# INTRODUCTION TO INKSCAPE

# LESSON 1: BASICS BOOTCAMP

*Find out what Inkscape is, how to run it, and all the Inkscape essentials you'll need to know to get started creating your own awesome artwork!*

## WHAT IS INKSCAPE?

Inkscape is a software program that allows you to create artwork of all kinds – illustrations, logos, icons, business cards, webpage banners, posters, CD and DVD labels, T-shirt artwork – your imagination and creativity are the limit!

There's two things you should know about Inkscape:

1. Inkscape is free. You can download Inkscape and share it with your friends – no problem. You can always download a copy of the latest Inkscape at inkscape.org.

2. Inkscape is a vector graphics program. This mean, practically, any artwork you create in Inkscape can be sized up to be infinitely large without any loss of quality. We'll talk more about this later.

## INKSCAPE BASICS BOOTCAMP

We're going to get started in Inkscape right away. We're going to run through some of the basics very quickly. Give them a shot, and please refer back to this instruction sheet as you work with Inkscape if you need to remember how to do something. Open up Inkscape and get ready!

1. **Pan the Inkscape canvas**
   - Grab the vertical scrollbar at the right of the screen and scroll up and down.
   - Try the same with the horiztonal scrollbar at the bottom of the screen – scroll left and right.
   - Hold down the 'Ctrl' key on your keyboard. While keeping it held down, press the up, down, left, and right arrow keys one-by-one on the keyboard and move around the canvas.
   - Lost? Can't find your canvas anymore? Not to worry – hit the '5' key on your keyboard to get back to your canvas.

2. **Zoom, zoom, zoom.**
   - Go to View > Zoom in the toolbar. Zoom far into the canvas. Then zoom back out. (Lost? Hit the '1' key to get back to 100% zoom.)
   - Now try zooming using the zoom tool. Click on the magnifying glass tool in the left – click on the canvas to zoom in. Hold down the 'Shift' key, then click on the canvas again to zoom out.
   - Now try zooming using the keyboard shortcuts. Hit '+' 3 times to zoom in. Now hit '-' 3 times to zoom out.
   - Now try zooming using the zoom toolbar entry in the lower right. You can click the little arrows or type the zoom percentage you'd like.

3. **Pick and choose – selecting objects**
   - Select the circle, square, or star tool from the toolbar on the left and draw a bunch of shapes on the canvas.
   - Select one of the shapes you just drew. Simply click on it. Click on empty canvas to reset your selection.
   - Select two of the shapes you just drew at the same time – hold down the 'Shift' key, and click on the two shapes you'd like to select. Drag them with the mouse, and move them using the arrow keys. Click on empty canvas to reset your selection.
   - Select three of the shapes you just drew at the same time. Hold down the 'Shift' key, click on three shapes. Unselect one of them by Shift + clicking on it again. Click on empty canvas to reset your selection.
   - Now select all of the shapes you just drew. Do this by clicking and dragging a lasso around all the shapes. Click on empty canvas to reset your selection. Now try the same by holding down the 'Ctrl' key and hitting the 'A' key.

4. **You've got to move it, move it!**
   - Select one of your objects. Move it around – try dragging it with the mouse.
   - Now select another object, and use the arrow keys to move it around.
   - Hold down the 'Shift' key, and use the arrow keys to move the object around again. How does holding down the shift key change how moving it works?

5. **Copy / Paste / Delete / Duplicate**
   - Select all the objects on your canvas. Hit 'Ctrl' + 'C'.
   - Hit the 'Delete' key. They're all gone.
   - Hit 'Ctrl' + 'V'. They're back!
   - Hit 'Ctrl' + 'X'. They're gone again!
   - Hit 'Ctrl' + 'V' again. They're back again!
   - Hit 'Ctrl' + 'D'... looks normal... but hit the up key a few times on your keyboard. Wow!

6. **Supersize it! Rotate, and Flip too!**
   - Delete all the objects on your canvas except for one.
   - Select the object by clicking on it once. Look at the border around the object. What does it look like?
   - Click the object one more time. Look at the border now. How has it changed?
   - Click on the object so that the arrows on the borders are straight, and drag them out to scale the object bigger. Drag them in to scale it smaller. Hold down 'Shift' and scale up again. How does it scale differently?
   - Click on the object again so that the arrows on the borders are curved. Drag them to rotate the object. Hold down 'Shift' and rotate it again. How does it rotate differently? Hold down 'Ctrl' and rotate again. How does it rotate differently?
   - Select the object and hit the 'H' key. What happened? Try the 'V' key as well.

7. **Grouping and ungrouping**
   - Create two more objects.
   - Select two objects. Hit 'Ctrl' + 'G'. Click the objects, and click on them again. Move them around. What changed?
   - Select the group you just created and one additional object. Hit 'Ctrl' + 'G' – what happened?
   - Select your new group. Hit 'Ctrl' + 'Shift' + 'G'. What happened? Try it again.

8. **Two steps forward, two steps back – arranging**
   - Select one of your objects. Hit 'Pg Up'. Now hit 'Pg Down' – what happened?
   - Now try hit the 'Home'key with the object selected. Hit the 'End' key. What happened?

Save your file by going to File > Save As... and giving it a name. Note you are saving a file out as an SVG.

# BITMAP VS. VECTOR

Now that you've had a chance to play around in Inkscape – here's a little bit more about what makes Inkscape and vector artwork cool.

**Bitmap artwork** involves storing different color values - "bits" - in a grid of pixels – a "map." This is how photos on a digital camera are stored. The camera stores different color and light values in a grid. Have you ever tried to scale a digital photo to a large size and find that it only gets more blurry as you scale it up? That's because photos are bitmapped.

**Vector artwork** involves storing color values, lines, shapes, and effects as mathematical values. This means when you scale vector artwork to be larger, it doesn't get blurry – the artwork maintains its quality.
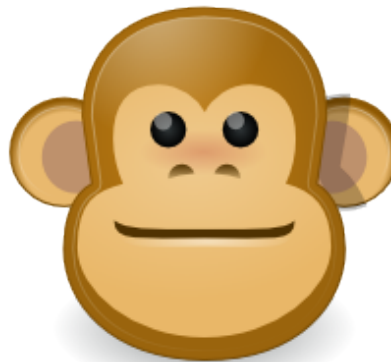
48x48 Pixels          200x200 Pixels



Vector        Bitmap

Vector                              Bitmap

## EXERCISES

Create a series of circles:

1. Make a circle that is a perfect circle. (Hint: There's a few ways to do this. Try using the lock icon in the top toolbar.)
2. Make a circle that is not a perfect circle – squish it!
3. Make 5 copies of your circle, and arrange them in a row horizontally.
4. Size your five circles so they grow from left to right - the one towards the left should be the smallest, and the one on the right should be the largest. You may scale down the first four, scale up the last four, or use any of the techniques you've been shown so far to accomplish this.

Create a series of rectangles:

1. Create a rectangle that is a perfect square.
2. Create a long rectangle that is not a perfect square.
3. Make 5 copies of your rectangle, all the same size.
4. Rotate each of the 5 copies of your rectangle circularly to make a start or flower out of your rectangles.
5. Group all of the rectangles of your flower together. Ungroup them and pull them apart. Undo and rebuild the flower. Group them again.

Save your file. Copy it onto the shared storage space on the school's server and share it with a classmate.

## BONUS EXERCISES

Create a star:
1. Play around with the star object to create fun effects.
2. Try making a star with 20 points.
3. Try making a star with really rounded points.

## APPLY THIS TO YOUR SCHOOLWORK

These simple shapes you've learned today are a great foundation for creating diagrams to explain how things work or illustrate a concept. The next time you need to write an essay or paper for a class, consider using Inkscape to create a diagram to help drive home your message.