

# A quick-start screenshot guide to Inkscape

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# Basic Figure Tips

Part I

# Some factors to consider

- Font size – readable and consistent
- Line width – thick enough to see, but not clunky, consistent
- Simplicity – a cluttered figure with too many shapes and labels and no consistency will be meaningless and hard to comprehend
  - Goal: a figure that can quickly be understood at a glance
- Page size:
  - Look up figure dimensions in the journal to determine page size
- Color use:
  - Use sparingly
  - Be consistent
  - Be colorblind friendly...



# Accommodating Colorblind Individuals

- 8% of men and 0.5% of women are red-green colorblind (NIH)
- Big effect on how colors look:



can't see red light

*Deuteranopia: can't see green light*



can't see blue light

# Accommodating Colorblind Individuals

- Tips:

- Cyan and other pale colors are basically invisible
- Red laser pointers are basically invisible
- Affects more than red and green: purple = red + blue, light green = yellow, etc
- Use color intensity for contrast: light red vs. dark green is visible (red vs. green is not)
- Use shapes and shadings

- Resources:

- <http://bconnelly.net/2013/10/creating-colorblind-friendly-figures/>
- <http://colororacle.org/> re-colors computer screen

# Accommodating Colorblind Individuals

- Tips:

- Cyan and
- Red laser
- Affects m
- Use color
- Use shape

Original	Simulation			Hue	for Photoshop, Illustrator, Freehand, etc.		for Word, Power Point, Canvas, etc.	
	Protan	Deutan	Tritan		C,M,Y,K (%)	R,G,B (0-255)	R,G,B (%)	
1	Black	Black	Black	Black	-°	(0,0,0,100)	(0,0,0)	(0,0,0)
2	Orange	Orange	Orange	Orange	41°	(0,50,100,0)	(230,159,0)	(90,60,0)
3	Sky Blue	Sky Blue	Sky Blue	Sky Blue	202°	(80,0,0,0)	(86,180,233)	(35,70,90)
4	bluish Green	bluish Green	bluish Green	bluish Green	164°	(97,0,75,0)	(0,158,115)	(0,60,50)
5	Yellow	Yellow	Yellow	Yellow	56°	(10,5,90,0)	(240,228,66)	(95,90,25)
6	Blue	Blue	Blue	Blue	202°	(100,50,0,0)	(0,114,178)	(0,45,70)
7	Vermillion	Vermillion	Vermillion	Vermillion	27°	(0,80,100,0)	(213,94,0)	(80,40,0)
8	reddish Purple	reddish Purple	reddish Purple	reddish Purple	326°	(10,70,0,0)	(204,121,167)	(80,60,70)

ow, etc  
s. green is not)

- Resources:

- <http://bconnelly.net/2013/10/creating-colorblind-friendly-figures/>
- <http://colororacle.org/> re-colors computer screen

# Accommodating Colorblind Individuals

## Protanopia

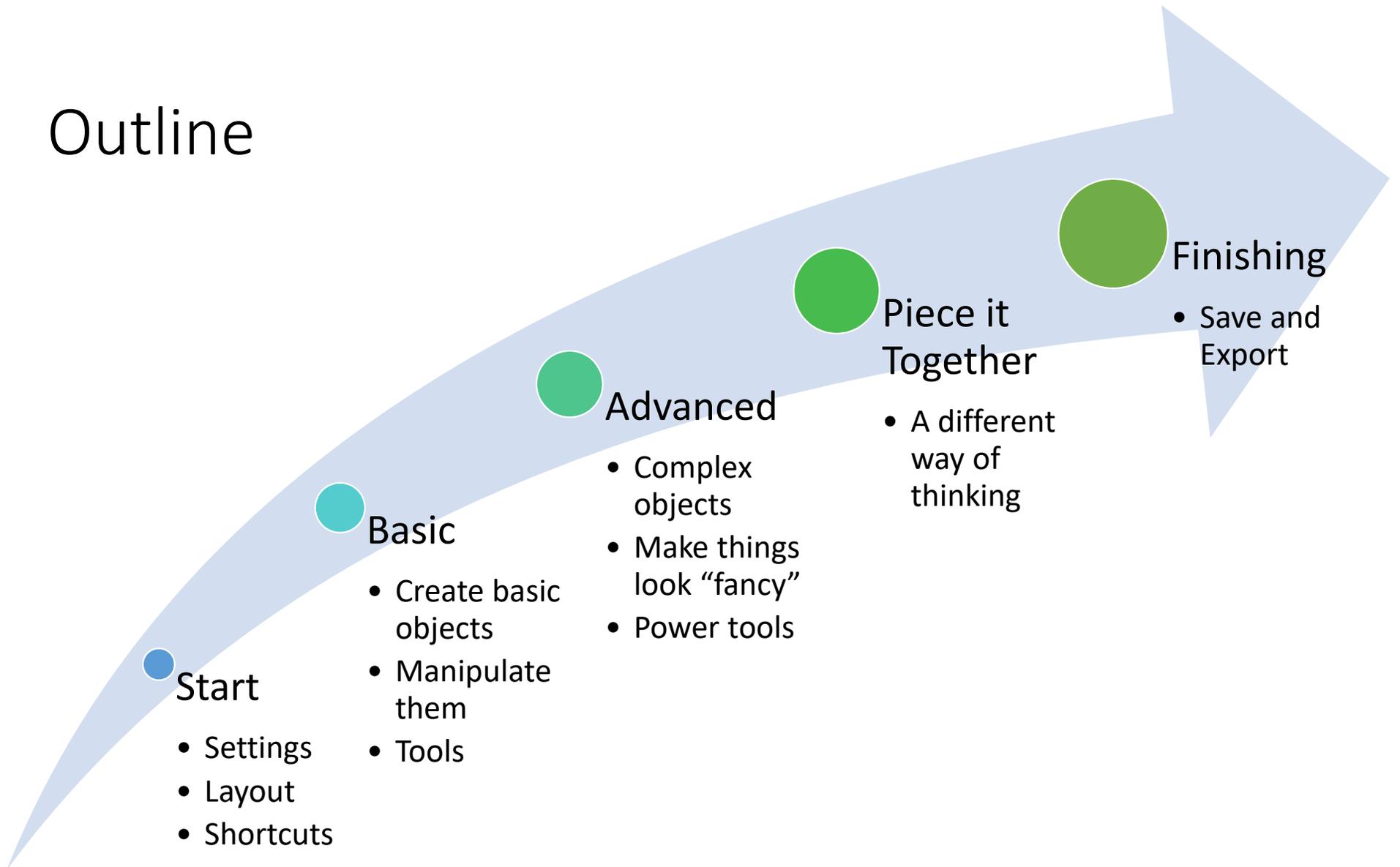
- Tips:
  - Cyan and other pale colors are basically invisible
  - Red laser pointers are basically invisible
  - Affects more than red and green: **purple** = ~~red~~ + **blue**, **light green** = **yellow**, etc
  - Use color intensity for contrast: **light red** vs. **dark green** is visible (**red** vs. **green** is not)
  - Use shapes and shadings
- Resources:
  - <http://bconnelly.net/2013/10/creating-colorblind-friendly-figures/>
  - <http://colororacle.org/> re-colors computer screen



# Using the Software

Part II

# Outline



# Getting Started

- Page size
  - Vector graphics are scalable (ie they do not “get pixelated”)
  - But page size still matters b/c **font size and line thickness are relative to page size**
  - It is easy to get lost in making figures and have no clue what size you are making things
  - It is best to **first set the page size based on your final goal** (one-column manuscript figure? Ppt slide? Other?)

Tool Tip

Edit properties of this document (to be saved with the document) (Shift+Ctrl+D)

How to Set the Page Size

Document Properties (Shift+Ctrl+D)

Document Properties (Shift+Ctrl+D)

Page Guides Grids Snap Color Scripting Metadata License

**General**

Display units: px

**Page Size**

A4	210.0 x 297.0 mm
US Letter	8.5 x 11.0 in
US Legal	8.5 x 14.0 in
US Executive	7.2 x 10.5 in

Orientation:  Portrait  Landscape

Custom size

Width: 11.76238 Units: cm

Height: 9.83506

Resize page to content...

Scale

Scale x: 1.00000 Scale y: 1.00000 User units per px.

Viewbox...

**Background**

Checkerboard background

Background color:

**Display**

Use antialiasing

**Border**

Show page border

Border on top of drawing

Show border shadow

Border color: █

Export PNG Image (Shift+Ctrl+E)

**Export area**

Page Drawing Selection Custom

x0: 0.000 y0: 0.000

x1: 444.562 y1: 371.719

Width: 444.562 Height: 371.719

Units: px

**Image size**

Width: 1852 pixels at 400.00 dpi

Height: 1549 pixels at 400.00 dpi

**Filename**

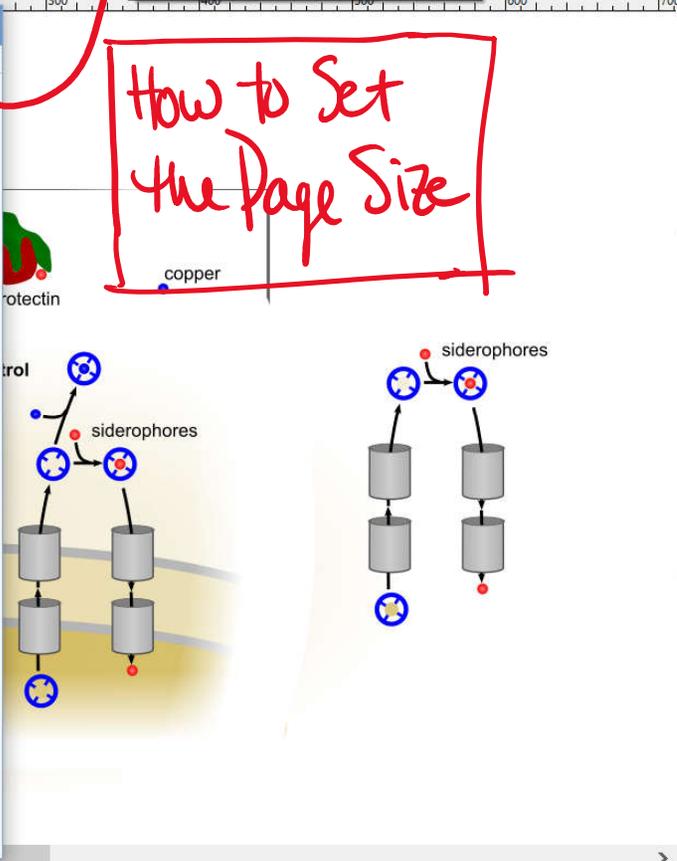
aphicalAbstract\_withCuB.png

Batch export all selected objects

Hide all except selected

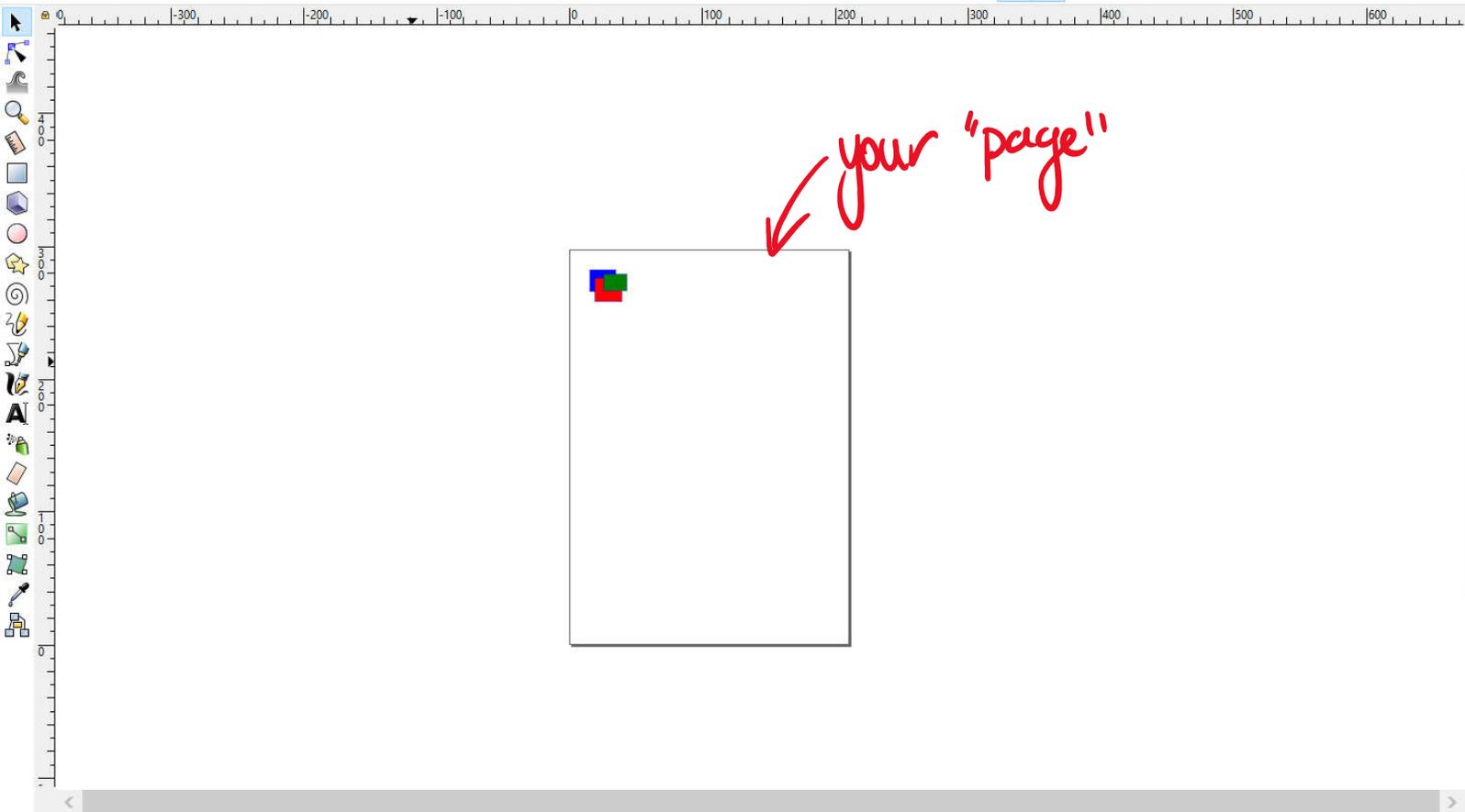
Close when complete

Export





X: 0.000 Y: 0.000 W: 0.000 H: 0.000 mm



Export PNG Image (Shift+Ctrl+E)

Export area  
Page Drawing Selection Custom

x0: 0.000 y0: 0.000  
x1: 210.000 y1: 297.000  
Width: 210.000 Height: 297.000  
Units: mm

Image size  
Width: 2480 pixels at 300.00 dpi  
Height: 3508 pixels at 300.00 dpi

Filename  
pe Tutorial\ExampleFile1.png Export As...  
 Batch export all selected objects  
 Hide all except selected  
 Close when complete

Export



# Getting Started

- It's just like PowerPoint (don't panic!)
- Ultimately, it has more flexibility and features than PowerPoint, but to get started look for tools you are already comfortable with using.
- If you don't know what something is, hover over it and read the tool tip!!!! 😊



rotate/flip

undo

"bringtofront"

cut/copy/paste

group/ungroup

square

circle shapes

line

text

Tool Tips!

PowerPoint-like Features

Tool Tips



Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

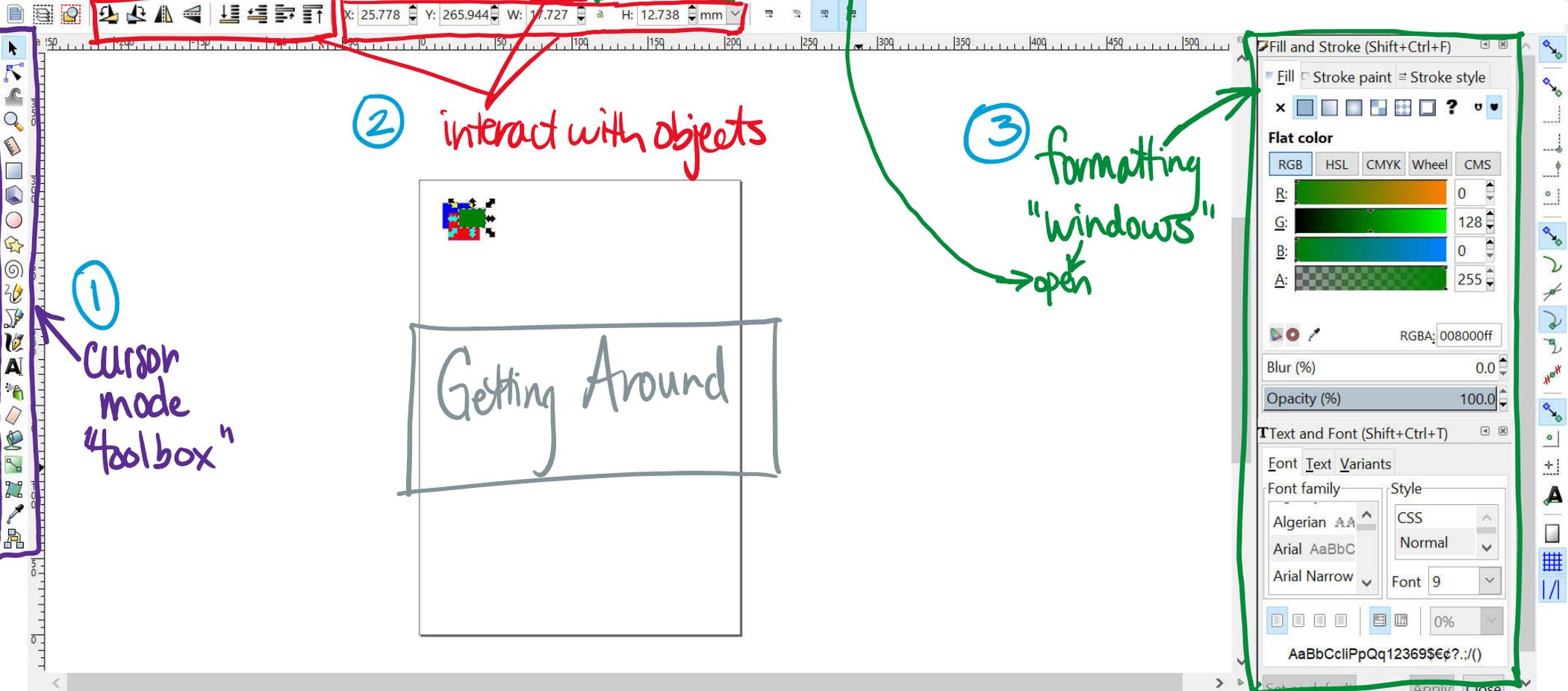
Flat color  
RGB HSL CMYK Wheel CMS  
R: 0  
G: 128  
B: 0  
A: 255  
RGBA: 008000ff

Blur (%) 0.0  
Opacity (%) 100.0

Text and Font (Shift+Ctrl+T)

Font Text Variants  
Font family Style  
Algerian CSS  
Arial AaBbC Normal  
Arial Narrow Font 9

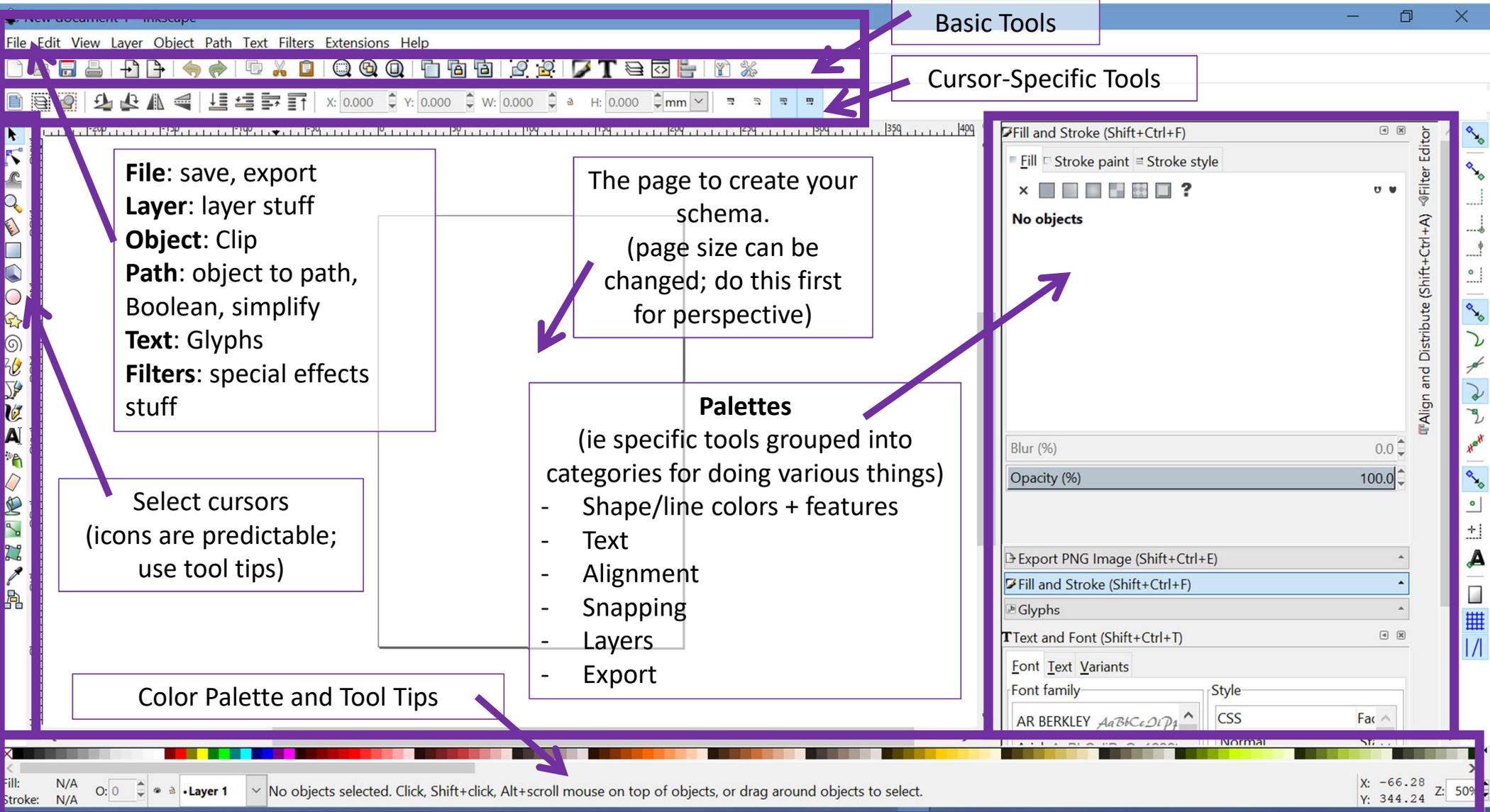
AaBbCcIiPpQq12369\$€¢?./:() 0%



① cursor mode "toolbox"

② interact with objects

③ formatting "windows" → open



Basic Tools

Cursor-Specific Tools

**File:** save, export  
**Layer:** layer stuff  
**Object:** Clip  
**Path:** object to path, Boolean, simplify  
**Text:** Glyphs  
**Filters:** special effects stuff

The page to create your schema.  
(page size can be changed; do this first for perspective)

**Palettes**  
(ie specific tools grouped into categories for doing various things)

- Shape/line colors + features
- Text
- Alignment
- Snapping
- Layers
- Export

Select cursors  
(icons are predictable; use tool tips)

Color Palette and Tool Tips

**Fill and Stroke (Shift+Ctrl+F)**

Fill  Stroke paint  Stroke style

No objects

Blur (%) 0.0

Opacity (%) 100.0

Export PNG Image (Shift+Ctrl+E)

**Fill and Stroke (Shift+Ctrl+F)**

Glyphs

**Text and Font (Shift+Ctrl+T)**

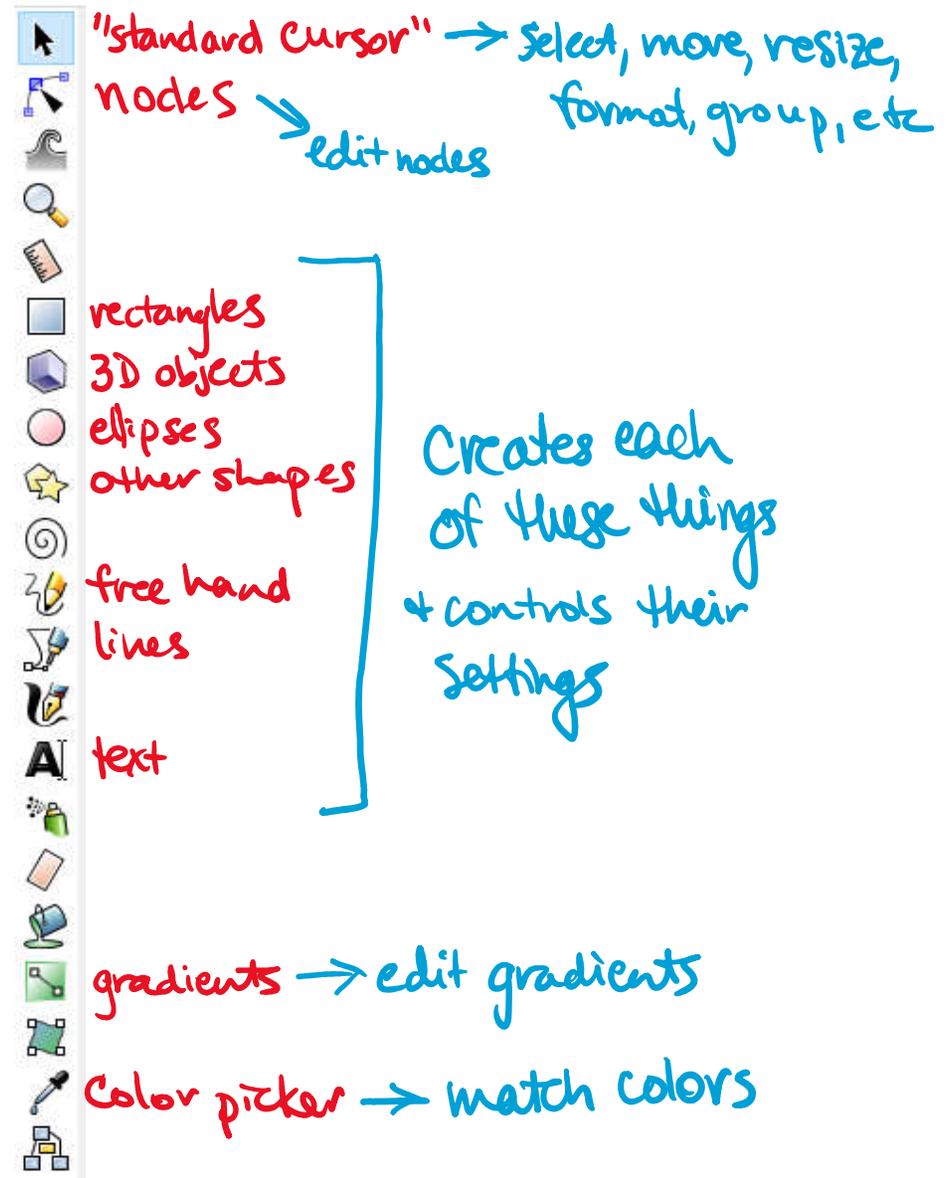
Font Text Variants

Font family AR BERKLEY AaBbCcDdPp Style CSS Fac

Start

# Getting Started

- Using Cursors
  - Every button in the “toolbox” on the left panel converts your cursor into a different “tool”.
    - Eg. to create a box, you must use the “box making” cursor
  - If you are lost, click back into standard cursor mode.
  - Use this cursor mode to do standard manipulations (move, resize, group, fill, etc).
  - If you double click on an object, you will change your cursor to that object type



# Getting Started

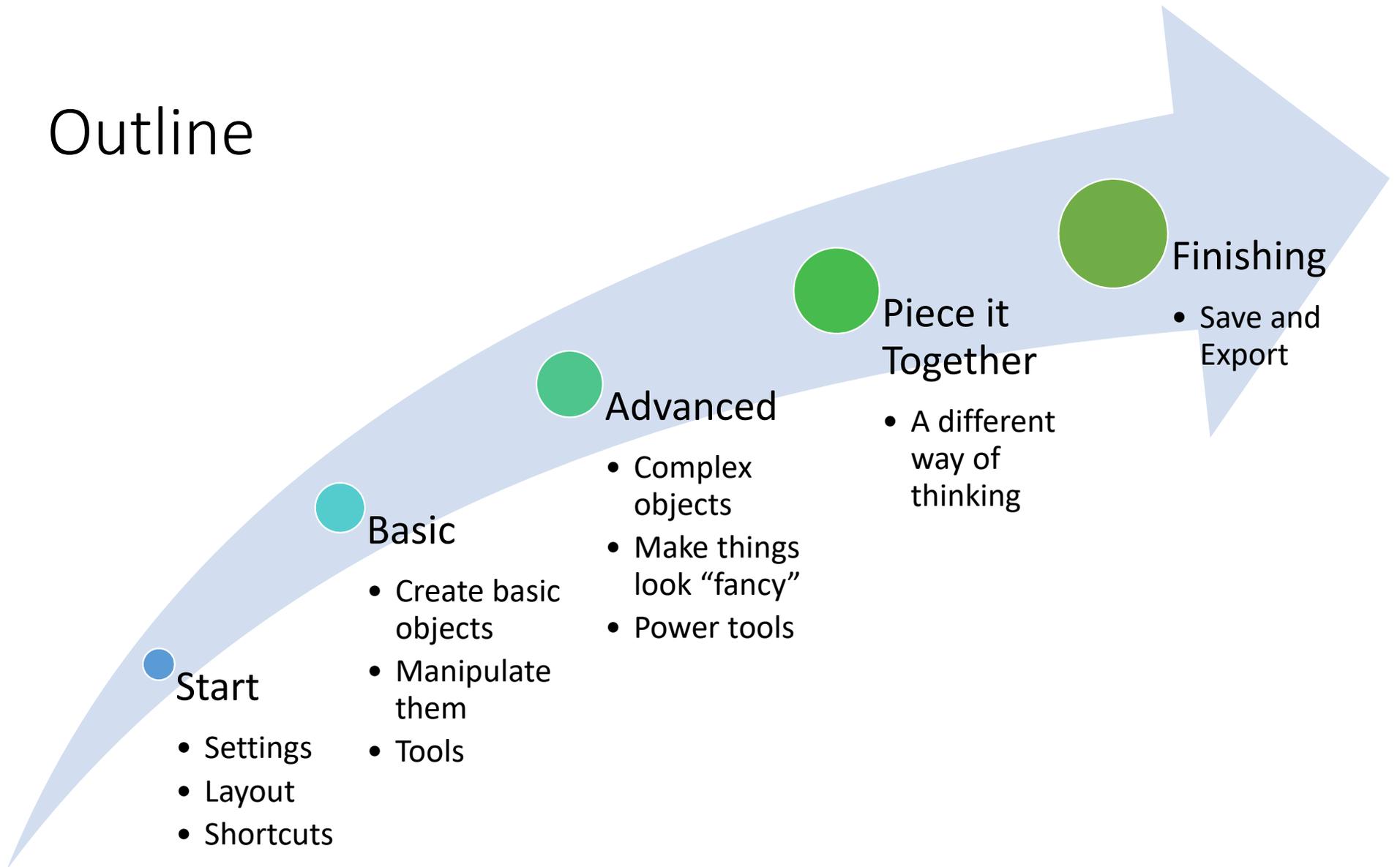
- Useful Keyboard shortcuts
  - + and – keys zoom in/out
  - Alt + click to toggle through overlapping objects
  - Shift + click/drag to select multiple items
    - Exclusive selection (object only selected if the ENTIRE object is within the selected area)
  - Ctrl + click/resize to lock aspect ratio
  - Ctrl click + drag to lock into horizontal/perpendicular line
  - Shift + click and select color to color line instead of fill
  - F1 = standard cursor, F8 = text cursor, etc
  - Shift + | to show/hide guides
  - Lots more...learn as you want them 😊

\*On Mac, “ctrl” is actually the “ctrl” key not the openApple/cmd keys

# Getting Started

- A quick aside about importing
  - These programs are also super powerful for editing graphs to make them publication quality
  - Any pdf can be imported using File > Import
  - All components of the pdf (text, paths, objects) will then be editable
  - For making your own figures and combining several graphs into a single multi-panel figure, this is super powerful

# Outline





# Outline

- Create
  - Squares, ellipses, lines, text
- Manipulate
  - Move, Scale, Rotate
  - Fill, Stroke
  - Group
  - Order
  - Flip
- Tools
  - Guides
  - Snap
  - Align

## A Note About Text

- Inkscape is not great with text, so I use it sparingly
- Font size is not locked, so it resizes when you resize the box it is in
- Subscript and superscript format incorrectly when you change the font size. If you change the font size, you just have to delete and re-type the subscript and superscript letters.
- It will not wrap lines. You have to add hard enters
- You can set a default font size and font style in the Text and Font formatting window.
- Symbols: Text > Glyphs to insert symbols
  - Select font, try different scripts and range to find the symbols you want

① select cursor

③ cursor-specific settings

② draw shape

Create an Object

interact with handles on object

define arc length

define rounded corners

Do these things with the object-specific cursor.

Fill and Stroke (Shift+Ctrl+F)

Fill: [Color] Stroke: None

Fill Stroke paint Stroke style

Flat color

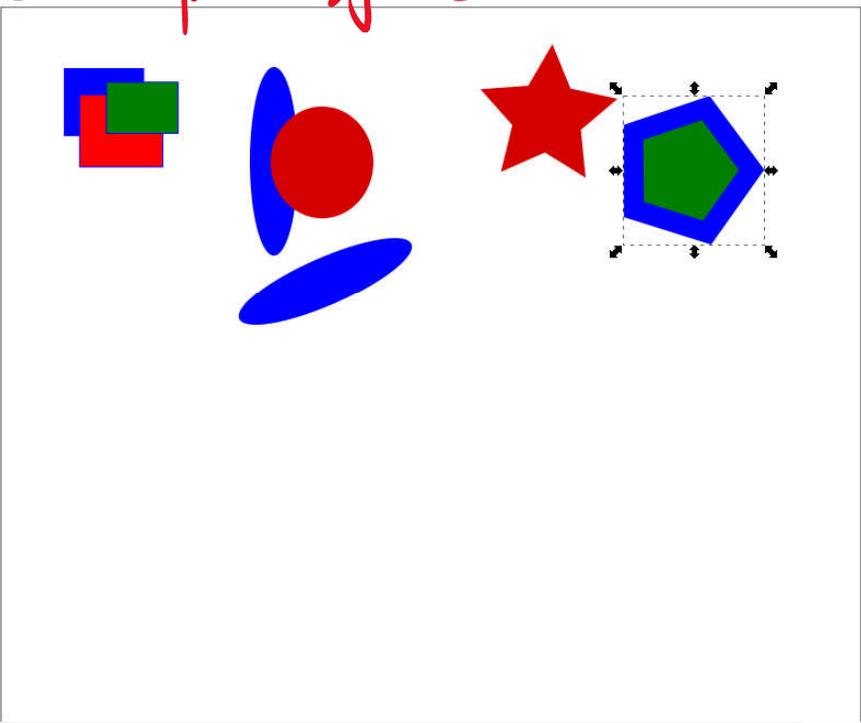
RGB	HSL	CMYK	Wheel	CMS
R: [Slider]				233
G: [Slider]				221
B: [Slider]				175
A: [Slider]				255

RGBA: e9ddaaff

Blur (%) 0.0

Opacity (%) 100.0

example simple objects



locks the aspect ratio (w: h ratio)

location in x, y coordinates

width/height, unit

scaling settings (what scales)

format stroke

Solid color

RGB color

transparency

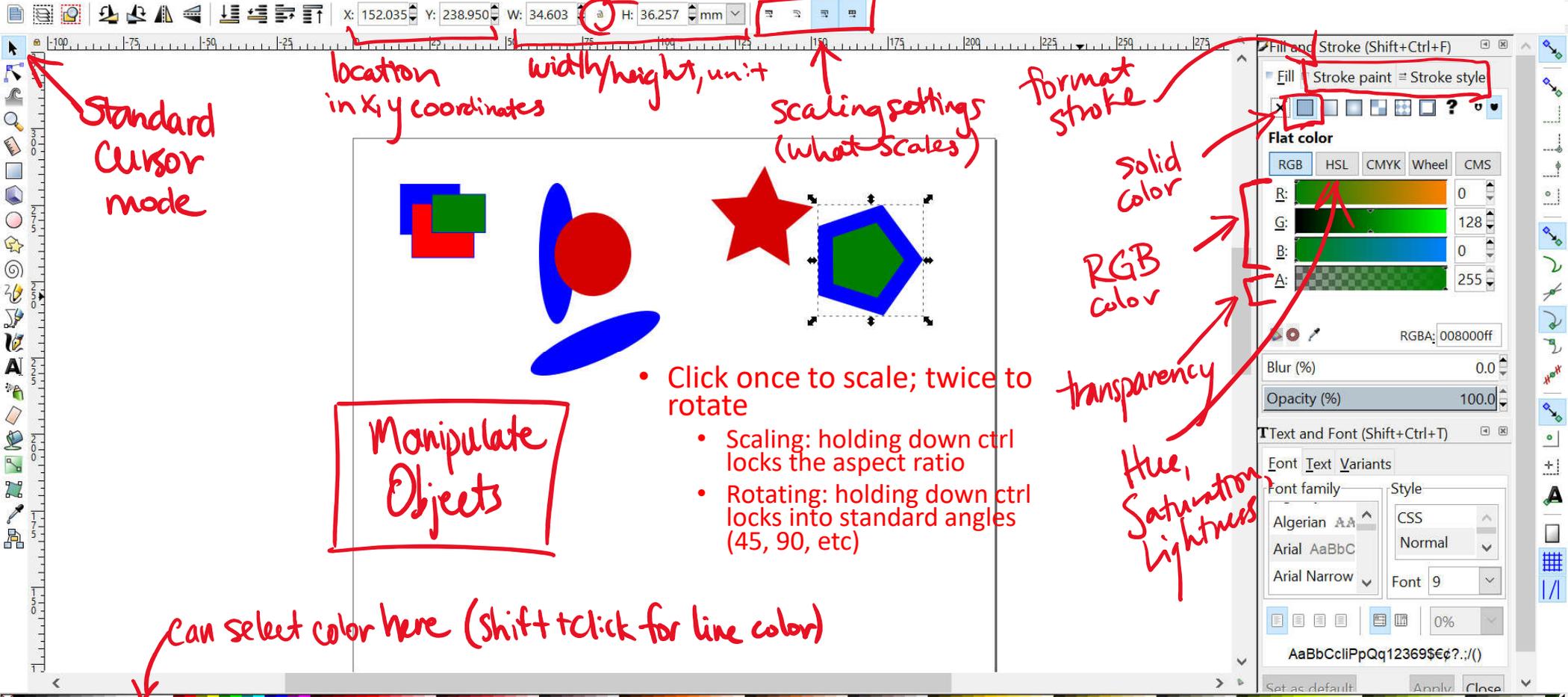
Hue, Saturation, Lightness

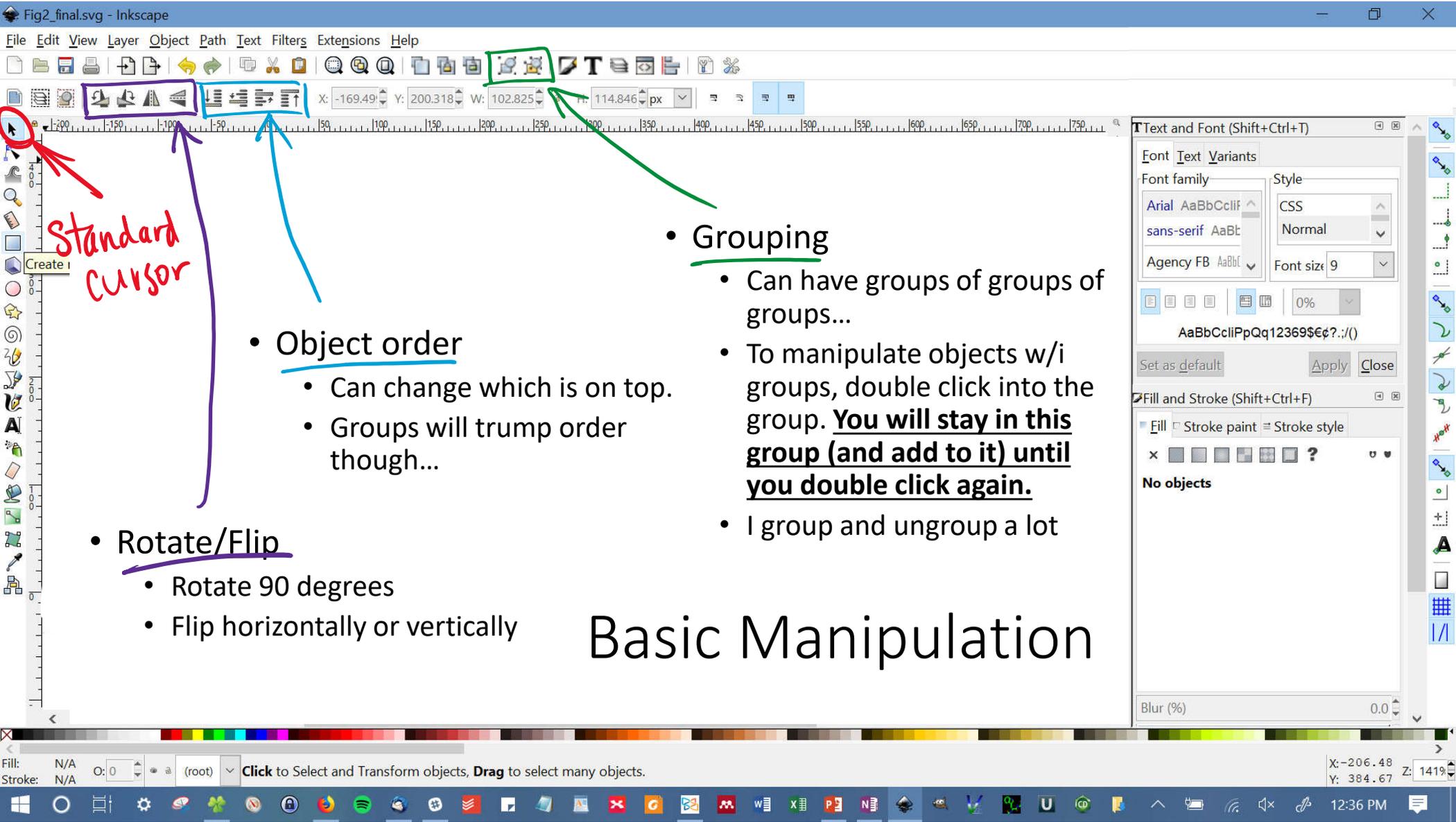
Standard cursor mode

Manipulate Objects

- Click once to scale; twice to rotate
- Scaling: holding down ctrl locks the aspect ratio
- Rotating: holding down ctrl locks into standard angles (45, 90, etc)

can select color here (shift+click for line color)





Standard cursor

Object order

- Can change which is on top.
- Groups will trump order though...

Rotate/Flip

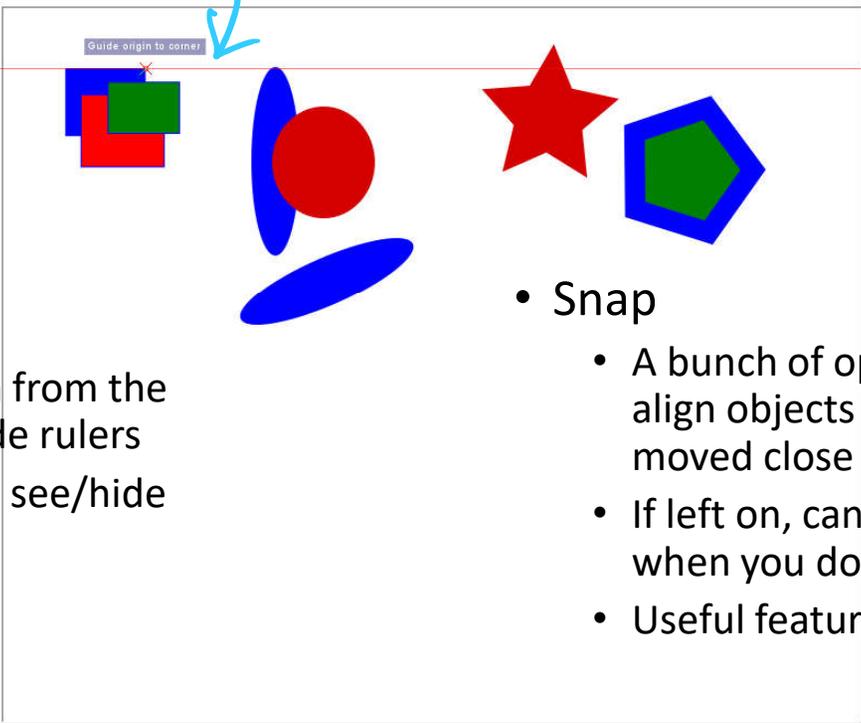
- Rotate 90 degrees
- Flip horizontally or vertically

Grouping

- Can have groups of groups of groups...
- To manipulate objects w/i groups, double click into the group. **You will stay in this group (and add to it) until you double click again.**
- I group and ungroup a lot

# Basic Manipulation

# Basic Tools



## • Guides

- Drag down from the top and side rulers
- Shift + | to see/hide

## • Snap

- A bunch of options that auto-align objects when they are moved close together
- If left on, can be annoying when you don't want
- Useful feature at times

Snap options

Align and Distribute (Shift+Ctrl+...)

**Align**

Relative to: First selected

Treat selection as group:

**Distribute**

**Rearrange**

**Remove overlaps**

H: 0.0 V: 0.0

**Nodes**

Relative to: Middle of selection

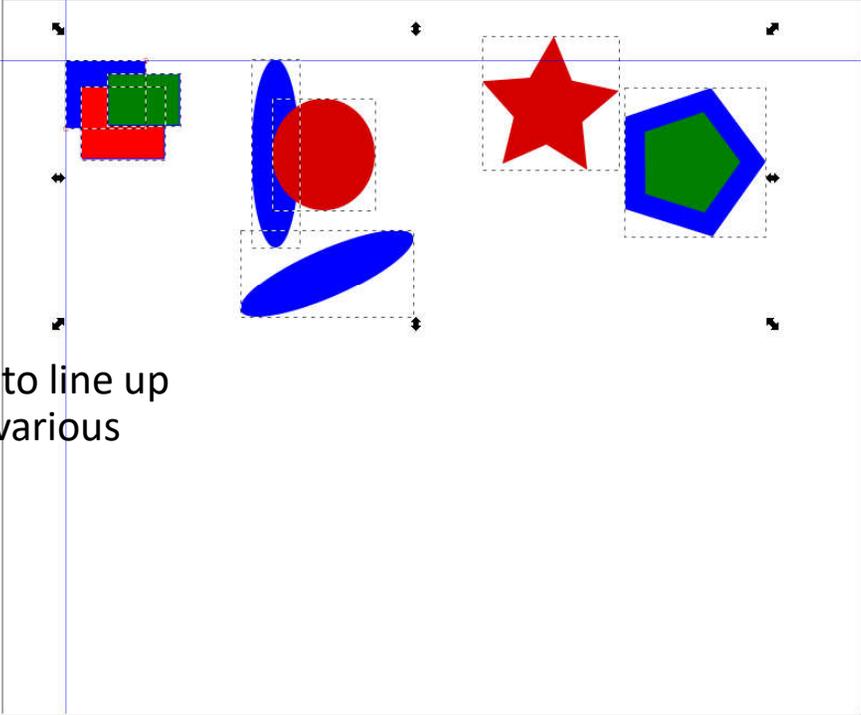
Fill and Stroke (Shift+Ctrl+F)

Fill  Stroke paint  Stroke style

No objects

# Basic Tools

- Alignment
  - Quick way to line up objects in various ways.



① choose option  
② choose alignment

Align and Distribute (Shift+Ctrl+...)

**Align**

Relative to: First selected

Treat selection as group:

**Distribute**

**Rearrange**

**Remove overlaps**

H: 0.0 V: 0.0

**Nodes**

Relative to: Middle of selection

**Fill and Stroke (Shift+Ctrl+F)**

Fill  Stroke paint  Stroke style

**Flat color**

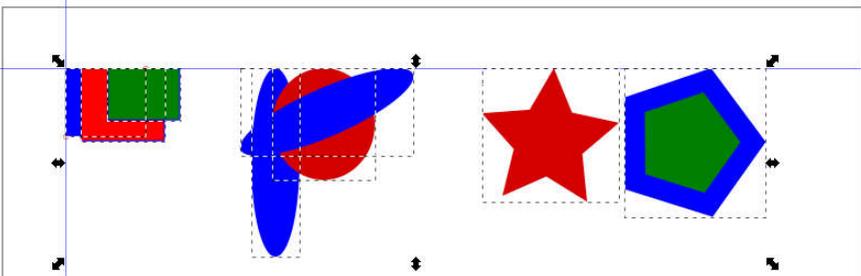
RGB HSL CMYK Wheel CMS

R: 85

G: 32

B: 96

# Basic Tools



- Alignment
  - Quick way to line up objects in various ways.

Align and Distribute (Shift+Ctrl+...)

**Align**

Relative to: First selected

Treat selection as group:

**Distribute**

Align top edges

**Rearrange**

**Remove overlaps**

H: 0.0 V: 0.0

**Nodes**

Relative to: Middle of selection

Fill and Stroke (Shift+Ctrl+F)

Fill  Stroke paint  Stroke style

**Flat color**

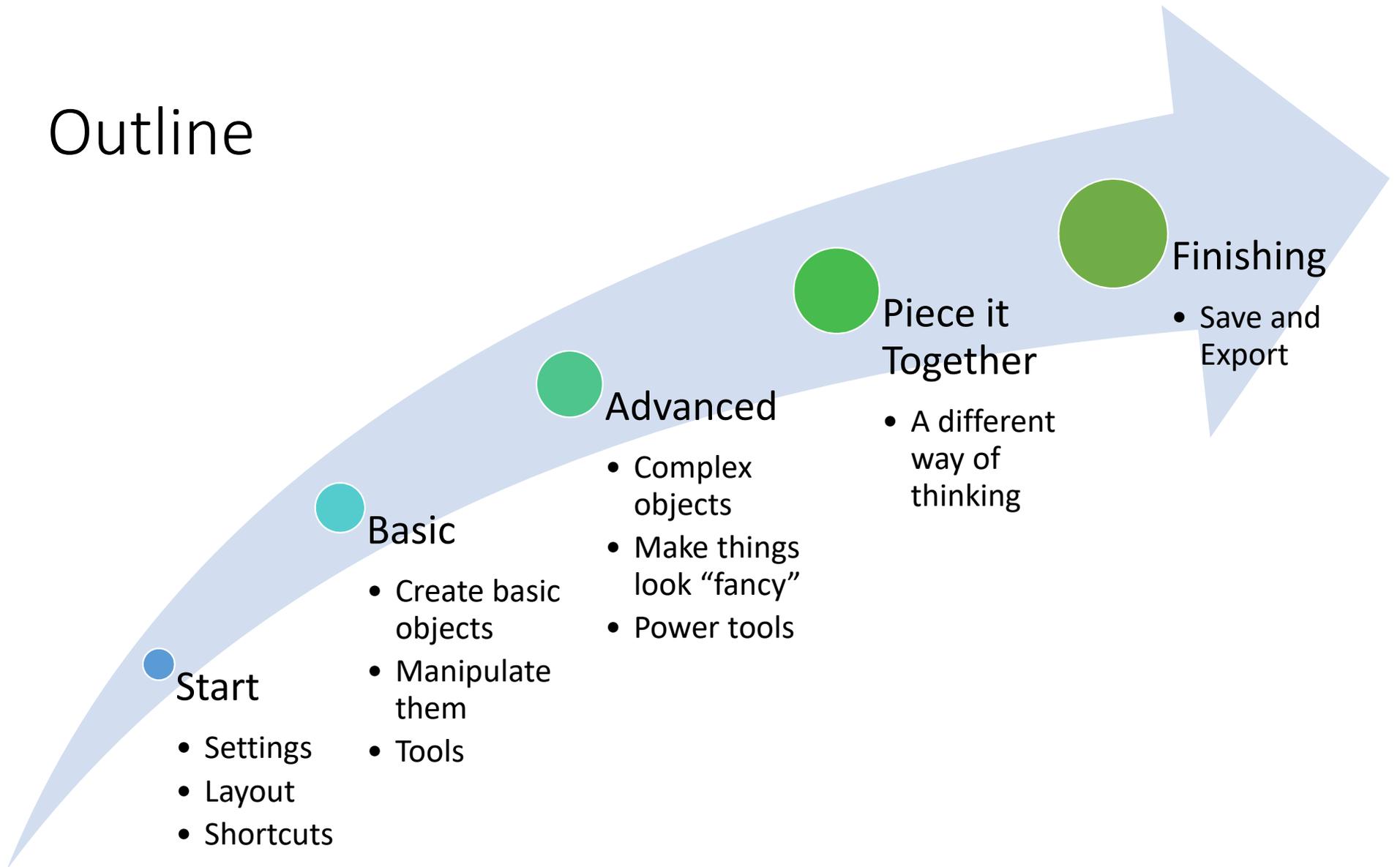
RGB HSL CMYK Wheel CMS

R: 85

G: 32

B: 96

# Outline



# Outline

- Create
  - Hand draw
  - Paths
- Manipulate
  - Filling with gradients
  - Crop
  - Filters
- Power Tools
  - Object to path
  - Intersection, difference, union
  - Break apart or combine paths

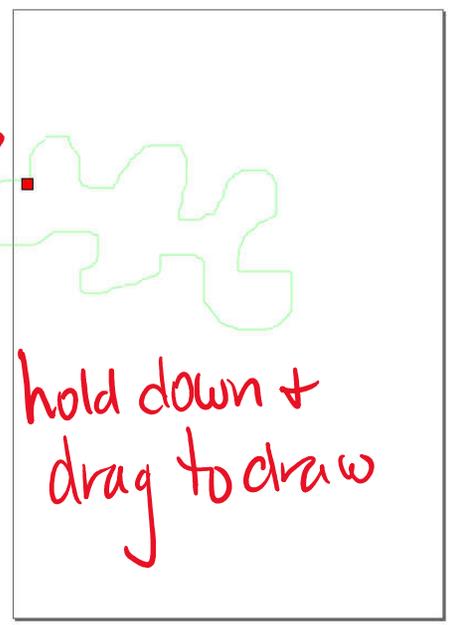


↑  
3 drawing modes

↑  
how much to smooth line

↑  
connect to beginning to make closed shape

↑  
hold down + drag to draw



Fill: None  
Stroke: 1

### Text and Font (Shift+Ctrl+T)

Font Text Variants

Font family

- Agency FB AaBbCcIiPpQqZz369\$%
- Algerian AABBCCLIPPPQQ
- AR BERKLEY AaBbCcDiPp
- Arial AaBbCcIiPpQq1236!
- Arial Narrow AaBbCcIiPpQq
- Arial Rounded MT Bold A
- Avo AaBbCcIiPpQq123

Style

- CSS Fac
- Normal St
- Italic Condensed Ne
- Italic Π?
- Bold Condensed Ne

Font size: 9

AaBbCcIiPpQq12369\$€¢?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

Glyphs

Text and Font (Shift+Ctrl+T)

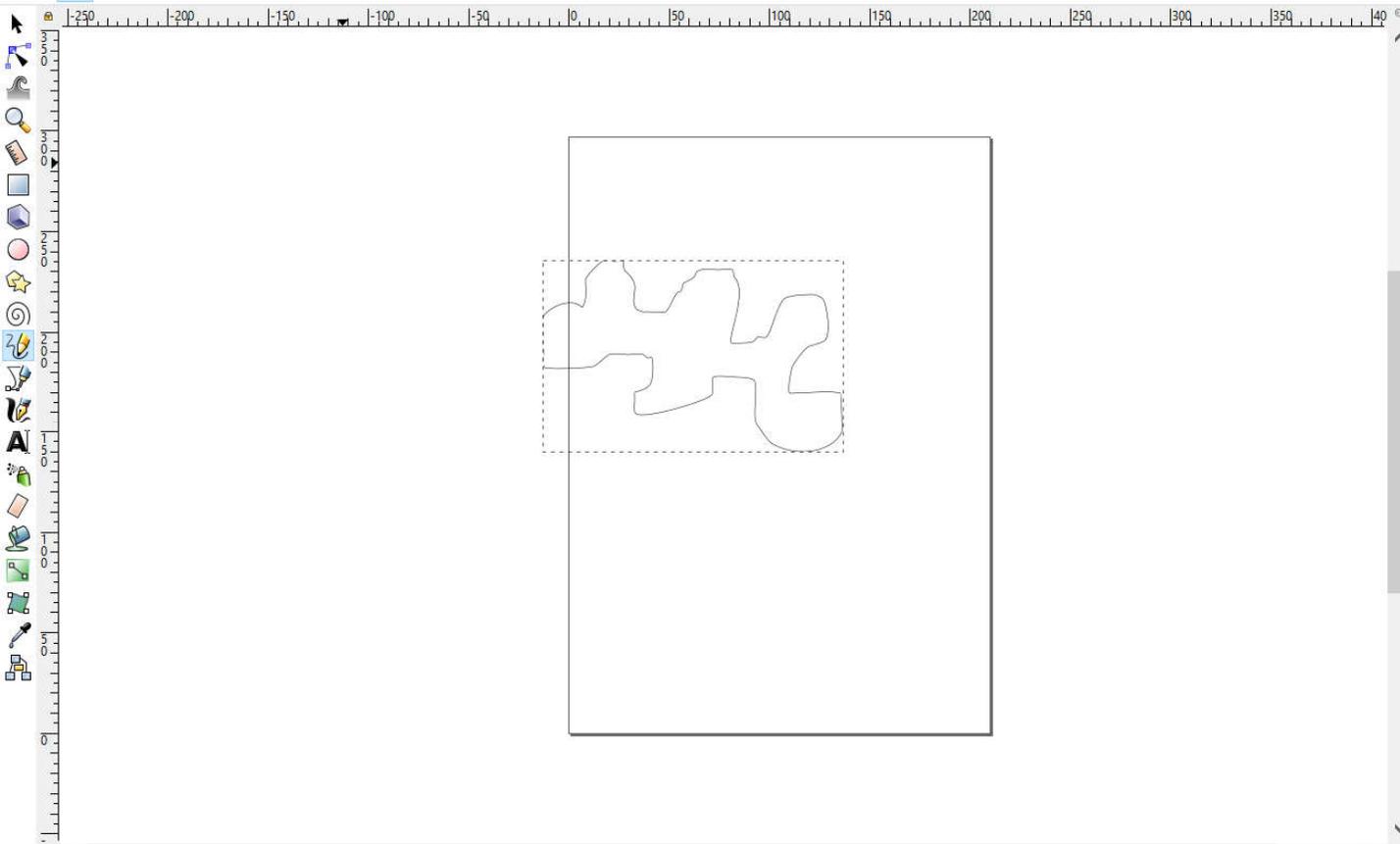
Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

No objects



Mode: Srho... 26 Shape: None



Fill: None  
Stroke:

**T Text and Font (Shift+Ctrl+T)**

Font Text Variants

Font family

- Agency FB AaBbCcIiPpQq12369\$€¢?./:()
- Algerian AABBCCLIPPPQ
- AR BERKLEY AaBbCcDiPp
- Arial AaBbCcIiPpQq12369\$€¢?./:()
- Arial Narrow AaBbCcIiPpQq
- Arial Rounded MT Bold A
- Avo AaBbCcIiPpQq123

Style

- CSS Fac
- Normal St
- Italic Condensed Ne
- Italic Π
- Bold Condensed Ne

Font size: 9

0%

AaBbCcIiPpQq12369\$€¢?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

Glyphs

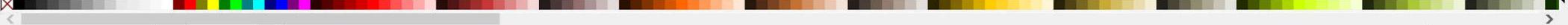
**T Text and Font (Shift+Ctrl+T)**

Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

?

No paint



Fill: None  
Stroke: 0.265

Layer 1

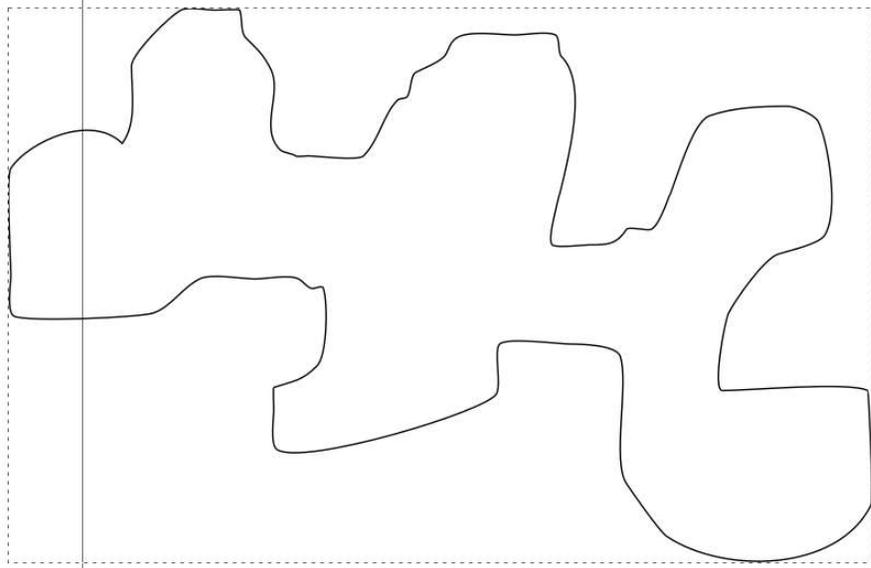
X: -112.79  
Y: 284.37  
Z: 50%



11:56 AM

← edit nodes of objects or paths

Edit paths by nodes (F2)



Fill: None  
Stroke: 1

**T** Text and Font (Shift+Ctrl+T)

Font Text Variants

Font family

- Agency FB AaBbCcIiPpQqZz369S6
- Algerian AABBCCLIPPPQ
- AR BERKLEY AaBbCcDiPp
- Arial AaBbCcIiPpQq1236!
- Arial Narrow AaBbCcIiPpQq
- Arial Rounded MT Bold A
- Aryo AaBbCcIiPpQq123

Style

- CSS Fac ^
- Normal Sta
- Italic Condensed Ne
- Italic Π?
- Bold Condensed Ne v

Font size: 9

AaBbCcIiPpQq12369\$€ç?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

Glyphs

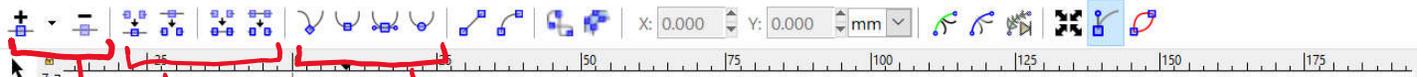
**T** Text and Font (Shift+Ctrl+T)

Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

?

No paint

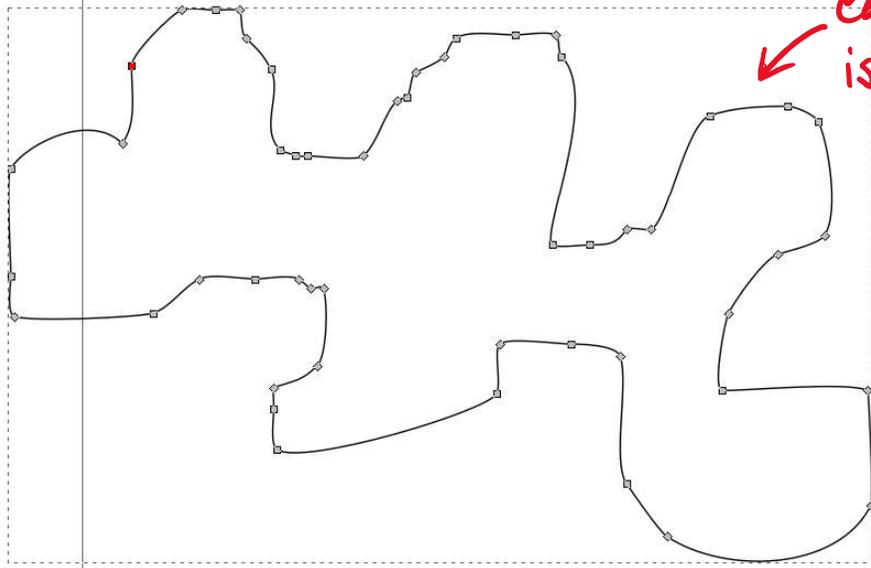


merge, separate, etc

control node settings: smooth, parallel, etc.

add/remove  
add

each gray dot  
is a node



**Text and Font (Shift+Ctrl+T)**

Font Text Variants

Font family: Agency FB AaBbCcIiPpQq12369\$€?./:()

Style: CSS Normal Italic Condensed Italic Bold Condensed

Font size: 9

0%

AaBbCcIiPpQq12369\$€?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

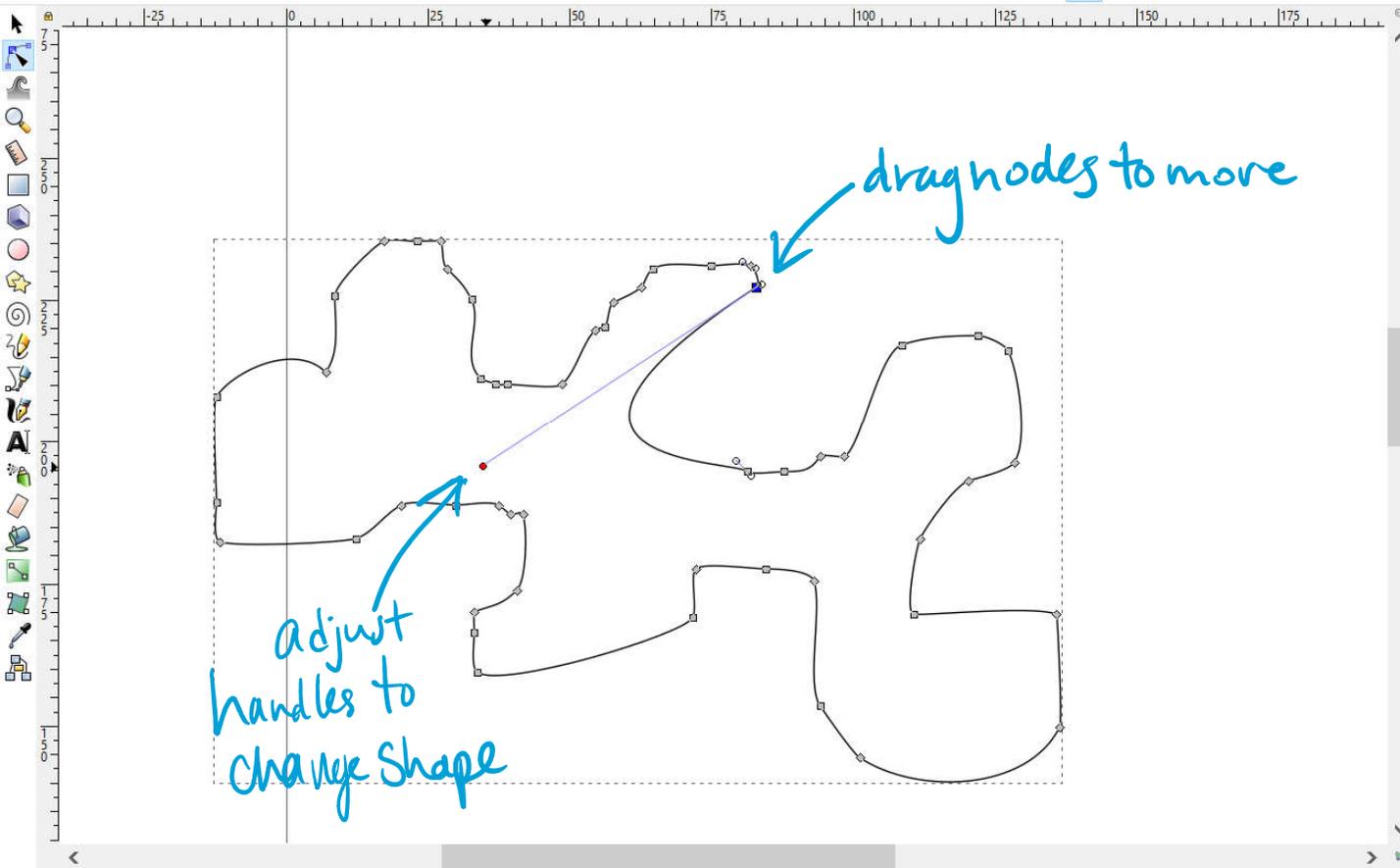
Glyphs

Text and Font (Shift+Ctrl+T)

Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

No paint



**Text and Font (Shift+Ctrl+T)**

Font Text Variants

Font family: Agency FB, Algerian, AR BERKLEY, Arial, Arial Narrow, Arial Rounded MT Bold, ...

Style: CSS, Normal, Italic Condensed, Italic, Bold Condensed

Font size: 9

AaBbCcliPpQq12369\$€¢?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

Glyphs

Text and Font (Shift+Ctrl+T)

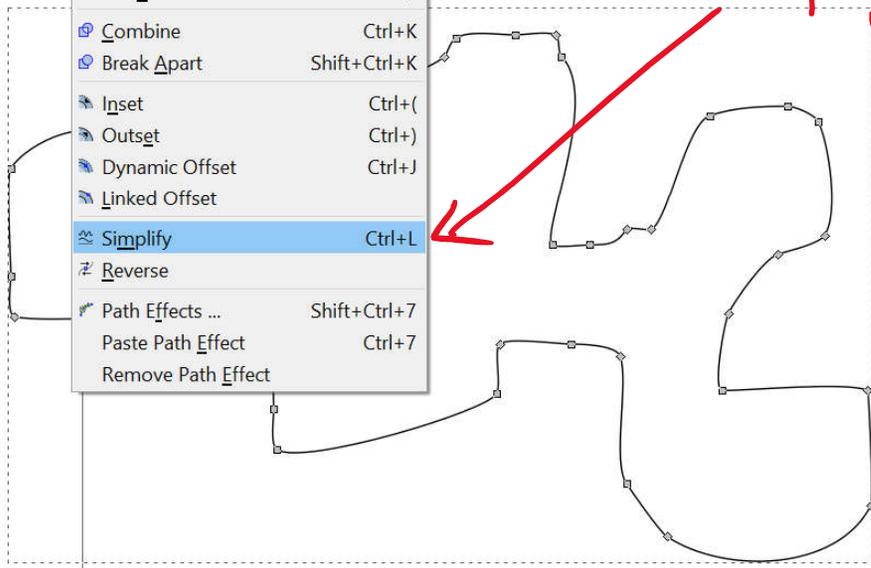
Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

No paint

- Object to Path Shift+Ctrl+C
- Stroke to Path Ctrl+Alt+C
- Trace Bitmap... Shift+Alt+B
- Trace Pixel Art...

- Union Ctrl++
- Difference Ctrl+-
- Intersection Ctrl+\*
- Exclusion Ctrl+^
- Division Ctrl+/
- Cut Path Ctrl+Alt+/
- Combine Ctrl+K
- Break Apart Shift+Ctrl+K
- Inset Ctrl+(
- Outset Ctrl+)
- Dynamic Offset Ctrl+J
- Linked Offset
- Simplify Ctrl+L**
- Reverse
- Path Effects ... Shift+Ctrl+7
- Paste Path Effect Ctrl+7
- Remove Path Effect



*Simplify: automatic reduction of # of nodes*  
*↓*  
*looks smoother + simpler*

**Text and Font (Shift+Ctrl+T)**

Font Text Variants

Font family: Agency FB AaBbCcllPpQq12369\$€

Style: CSS Normal Italic Condensed Italic Bold Condensed

Font size: 9

AaBbCcllPpQq12369\$€¢?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

Glyphs

Text and Font (Shift+Ctrl+T)

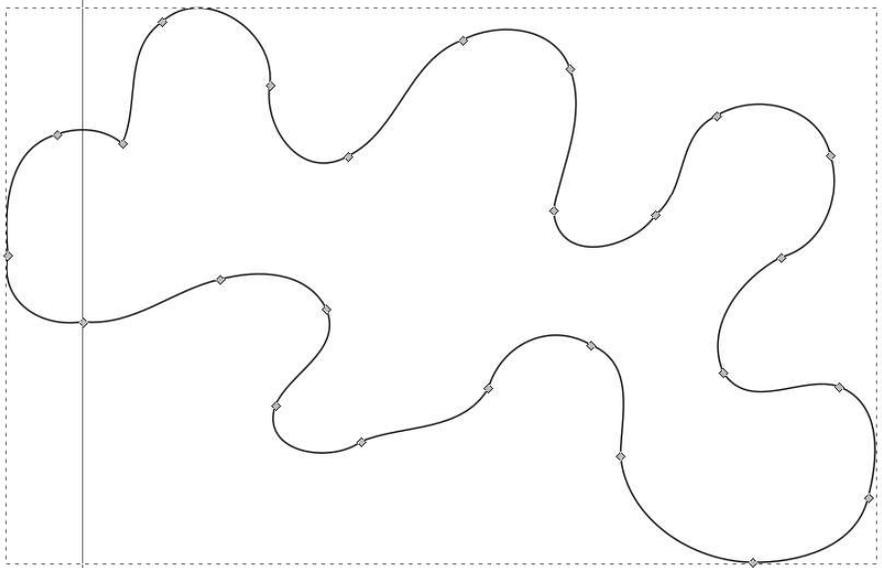
Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

No paint



Path > Object to path will convert objects to paths



**Text and Font (Shift+Ctrl+T)**

Font Text Variants

Font family

- Agency FB AaBbCcIiPpQqZz369S&E
- Algerian AABBCCLIPPPQ
- AR BERKLEY AaBbCcDiPp
- Arial AaBbCcIiPpQq1236!
- Arial Narrow AaBbCcIiPpQq
- Arial Rounded MT Bold A
- Arvo AaBbCcIiPpQq123

Style

- CSS
- Normal
- Italic Condensed
- Italic
- Bold Condensed

Font size: 9

AaBbCcIiPpQq12369\$€¢?./:()

Set as default Apply Close

Export PNG Image (Shift+Ctrl+E)

Glyphs

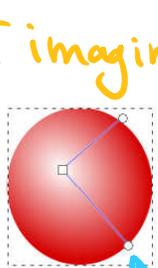
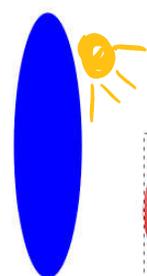
**Text and Font (Shift+Ctrl+T)**

Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

No paint

# Filling with Gradients



imagine a light source.  
Be consistent for the entire figure.

other options

each color in the gradient is a stop

add stops

select gradient type

click to edit gradient

click to edit gradient

click+drag handles to edit gradient

Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

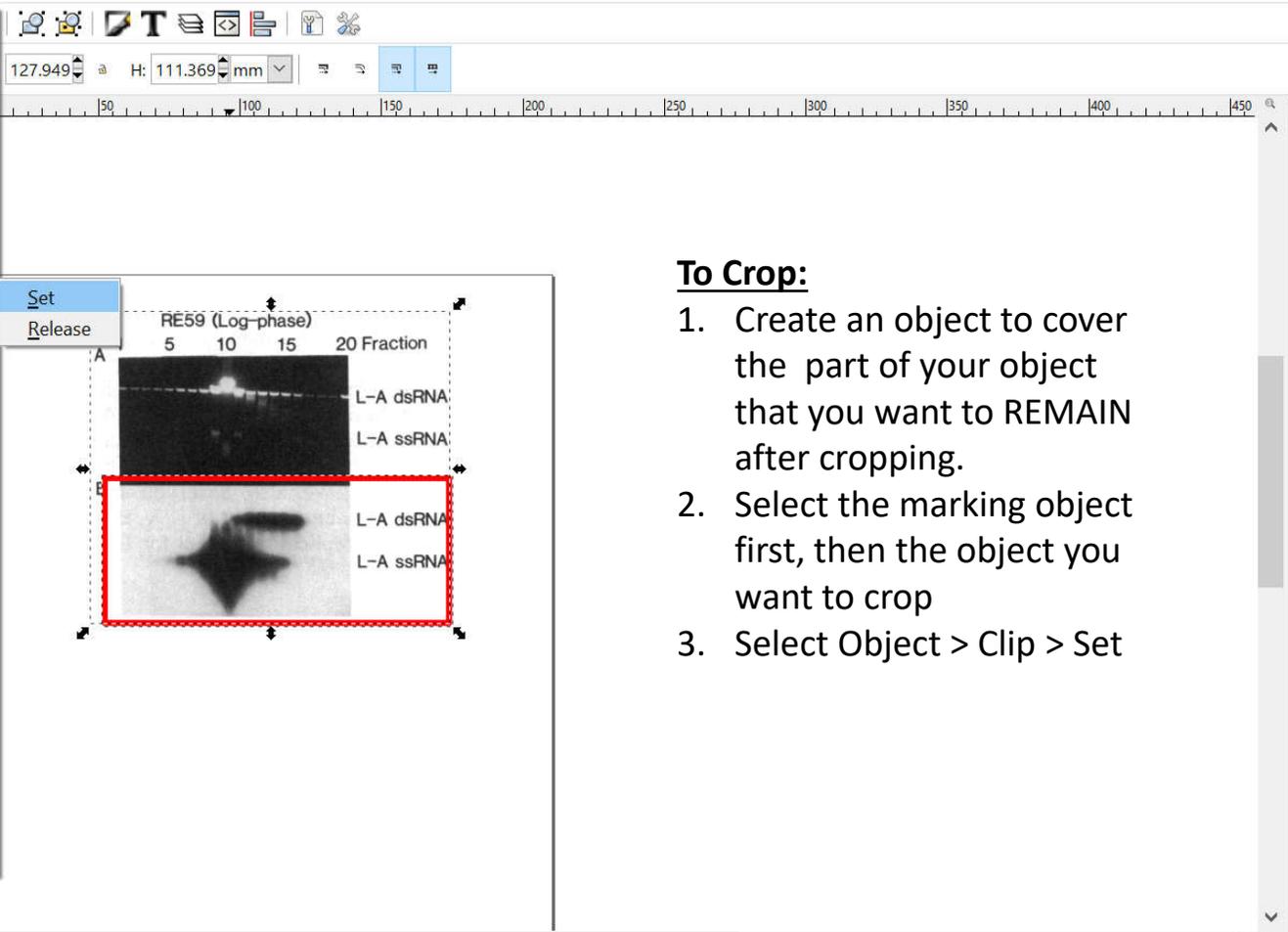
Radial gradient

Gradient Name	#
[red] 853	1

Blur (%) 0.0

Opacity (%) 100.0

- Objects...
- Selection sets...
- Fill and Stroke... Shift+Ctrl+F
- Object Properties... Shift+Ctrl+O
- Symbols... Shift+Ctrl+Y
- Group Ctrl+G
- Ungroup Shift+Ctrl+G
- Pop selected objects out of group
- Clip**
  - Set
  - Release
- Mask
- Pattern
- Objects to Marker
- Objects to Guides Shift+G
- Raise Page Up
- Lower Page Down
- Raise to Top Home
- Lower to Bottom End
- Rotate 90° CW
- Rotate 90° CCW
- Flip Horizontal H
- Flip Vertical V
- Unhide All
- Unlock All
- Transform... Shift+Ctrl+M
- Align and Distribute... Shift+Ctrl+A
- Arrange...



**To Crop:**

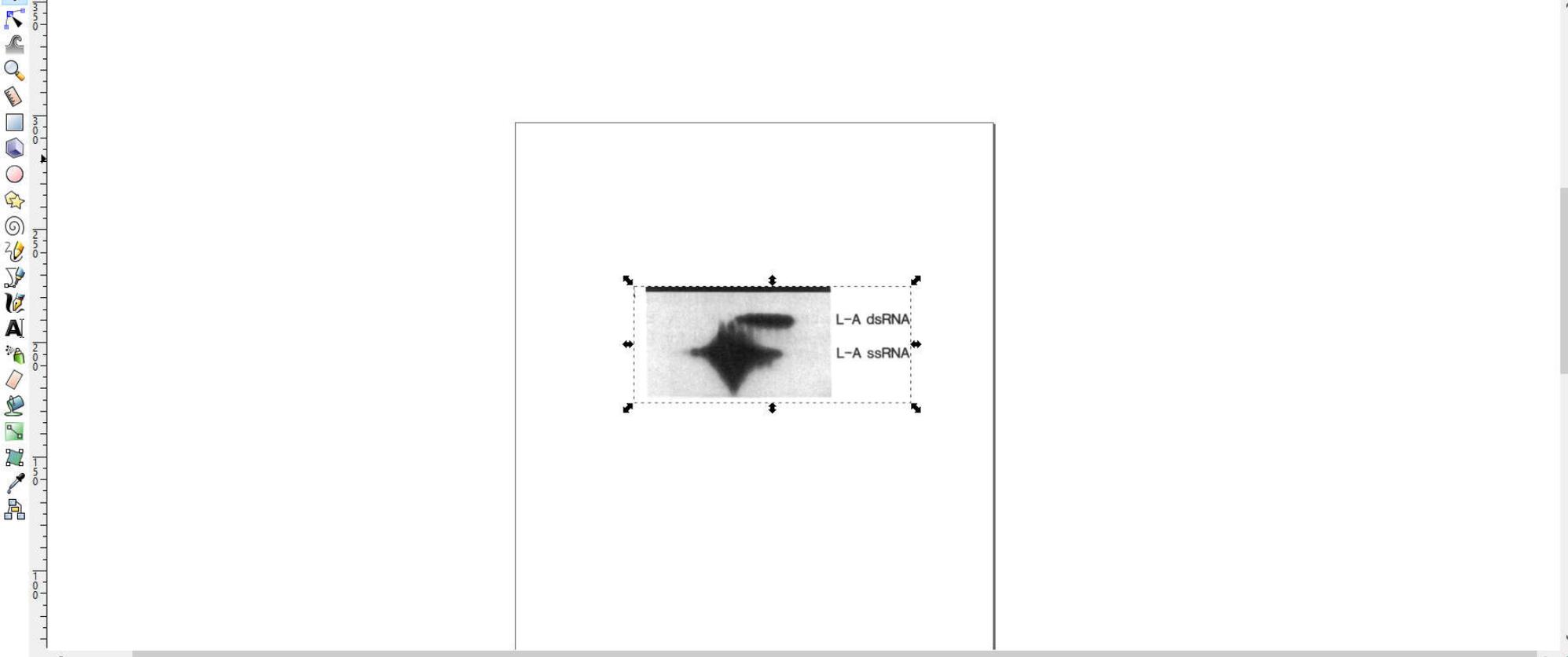
1. Create an object to cover the part of your object that you want to REMAIN after cropping.
2. Select the marking object first, then the object you want to crop
3. Select Object > Clip > Set

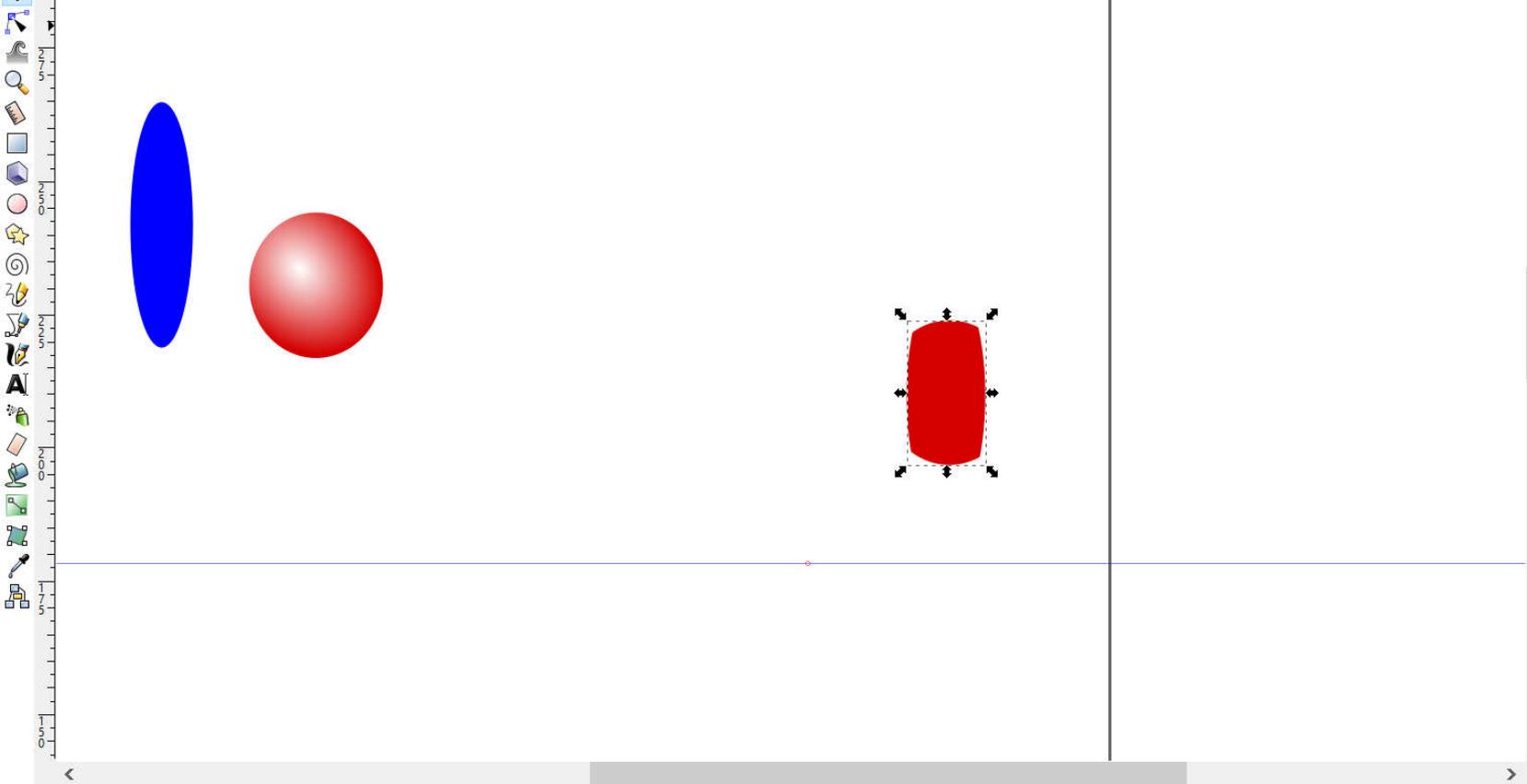
**Slide 41**

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**AR4**

Anne Robinson, 7/16/2018





Fill and Stroke (Shift+Ctrl+F)

Fill Stroke paint Stroke style

Flat color

RGB HSL CMYK Wheel CMS

R: 212 G: 0 B: 0 A: 255

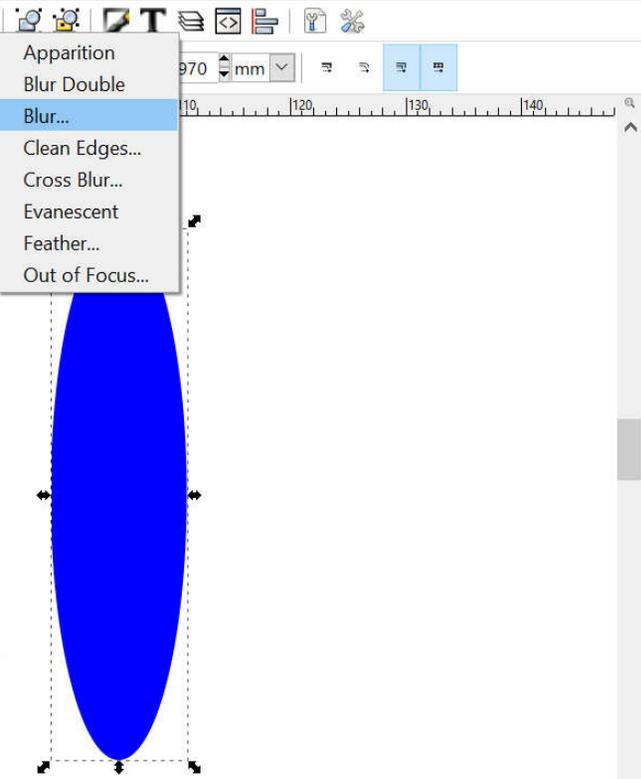
RGBA: d4000ff

Blur (%) 0.0

Opacity (%) 100.0

File Edit View Layer Object Path Text **Filters** Extensions Help

- Bevels
- Blurs**
  - Apparition
  - Blur Double
  - Blur...**
  - Clean Edges...
  - Cross Blur...
  - Evanescent
  - Feather...
  - Out of Focus...
- Bumps
- Color
- Distort
- Fill and Transparency
- Image Effects
- Image Paint and Draw
- Materials
- Morphology
- Non-realistic 3D Shaders
- Overlays
- Pixel Tools
- Protrusions
- Ridges
- Scatter
- Shadows and Glows
- Textures
- Filter Editor...
- Remove Filters



Filter Editor

Filter # EffectConnections

filter0 0

Add Effect: Gaussian Blur

The feGaussianBlur filter primitive uniformly blurs its input. It is

New

Effect parameters Filter General Settings

No effect selected

Fill and Stroke (Shift+Ctrl+F)

Fill  Stroke paint  Stroke style

?

**Flat color**

RGB HSL CMYK Wheel CMS

R: 0

G: 0

B: 255

A: 255

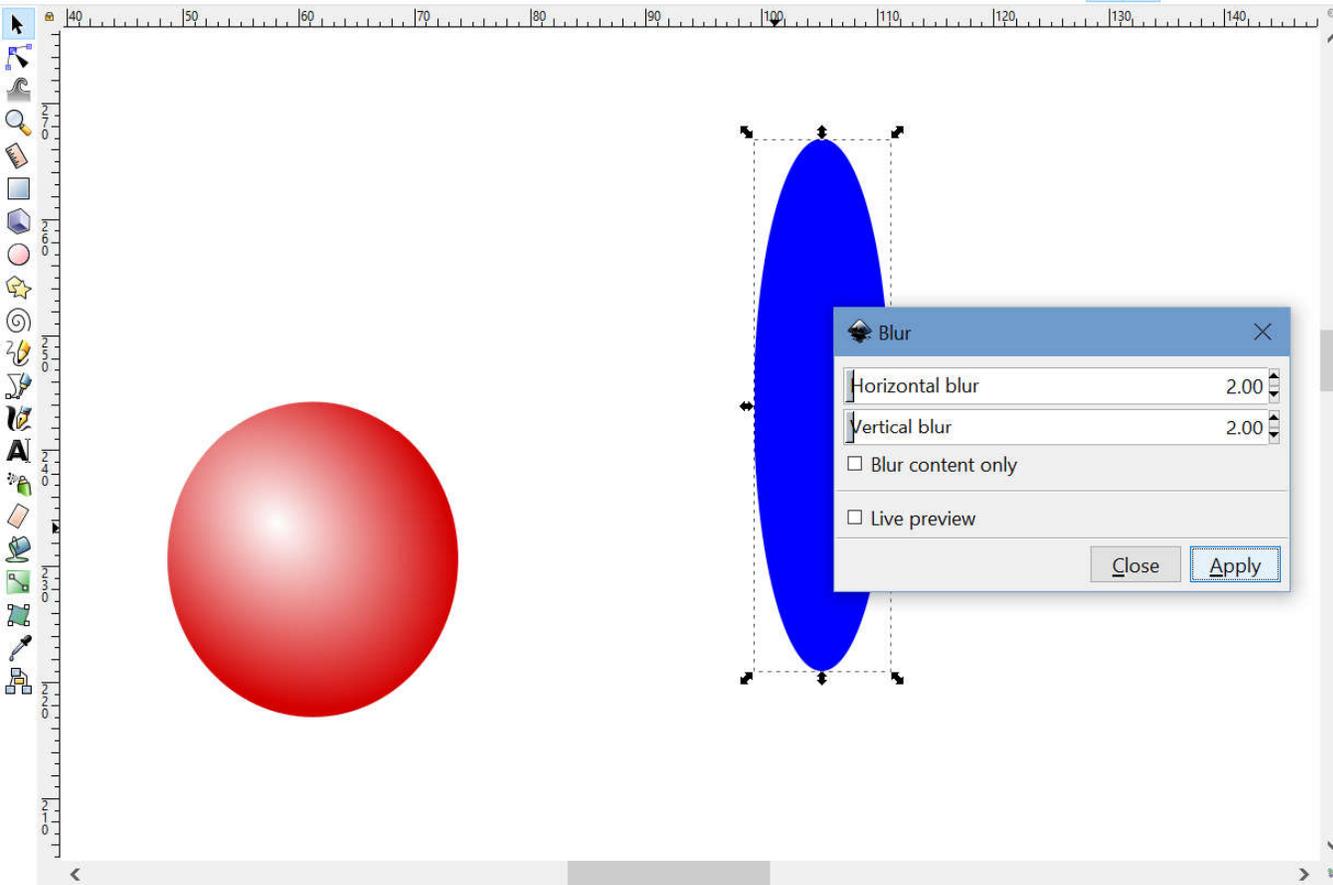
RGBA: 0000ffff

Blur (%) 0.0

Opacity (%) 100.0

Fill: O: 100 • Layer 1 Simple vertical and horizontal blur effect

X: 84.19 Y: 274.98 Z: 280%



**Blur**

Horizontal blur: 2.00

Vertical blur: 2.00

Blur content only

Live preview

Close Apply

**Filter Editor**

Filter # EffectConnections

filter0 0

Add Effect: Gaussian Blur

The feGaussianBlur filter primitive uniformly blurs its input. It is

Effect parameters Filter General Settings

No effect selected

**Fill and Stroke (Shift+Ctrl+F)**

Fill  Stroke paint  Stroke style

Flat color

RGB HSL CMYK Wheel CMS

R: 0

G: 0

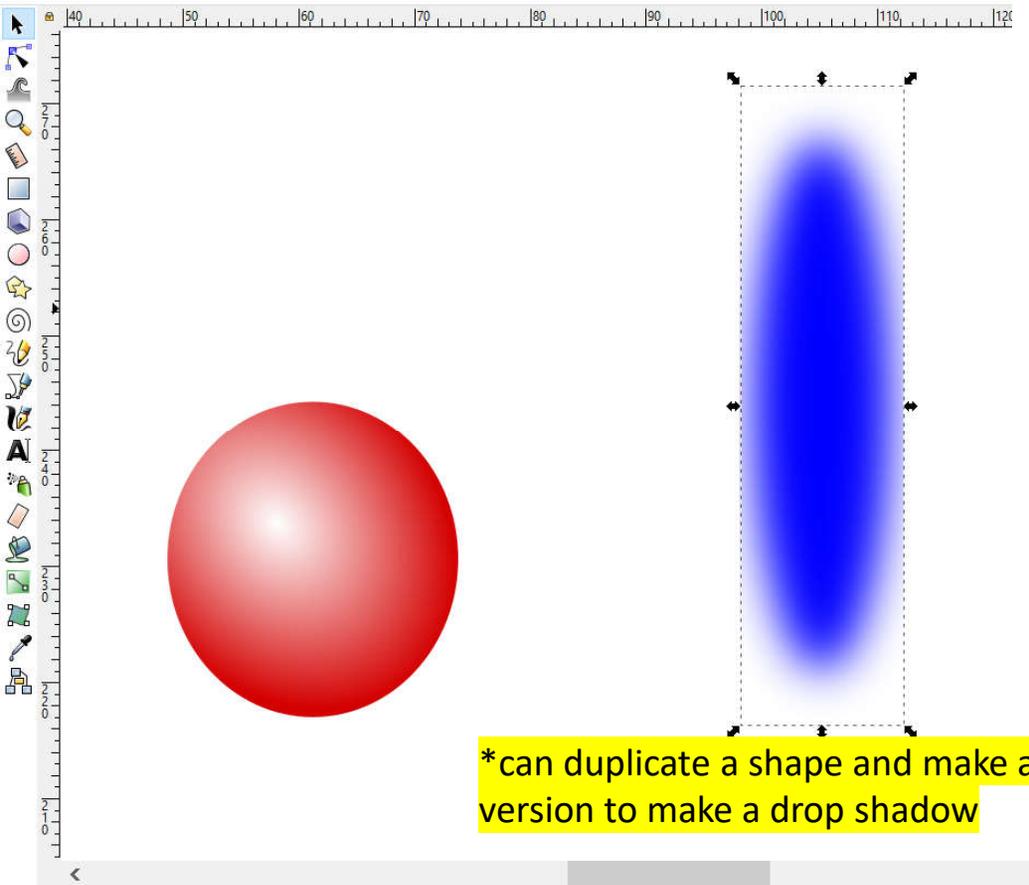
B: 255

A: 255

RGBA: 0000ffff

Blur (%) 0.0

Opacity (%) 100.0

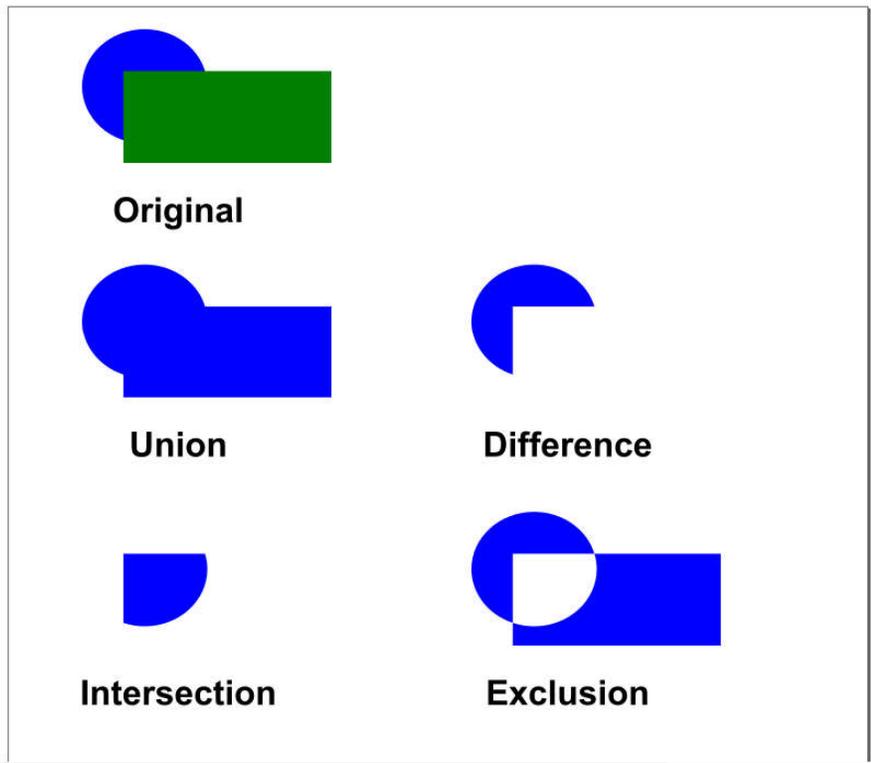


\*can duplicate a shape and make a gray, blurred version to make a drop shadow

	RGB	HSL	CMYK	Wheel	CMS
R:	[Color bar]				0
G:	[Color bar]				0
B:	[Color bar]				255
A:	[Color bar]				255

- Object to Path Shift+Ctrl+C
- Stroke to Path Ctrl+Alt+C
- Trace Bitmap... Shift+Alt+B
- Trace Pixel Art...
- Union Ctrl++**
- Difference Ctrl+-
- Intersection Ctrl+\*
- Exclusion Ctrl+^
- Division Ctrl+/
- Cut Path Ctrl+Alt+/
- Combine Ctrl+K
- Break Apart Shift+Ctrl+K
- Inset Ctrl+(
- Outset Ctrl+)
- Dynamic Offset Ctrl+J
- Linked Offset
- Simplify Ctrl+L
- Reverse
- Path Effects ... Shift+Ctrl+7
- Paste Path Effect Ctrl+7
- Remove Path Effect

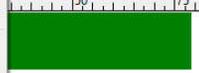
W: 0.000 H: 0.000 mm



Fill and Stroke (Shift+Ctrl+F)

Fill: N/A Stroke: N/A O: 0 Layer 1 Create union of selected paths X: -14.43 Y: 313.51 Z: 99%

- Object to Path Shift+Ctrl+C
- Stroke to Path Ctrl+Alt+C
- Trace Bitmap... Shift+Alt+B
- Trace Pixel Art...
- Union Ctrl++
- Difference Ctrl+-
- Intersection Ctrl+\*
- Exclusion Ctrl+^
- Division Ctrl+/
- Cut Path Ctrl+Alt+/
- Combine Ctrl+K
- Break Apart Shift+Ctrl+K
- Inset Ctrl+(
- Outset Ctrl+)
- Dynamic Offset Ctrl+J
- Linked Offset
- Simplify Ctrl+L
- Reverse
- Path Effects ... Shift+Ctrl+7
- Paste Path Effect Ctrl+7
- Remove Path Effect



Original



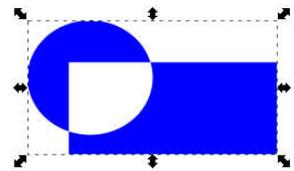
Union



Intersection

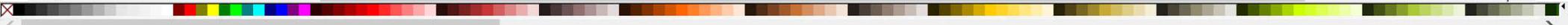
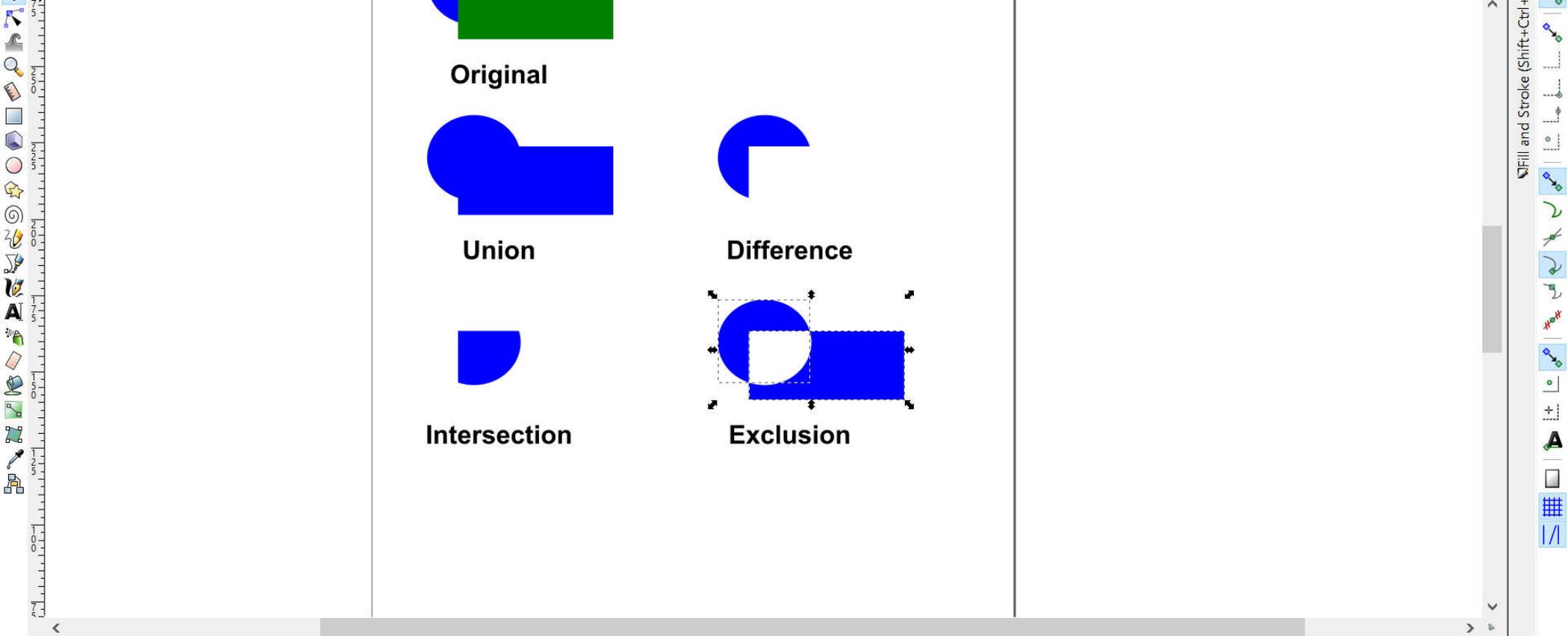


Difference



Exclusion







Original



Union



Difference



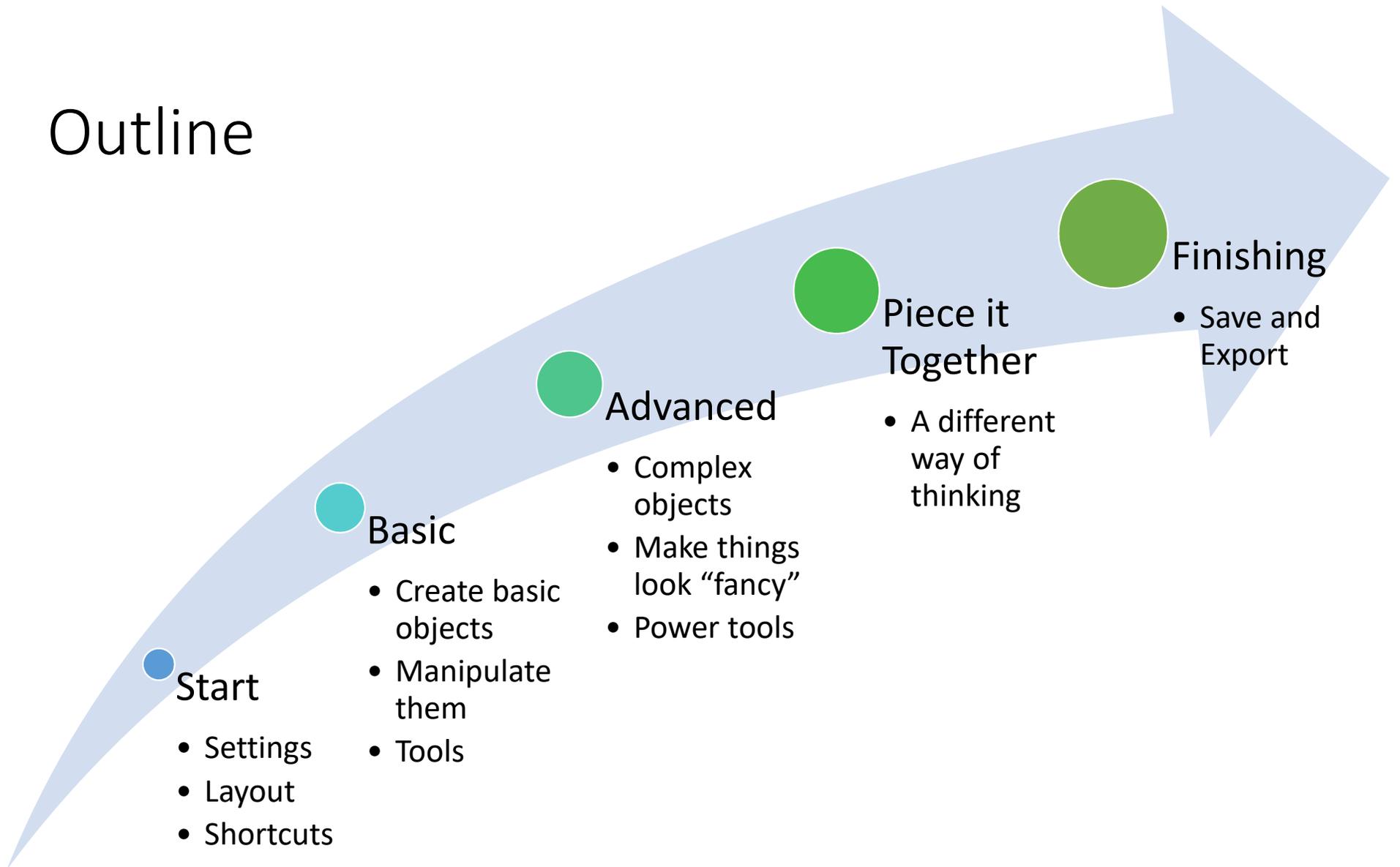
Intersection



Exclusion



# Outline

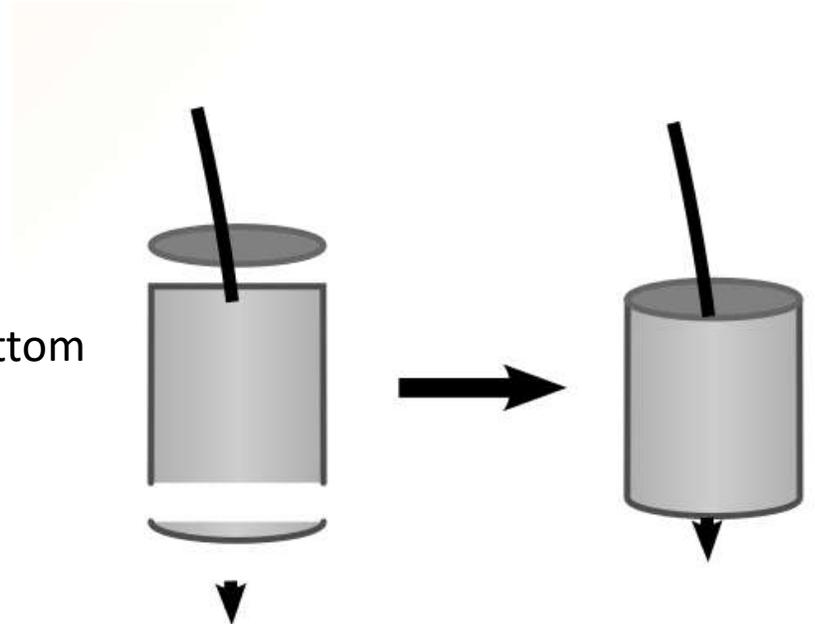




Piece it  
Together

# Piece it Together

- Not like drawing
- Break into simple pieces
  - Square w/ curved bottom, 2 ellipses, lines, arrow
- Use Constructive Geometry
  - Combine square + partial ellipse to get curved bottom
- Control ordering (what's on top)
- Align
- Group
  
- Layers

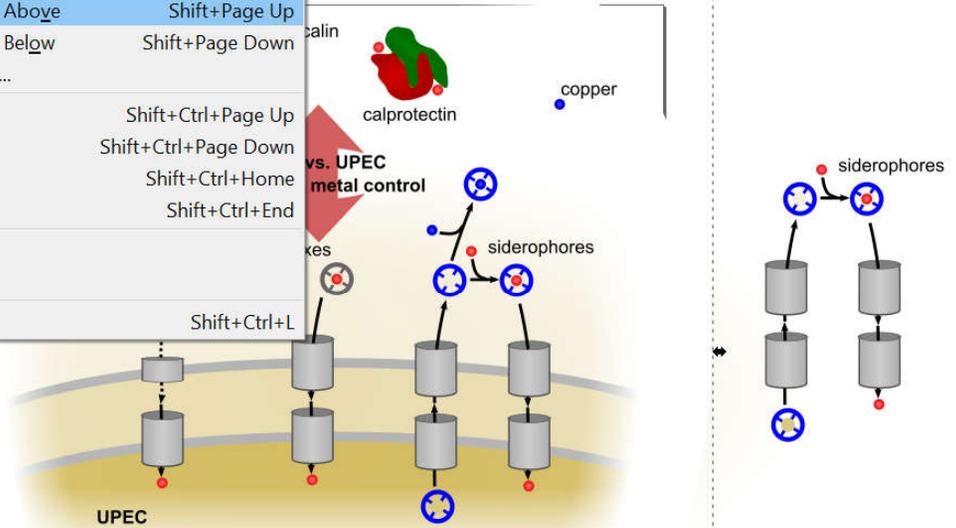


- File
  - Edit
  - View
  - Layer**
  - Object
  - Path
  - Text
  - Filters
  - Extensions
  - Help
- Add Layer... Shift+Ctrl+N
  - Rename Layer...
  - Show/hide Current Layer
  - Lock/Unlock Current Layer
  - Switch to Layer Above Ctrl+Page Up
  - Switch to Layer Below Ctrl+Page Down
  - Move Selection to Layer Above** Shift+Page Up
  - Move Selection to Layer Below Shift+Page Down
  - Move Selection to Layer...
  - Raise Layer Shift+Ctrl+Page Up
  - Lower Layer Shift+Ctrl+Page Down
  - Layer to Top Shift+Ctrl+Home
  - Layer to Bottom Shift+Ctrl+End
  - Duplicate Current Layer
  - Delete Current Layer
  - Layers... Shift+Ctrl+L

layers

add a layer

move large, annoying objects on top to a separate layer

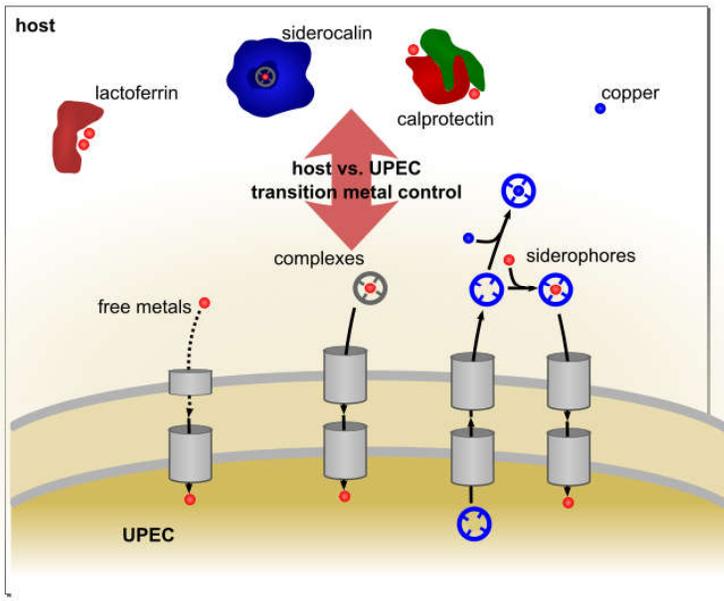


Layers (Shift+Ctrl+L)

- Layer 2
- Layer 1

blend mode: Normal

Opacity (%) 100.0



hide  
lock

Layers (Shift+Ctrl+L)

- Layer 2
- Layer 1

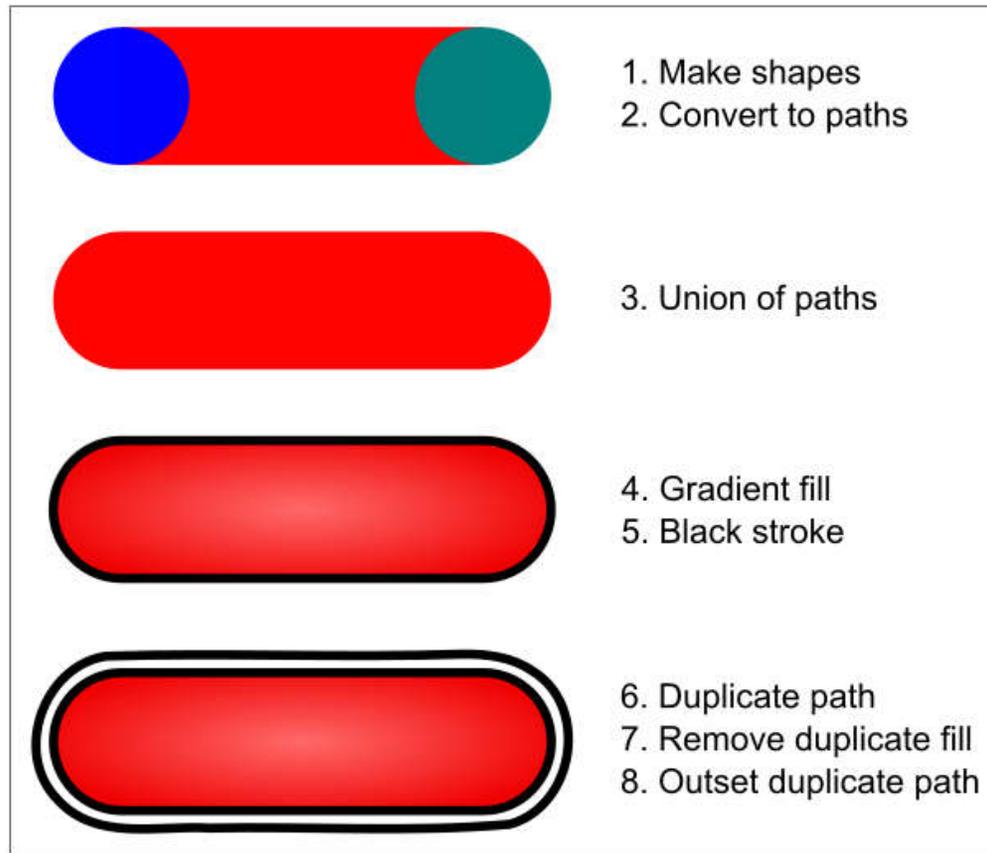
Blend mode: Normal

Opacity (%) 100.0

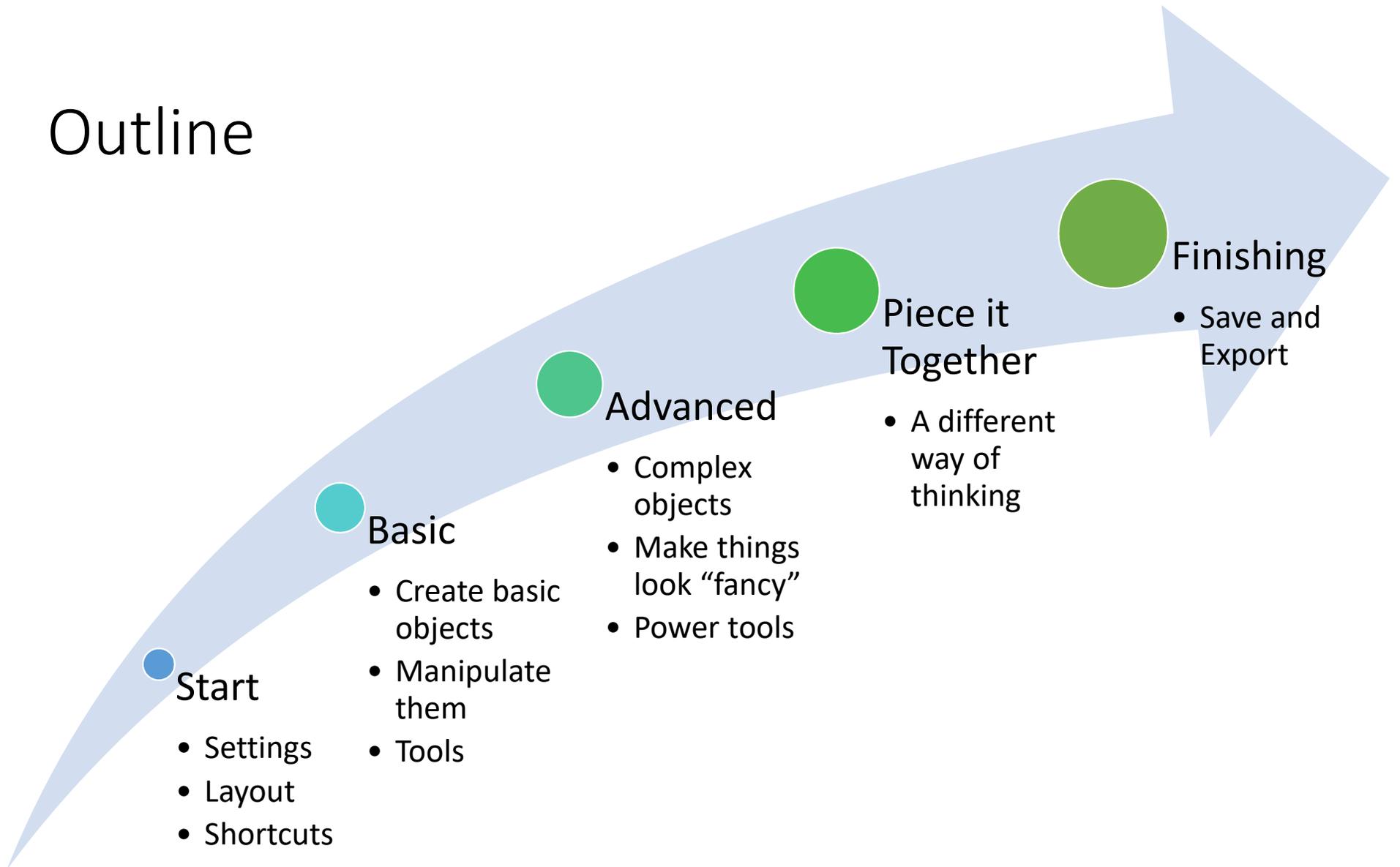


Piece it  
Together

# Putting it all together



# Outline

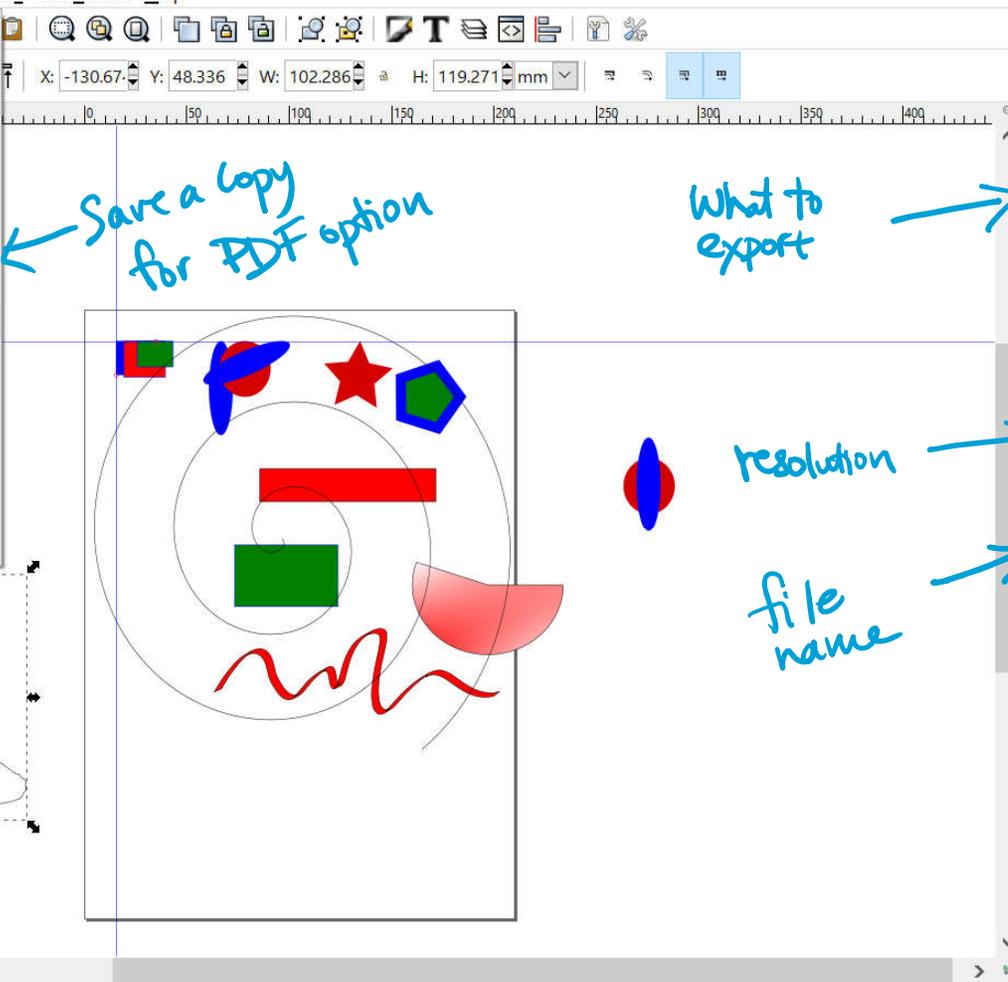




# Finishing

- Saving: File -> Save
  - Inkscape file type = svg
- Exporting:
  - File types:
    - pdf – scalable vector graphic, not good for Word or PPT (File -> Save a Copy As, chose file type)
    - png – good for Word and PPT, but not scalable (File -> Export png)
  - Settings:
    - Background color – transparent or white?
    - DPI - resolution

- New Ctrl+N
- New from Template... Ctrl+Alt+N
- Open... Ctrl+O
- Open Recent
- Revert
- Save Ctrl+S
- Save As... Shift+Ctrl+S
- Save a Copy... Shift+Ctrl+Alt+S
- Import... Ctrl+I
- Export PNG Image... Shift+Ctrl+E
- Import Clip Art...
- Print... Ctrl+P
- Clean up document
- Document Properties... Shift+Ctrl+D
- Close Ctrl+W
- Quit Ctrl+Q



Export PNG Image (Shift+Ctrl+E)

**Export area**

Page	Drawing	Selection	Custom
x0:	-130.674	y0:	48.336
x1:	-28.389	y1:	167.607
Width:	102.286	Height:	119.271

Units: mm

**Image size**

Width: 805 pixels at 200.00 dpi

Height: 939 pixels at 200.00 dpi

**Filename**

endersonLab\Protocols\Inkscape\path846.png Export As...

Batch export all selected objects

Hide all except selected

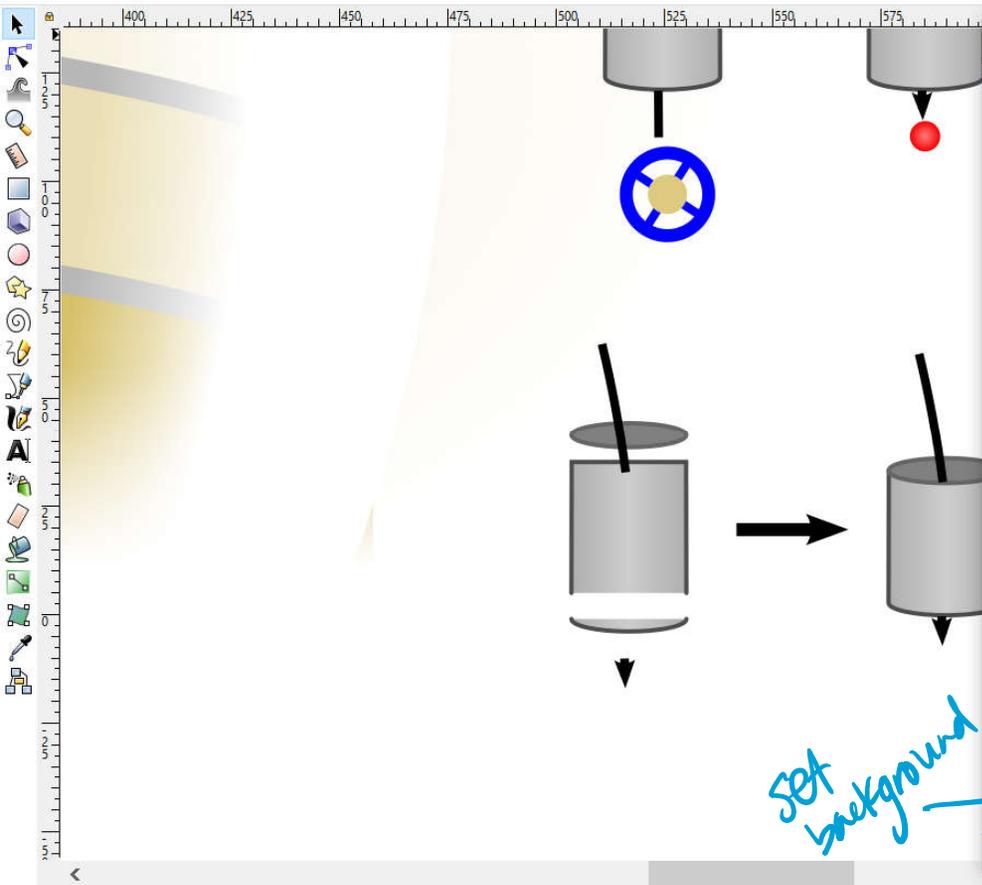
Close when complete Export

Export PNG Image (Shift+Ctrl+E) Glyphs

**Fill and Stroke (Shift+Ctrl+F)**

Fill  Stroke paint  Stroke style

No paint



Document Properties (Shift+Ctrl+D)

Document Properties (Shift+Ctrl+D)

Page Guides Grids Snap Color Scripting Metadata License

**General** Display units: px

**Page Size**

A4	210.0 x 297.0 mm
US Letter	8.5 x 11.0 in
US Legal	8.5 x 14.0 in
US Executive	7.2 x 10.5 in

Orientation:  Portrait  Landscape

Custom size:

Width: 11.76238 Units: cm

Height: 9.83506

Resize page to content...

**Scale**

Scale x: 1.00000 Scale y: 1.00000 User units per px.

Viewbox...

**Background**

Checkerboard background

Background color:

Use antialiasing

**Border**

Show page border

Border on top of drawing

set background

Color of the page background. Note: transparency setting ignored while editing if 'Checkerboard background' unset (but used when exporting to bitmap).

# Resources

- [Inkscape tutorials: https://inkscape.org/en/learn/tutorials/](https://inkscape.org/en/learn/tutorials/)
  - Both “official” and “community” tutorials
  - Very useful and easy to read
- Also access the official tutorials in Inkscape: Help > Tutorials