** to select every-other line segment. In the **Stroke panel**, click the **Dashed Line** option and set the **dash** to **2 pt**. With these lines still selected, double-click the **Scale Tool** and reduce the size to **70%** *(Figure 22)*.

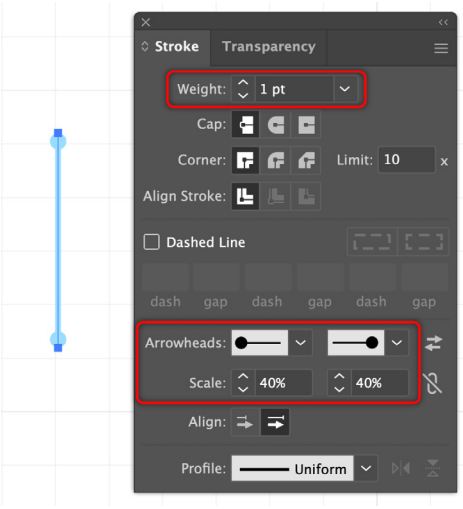


Figure 19

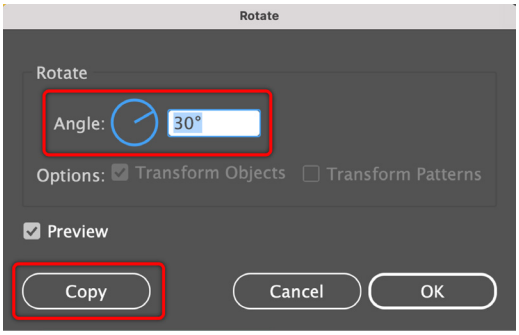


Figure 20

Deselect all by clicking in the empty area away from the snowflake. Off the the side of the snowflake, use the **Rectangle Tool** to draw a square that is **5 px**. The stroke on the square may still be dashed, so **uncheck** the Dashed Line option in the **Stroke panel**. Then rotate the square **45°**.

Use the **Direct Selection Tool** and click on the left anchor point on the square. In the Options bar, click the **Cut path at selected anchor point** icon . Click on the right anchor point and do the same.

Use the **Selection Tool** to move these apart *(Figure 23)*. Then position them on the vertical line on the snowflake *(Figure 24)*.

Duplicate the angle pieces and position them **4 px.** away towards the center of the snowflake.

In the **Properties panel**, change the **Width** of the duplicate to **5 px**. making sure the proportional link is selected. Then change the stroke **Weight** to **.75 pt**.

Duplicate the new line and position it another **4 px.** towards the center on the vertical snowflake line.

In the **Properties panel**, change the **Width** of the duplicate to **3 px** and change the stroke **Weight** to **.5 pt**. *(Figure 25)*.

Select all 6 line segments created from the square and group them by going to OBJECT > GROUP. With the group selected use the **Rotate Tool** to rotate it **60°** making a **copy**. Repeat this one more time *(Figure 26)*.

Select the entire snowflake and go to OBJECT > PATH > OUTLINE STROKE. This will convert the lines as paths into editable objects.

The **Unite** the snowflake using the **Pathfinder** function.

Save your file.

Figure 21 Figure 22

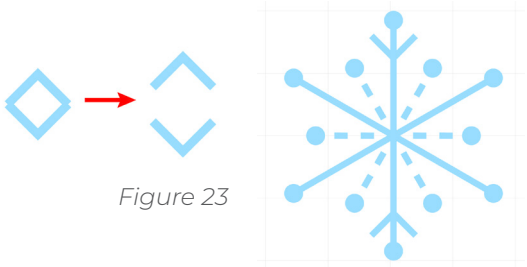


Figure 23 Figure 24

Figure 25 Figure 26

Duplicate the snowflake several times. Change the **rotation**, **size**, and **opacity** of each one so they looks slightly different, then position them within the artboard keeping them 5 px. away from the edge of the artboard *(Figure 27)*.

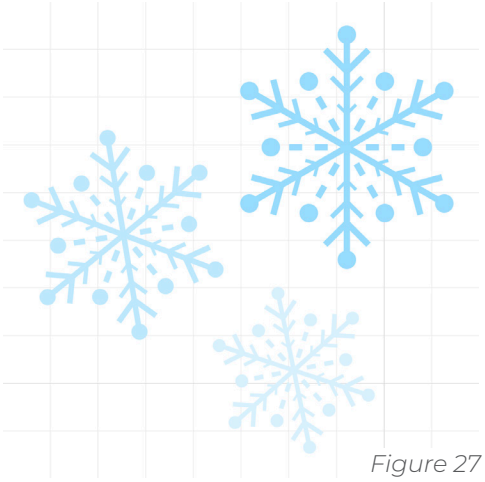


Figure 27

Step 10: Making a Thermometer

Create a **New Layer** and name it *Cold Temp*.

Navigate to Artboard 7.

Use the **Ellipse Tool** and draw a circle that is **25 px.**

Use the **Rounded Rectangle Tool** and draw a rectangle that is **11 px. wide** and **70 px. high**. Adjust the **Corners** to **5.5 px.** *(Figure 28)*.

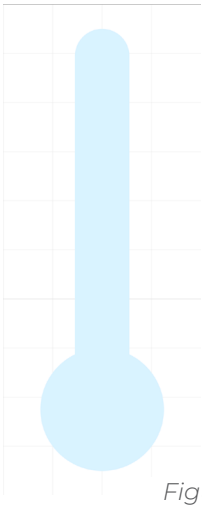
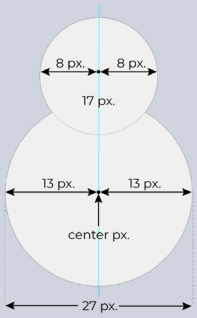


Figure 28

TIP

When creating objects to align by their center point, it's best to draw them having an odd number width (ie. 5, 17, 37...). When center aligned, they will then have equal pixels on either side of the center point.



Select both shapes and **Unite** them.

Make a **copy** of the shape. One will be set aside to fill with blue indicator for cold...

Reverse the **Fill and Stroke**. This can be done from the **Tools panel**. Located to the upper right of the Fill/Stroke swatches is the **Reverse** icon . The **Fill** is **None** and change the **Stroke** to **CCCCCC**.

Change the stroke **Weight** to **3 pt.** and align it to the outside of the shape .

Go to OBJECT > PATH > OUTLINE STROKE to make it an editable shape *(Figure 29)*.

On the copy, change the **Fill** color to **6699FF**.

Use the **Knife Tool** and divide the shape horizontally across near the bottom.

Select the top portion and change the color to white **(FFFFFF)**. Then **group** the blue and white pieces by using the keyboard shortcut Cmd/Ctrl G *(Figure 30)*.

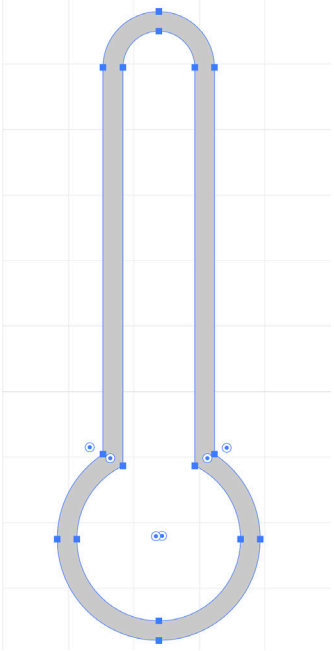


Figure 29

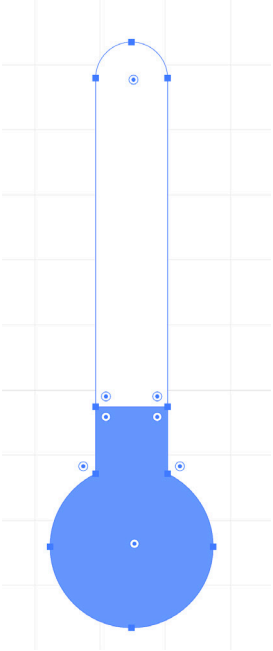


Figure 30

Align both shapes by selecting them and using the **Horizontal Align Center** and **Vertical Align Center** icons in the Options bar.

Group the objects together and **rotate 345°** in the **Properties panel**.

Copy a snowflake from the Artboard 5 and paste it to Artboard 7.

Add a **stroke** to the snowflake. Change the color of the stroke to **6699FF** and set the **Weight** to **.5 pt.**

Set the stroke to **Align Stroke Outside** of the snowflake and choose **Round Join** for the **Corners** option *(Figure 31)*.

In the **Layers panel**, drag the **Selected Art** square on the far right of the *Snow* layer and drag it to the *Cold Temps* layer.

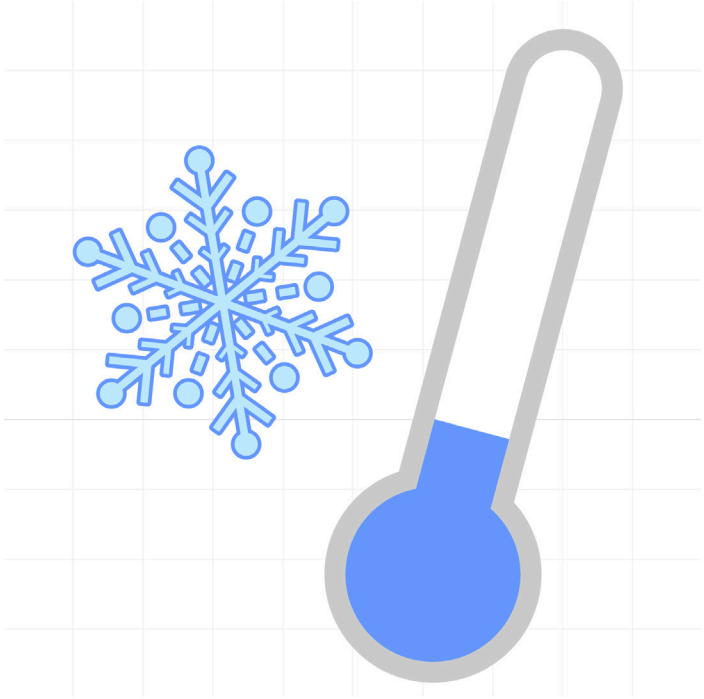


Figure 31

Step 11: Making the Hot Temp

Create a **New Layer** and name it *Hot Temp*.

Navigate to Artboard 8.

Copy the blue thermometer to Artboard 8 and drag the **Selected Art** icon to the *Hot Temp* layer in the **Layers panel**.

In the **Properties panel**, change the **Rotate** to **0°** and ungroup the objects by going to OBJECT > UNGROUP.

Drag the interior shapes off to one side and **Unite** them making one solid shape.

Change the color of the **Fill** color to **FF0000** *(Figure 32)*.

With the red shape selected, use the **Knife Tool** and horizontal divide the shape close to the top. Change the top portion white (**FFFFFF**). Then group the two pieces using the keyboard shortcut, Cmd/Ctrl G.

Align all shapes together and Rotate 345° *(Figure 33)*.

Off to the left of the thermometer, draw a horizontal line using the **Line Segment Tool** to a height of **50 px.**

Apply a **stroke** with the color **FF9966** and set the stroke **Weight** to **5 pt.**

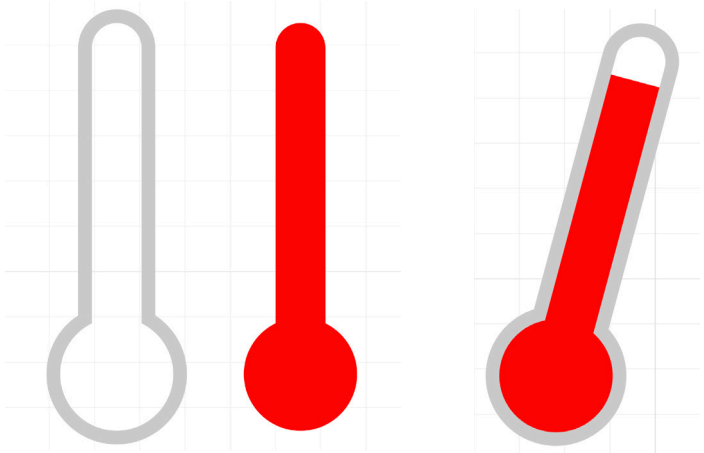


Figure 33

In the **Stroke panel**, change the **Profile** to **Width Profile 1** *(Figure 34)*.

To make this look like a heat wave, go to EFFECT > DISTORT & TRANSFORM > ZIG ZAG... Set the **Size** to **2 px.** and the **Ridge per segment** to **4**. Click on the **Smooth** option and hit **OK**.

Change the path to an object by going to OBJECT > PATH > OUTLINE STROKE.

Add a new **stroke** color to the heat wave: **FF0000** and change the stroke **Weight** to **.5 px.** aligning the stroke **outside** the object (as done with the previous snowflake *(Figure 35)*.

Duplicate the heat wave **two times**. In the **Properties panel**, change the **Height** of the two ouet waves to **40 px.**

Equally align the spacing between all three by **selecting** them all and clicking on the **Horizontal Distribute Center** icon in the Align section of the **Properties panel** or **Options bar**.

Rotate the **left wave 10°** and **Rotate** the **right wave 350°**.

Group the three waves and reposition them with a slight rotation *(Figure 36)*.

Hide the grid by going to VIEW > HIDE GRID.

Save your file.

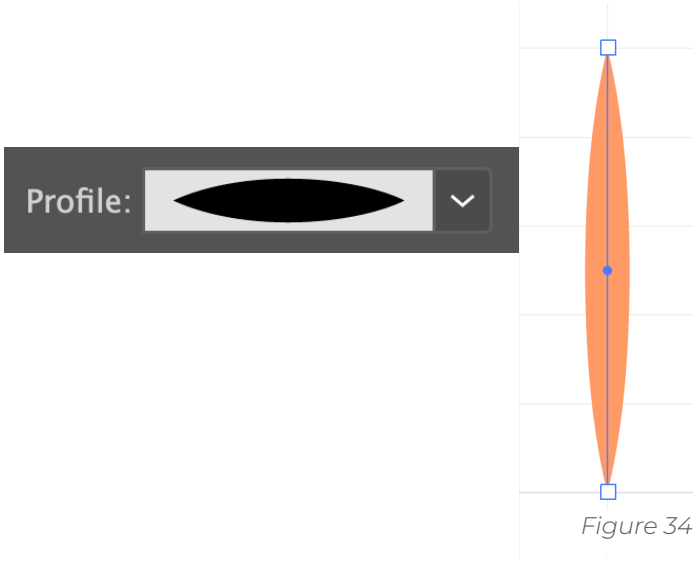


Figure 34

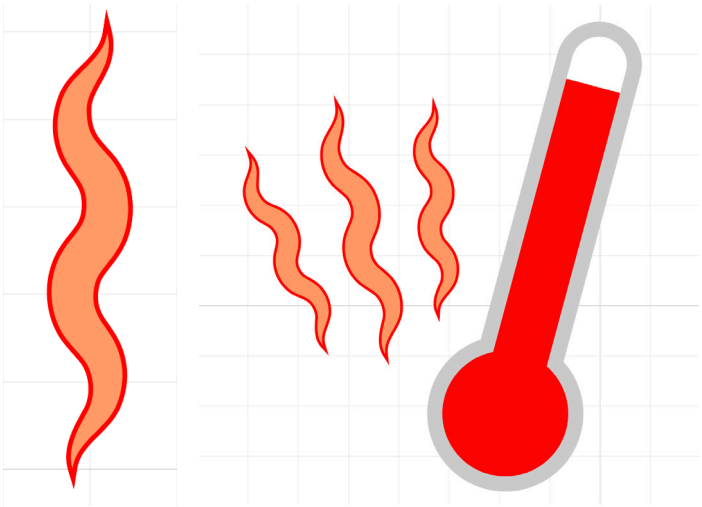
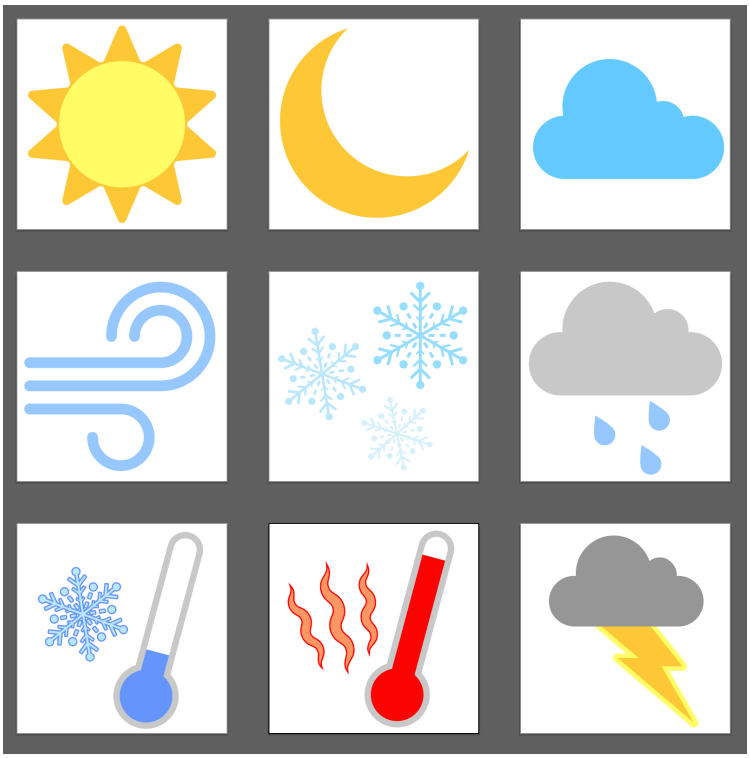
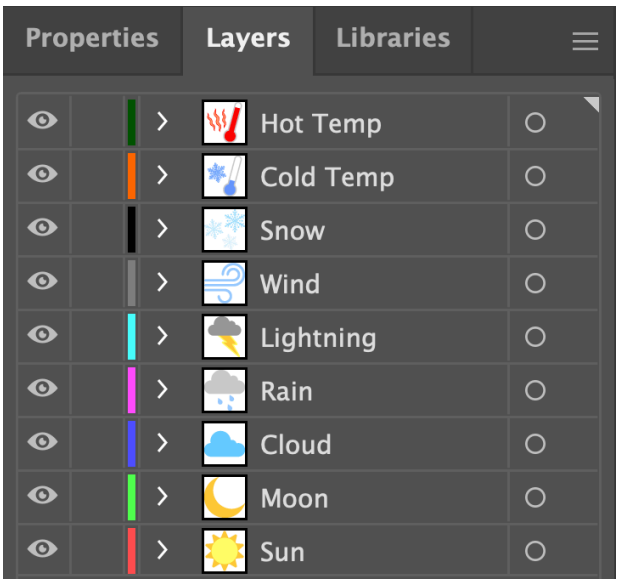


Figure 35

Figure 36





Artboards (left) and Layers (above)

Continue to export to Library and PNG assets.

Step 12: Creating a Library

Libraries store artwork to be used in files later. Save them for personal use or share with team members.

Simply drag and drop a library artwork onto a document to apply it. Libraries can be used among all Adobe products.

Double-click on a library artwork in the Libraries panel to re-edit it in a new window. Or hold the **OPTION/ALT key** when dragging it to your Artboard. This copies the artwork as editable shapes. See the example *(Figure 37)*.

To create a library, click on the **Libraries tab** nested with the Properties and Layers panels.

Click the **Create new library** option. **Name** the library *Weather Icons* and keep the "Save to" option to **Personal** *(Figure 38)*.

Select all the contents of the sun icon (the inner circle and rays). You may want to **group** the elements on each artboard before dragging them to the library.

Click, **drag**, and **drop** to the Library. **Double-click** on the word *Artwork 1* and rename it *Sun*. Repeat this for each icon, renaming them after you add them to the Library *(Figure 39)*.

Take a **screenshot** of your library.

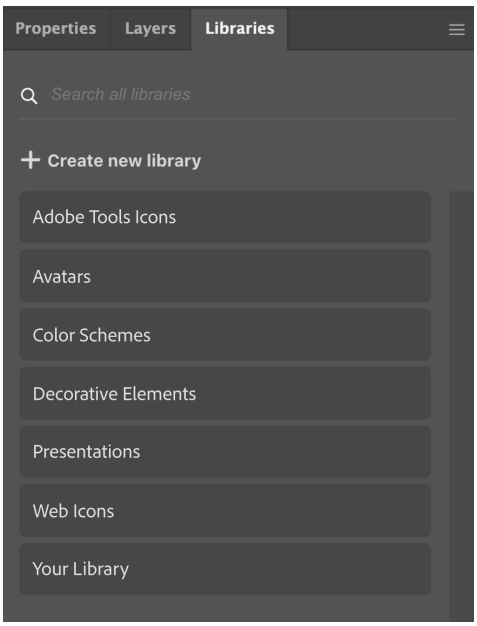


Figure 37

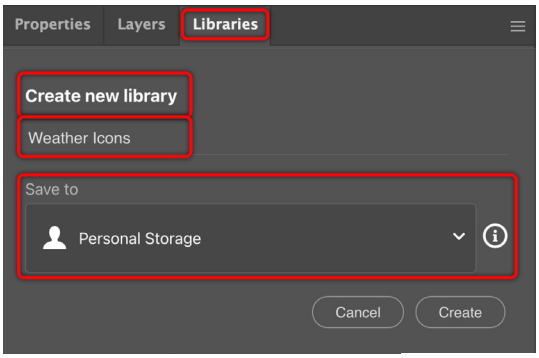


Figure 38

Step 13: Exporting as PNG

Exporting files mean that you save them as other files types to be used in other applications that do not support vector files, such as *Microsoft Word*, *PowerPoint*, etc. Therefore, they need to be in a file format that can be recognized, such as a **PNG file**.

To export these as separate icons, go to FILE > EXPORT > EXPORT FOR SCREENS...

The *Export for Screens* window appears allowing you to choose whether you'd like to export **Artboards** or **Assets**. The difference between the two is that exporting Artboards with keep the size of the new file the same size as the Artboard, whereas exporting an Assets only exports the bounding box that contains the artwork, not the Artboard dimensions. In this case, we will export **Artboards** so all files are the same size, **100 px. by 100 px.**

Be sure there is a "check" at the bottom corner of each icon in the preview.

On the right under the Select options, check All.

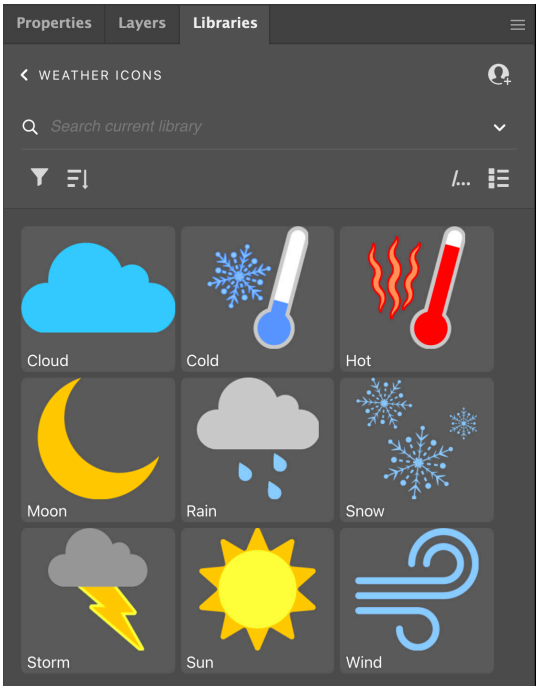


Figure 39

Be sure you know where the export is going by checking the local path under **Export to**.

Change the **Format** to **PNG** and hit **Export Artboard** *(Figure 40)*.

Once exported, be sure to save you file once again. This will save the latest export settings.

Go to **FILE > SAVE AS...** and save a copy of this tutorial to your cloud storage. This will save as **.aic** document (Adobe Illustrator Cloud).

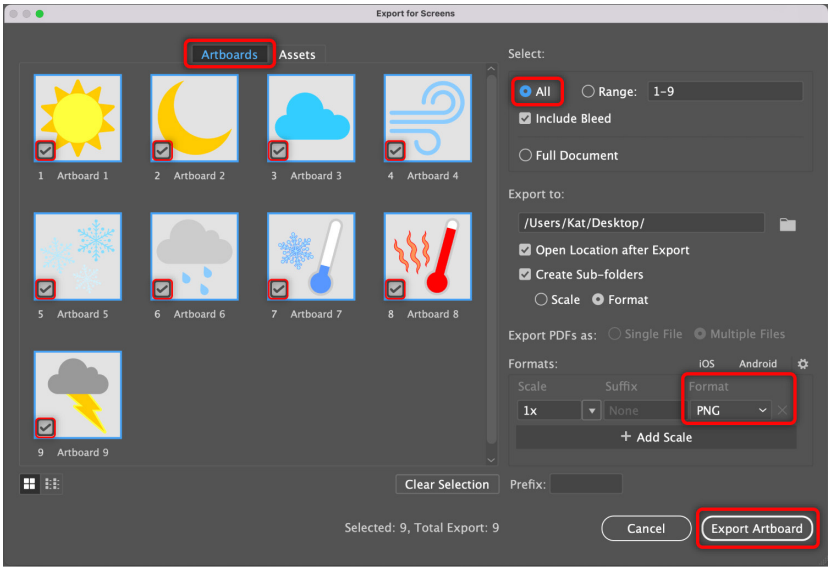


Figure 40

Step 14: Submitting Work

Submit the following to the Submission folder:

- *Lastname-T1.ai* (Illustrator native file)
- Screenshot of your library with weather icons
- Folder named *PNG* (contains exported assets)