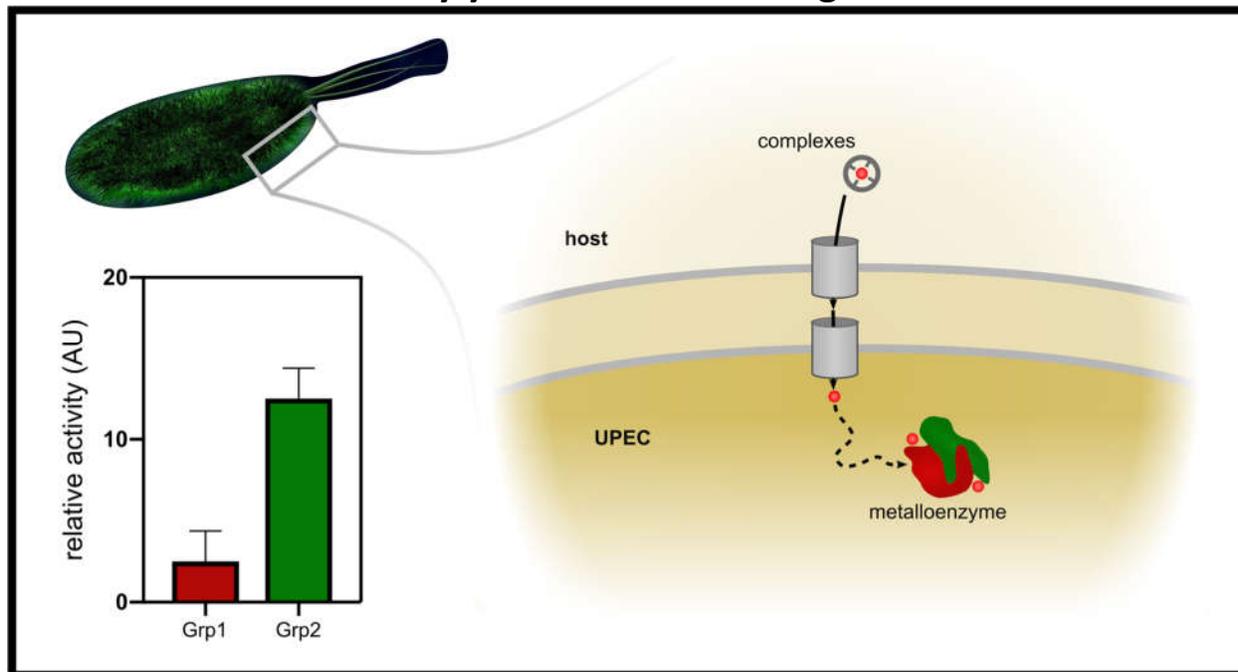


Inkscape Workshop

Today you will make this figure:



Inkscape Quick Reference

The basic layout of the program:

File: save, export; **Layer:** layer stuff; **Object:** clip and mask; **Path:** object to path, Boolean, simplify; **Text:** glyphs; **Filters:** special effects stuff

Basic Tools and Cursor-Specific Tools

<p>Select cursors (icons are predictable; use tool tips)</p>	<p>The page to create your schema. (page size can be changed; do this first for perspective)</p>	<p>Palettes (ie specific tools grouped into categories for doing various things)</p> <ul style="list-style-type: none"> - Shape/line colors + features - Text - Alignment - Snapping - Layers - Export
<p>Color Palette and Tool Tips</p>		

Getting Started:

- Basic features (copy/paste/select/group/move-up/move-down/rotate) work just like they do in PPT. Start here. Then, add features using the more powerful tools.
- Different cursors do different things. Double clicking an object changes your cursor. If you are stuck, try going back to the basic cursor ☺
- Cursors do not “see” transparent material. EX: If you make a box that is only an outline, you must click on the *outline* to select it.
- Grouping is very useful. Be willing to group and ungroup a lot. When you are in a group, new objects will get automatically added to that group. Just cut/paste or ungroup/group to fix it.
 - To manipulate objects within a group, double click on the group to “enter” the group. Double click elsewhere to “exit” the group.
- Use tooltips (info that appears when hovering over buttons) to learn what features do.

Keyboard shortcuts: (On Mac, “ctrl” is actually the “ctrl” key not the openApple/cmd keys)

- + 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 movement
- Shift + click and select color in bottom palette 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 ☺

If you’re confused, consider these options:

ISSUE	SOLUTION
SOMETHING IS COVERING SOMETHING ELSE	Change the ordering of it. You might have to cut it into two objects to have two different orderings.
BASIC SHAPES DON’T LOOK RIGHT	Convert the shape to a path and manually manipulate the nodes, or merge multiple simple shapes together. Or draw a shape with the hand-
YOU WANT ONLY PART OF A SHAPE	draw cursor ().
YOU WANT A 3D EFFECT	Use the “clip” tool to “crop” only the part you want (Object -> Clip -> Set). Google it to learn how!
	Start with adding gradients to objects and playing with the type of gradient. Think about the light source. Try adding more than one stop to the gradient. There are also ways to add drop

YOU WANT THINGS ALIGNED/SPACED EVENLY	shadows—look up a tutorial online ☺ See https://www.youtube.com/watch?v=X1SGxjMWbZs Use guides, the alignment toolbox and/or the snapping feature.
THE BACKGROUND KEEPS MOVING WHEN YOU TRY TO MOVE AN OBJECT ON TOP OF IT	Move the background to a separate layer
YOU WANT A SPECIAL EFFECT	Try playing with filters. Look up tutorials ☺
YOU WANT SOMETHING TO LOOK HAND-DRAWN	Try using the Bezier curve cursor () in “Shape:Ellipse” or “Shape:From clipboard” mode. Copy a basic shape (like a 2-pointed ellipse) onto the clipboard first. See https://www.youtube.com/watch?v=wiqUrzzHszl
YOU WANT TO INSERT A SPECIAL MATH SYMBOL	Text -> Glyphs. Adjust “Script” and “Range” until you find what you want. Then “Append”
A HAND-DRAWN FIGURE IS TOO SQUIGGLY	Use Path->Simplify, reiterate until desired, then tweak nodes (location; node type: symmetric, cusp, smooth, etc.)
YOU RESIZED/MOVED AN OBJECT AND THE LINE THICKNESS AND GRADIENT DOES (OR DOES NOT) MOVE/RESIZE AS DESIRED	 Use the toggle buttons to control whether gradients/line thickness/rounded corners/patterns DO or DO NOT move/resize with objects
YOU WANT TO CONVERT AN IMAGE INTO EDITABLE LINES	If the image is simple enough, you can use the trace feature (Path -> Trace Bitmap). Play with the settings to get it to recognize the important lines.

Concepts in visual communication and graphic design

Adapted from: <https://blog.adobespark.com/2016/07/27/8-basic-design-principles-to-help-you-create-better-graphics/>

Before you start

1. Concept simplification:
 - Distill your message to its simplest form
 - Try making a one-sentence summary of what you want someone to take away from your graphic
2. Tech specs:
 - Look up your application-specific sizing and color profile... these can be hard to change after you start



<https://inprintscience.wustl.edu/>

Graphic design concepts

1. Alignment

Sharp, ordered appearance of objects and text help to focus attention; minimize variation to keep from being “cluttered”

2. Hierarchy

- Use color/font/spatial organization to create structure:

KEY POINT(S)

Important secondary information

Tertiary content (e.g. for reference by a presenter)

- Think about how your reader’s eyes will move across the page (i.e. Left-to-right, Top-to-bottom, Z-shape)

3. Contrast

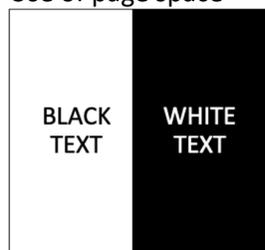
- Contrast objects or ideas by changing texture, color, font style, or shapes
 - Choose one of these and try to keep the rest the same to create contrast rather than “busy-ness”

4. Repetition

- Use predictable objects and formatting in multiple parts of your design
- For example:
 - Each time a cell is used, show the same object
 - Every heading has the same color/font/box shape around it

5. Balance

- Use of page space



- Line thickness and font sizes in proportion to objects

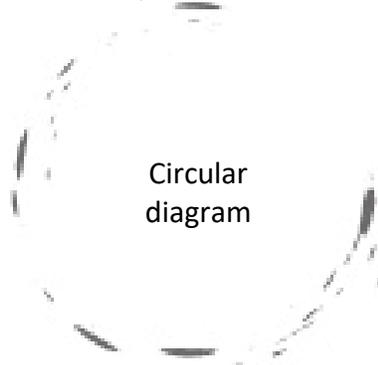


6. Color

- Use to:
 - Create depth/3-D effect & contrast
 - Provide additional layer of information, such as:
 - Function: UP/DOWN (GREEN/BLUE)
 - Judgment: BAD/GOOD (DARK/LIGHT)
- Try to make your colors colorblind-friendly. Use texture and/or value to help differentiate colors.

7. Negative space

- Distribute your objects to imply shapes or facilitate reading order without having to add additional objects



- Give objects and text in your design 'breathing room'

Resources

- A series of slides summarizing the features we covered today are available on our website: <http://sites.wustl.edu/inprint/resources/>
- Inkscape tutorials: <https://inkscape.org/en/learn/tutorials/>
- Look for many other third-party Inkscape tutorials as well!
- Concepts of visualization: Check out Edward Tufte's work on visualizing information at <https://www.edwardtufte.com/tufte/>
- Colorblind resources: <http://bconnelly.net/2013/10/creating-colorblind-friendly-figures/>
<http://colororacle.org/>

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