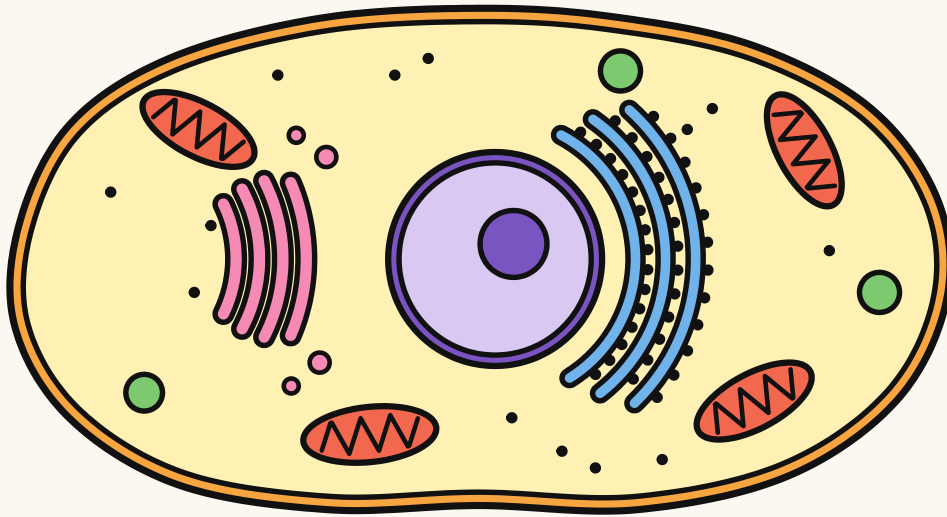


How to Draw a Cell

12 easy steps for beginners



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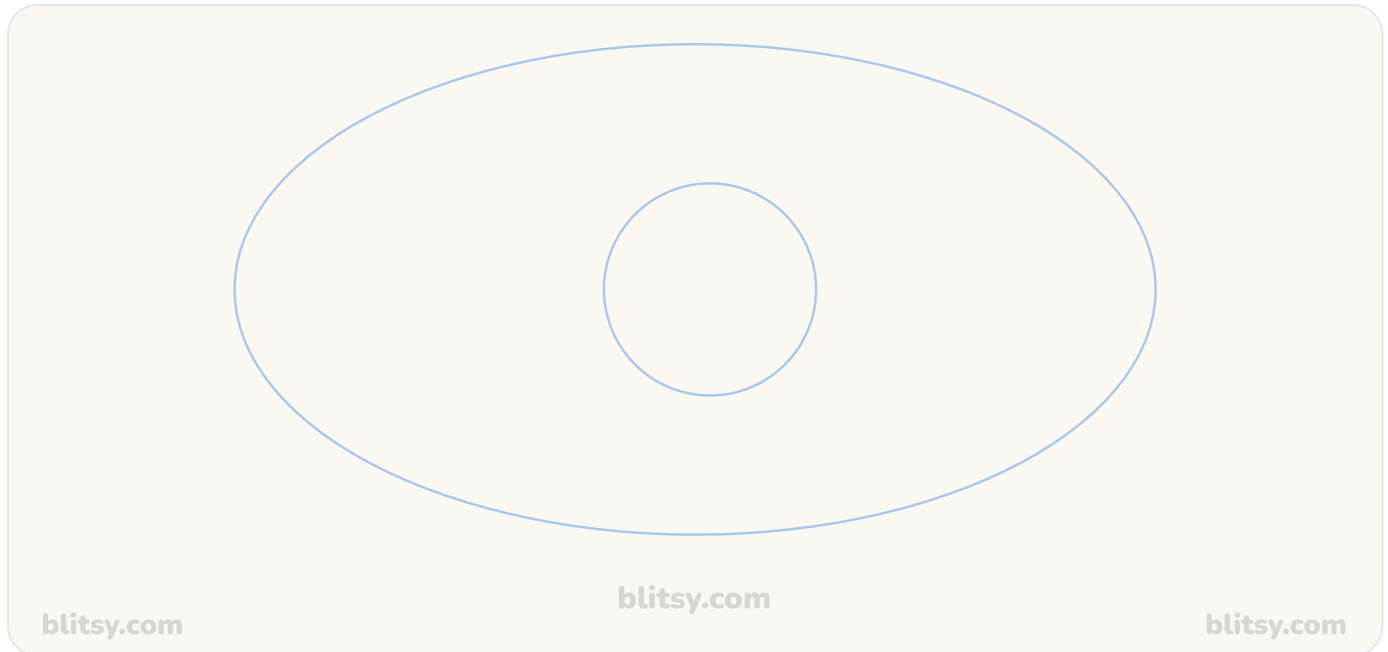
What you'll need

- A pencil
- An eraser
- A black fineliner
- Eight colored pencils
- Plain paper

How to use this guide

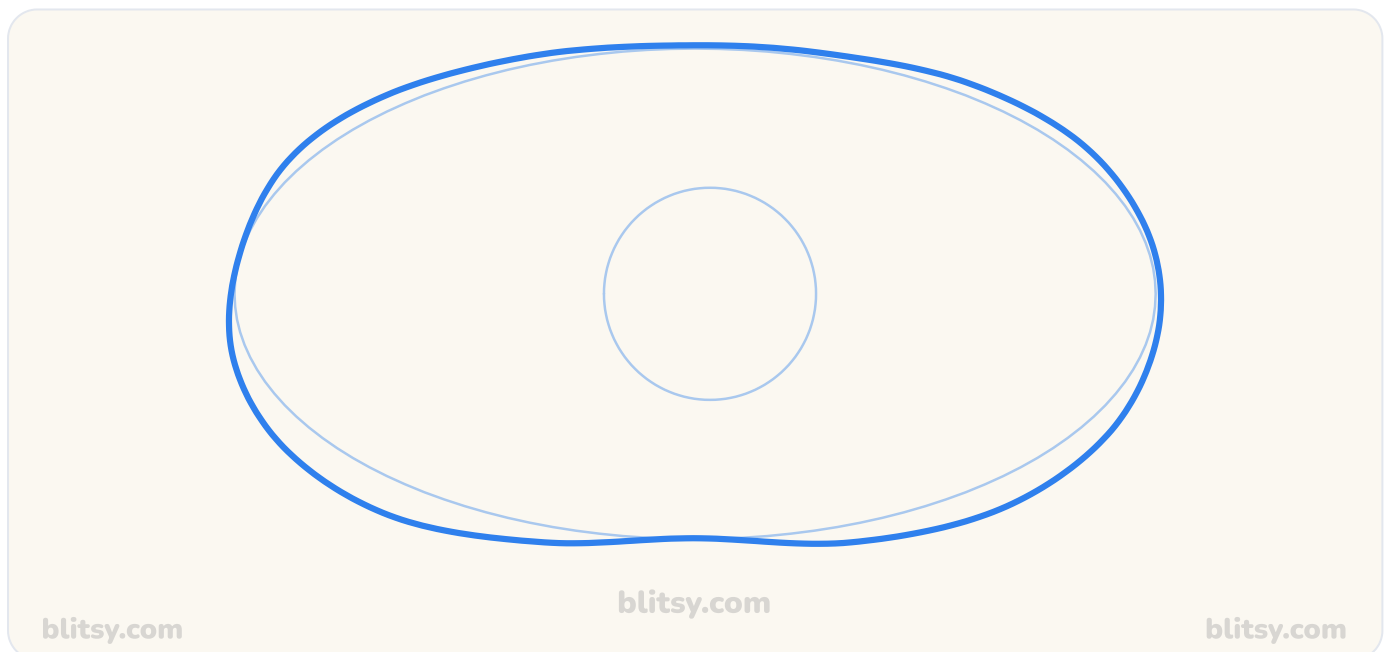
New lines for each step are shown in **blue**; lines you already drew are gray. Draw lightly first, then ink and erase near the end.

[Read the full tutorial online →](#)

STEP 1 Sketch a big oval and a circle

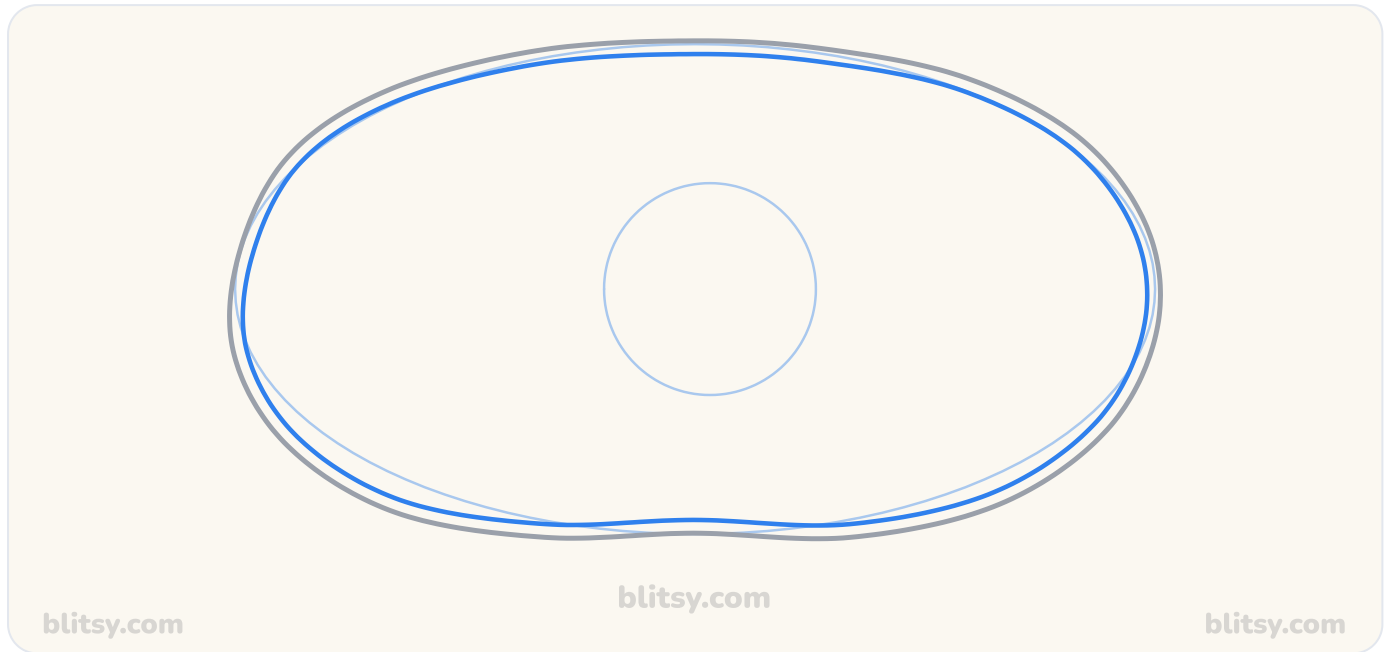
Turn the paper sideways and draw a wide oval that fills most of the page, leaving a finger's width of margin on every side. Then sketch a circle a little right of center, about a fifth as wide as the oval. That circle becomes the nucleus. Keep both shapes faint, because they're only there to guide you.

 **Tip:** Rest your little finger on the paper and pivot from it. Ovals come out rounder that way.

STEP 2 Draw the cell membrane

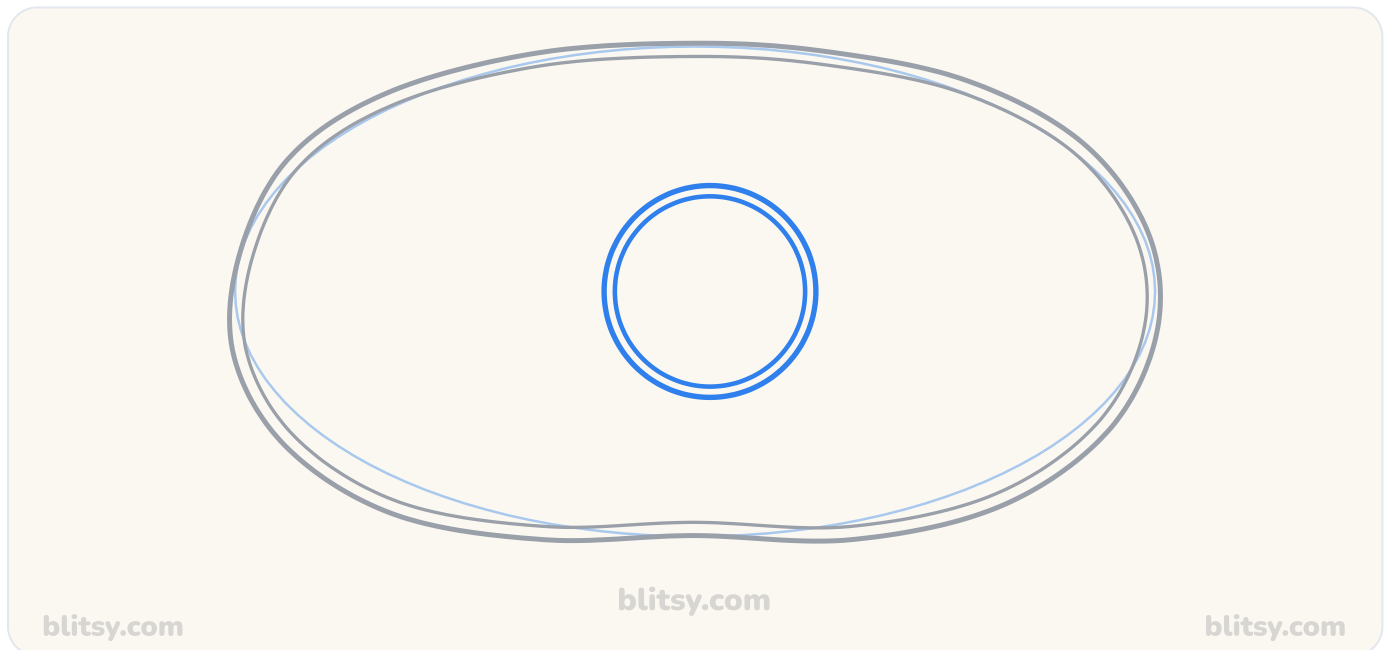
Go around the oval with a firmer, slightly uneven line. Animal cells have no stiff wall, so their edge is soft and a little lumpy. I let the bottom sag inward a touch and the right side bulge out. This outline is the cell membrane, the thin skin that decides what gets into the cell and what leaves.

 **Tip:** Draw the membrane in four quarter curves rather than one long sweep. It's easier to control.

STEP 3 Add a second membrane line

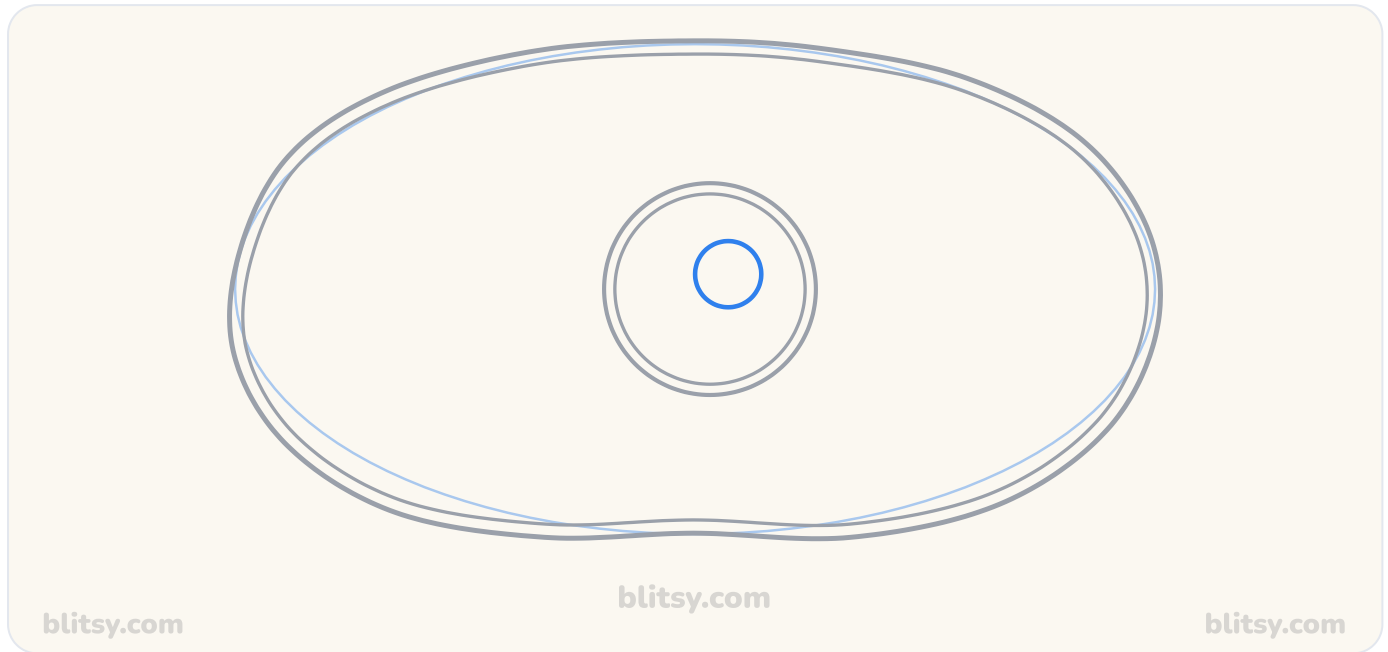
Just inside the first line, draw another one that follows it all the way round. Keep the gap narrow and even, about the width of a pencil lead. A double line is how diagrams show that the membrane has thickness. Everything inside it is cytoplasm, the jelly-like fluid where all the organelles float.

 **Tip:** If the gap gets wide in one spot, fix it now. Uneven bands are hard to color neatly later.

STEP 4 Draw the nucleus and its envelope

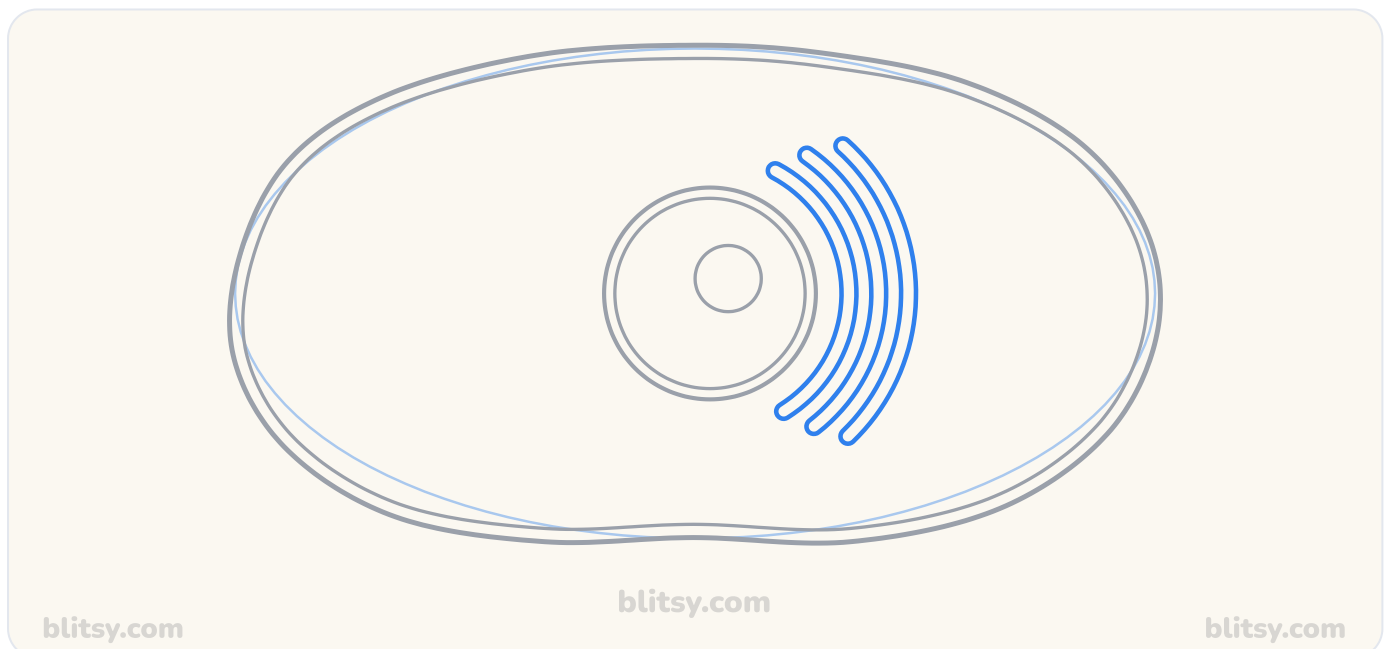
Trace over the guide circle with a clean line, then draw a second circle just inside it. Those two rings are the nuclear envelope, a double membrane around the nucleus. Real envelopes have tiny holes called pores, but most school diagrams leave them out. The nucleus is the control center, and it holds the cell's DNA.

 **Tip:** Trace around a coin or a jar lid here if freehand circles frustrate you.

STEP 5 Add the nucleolus

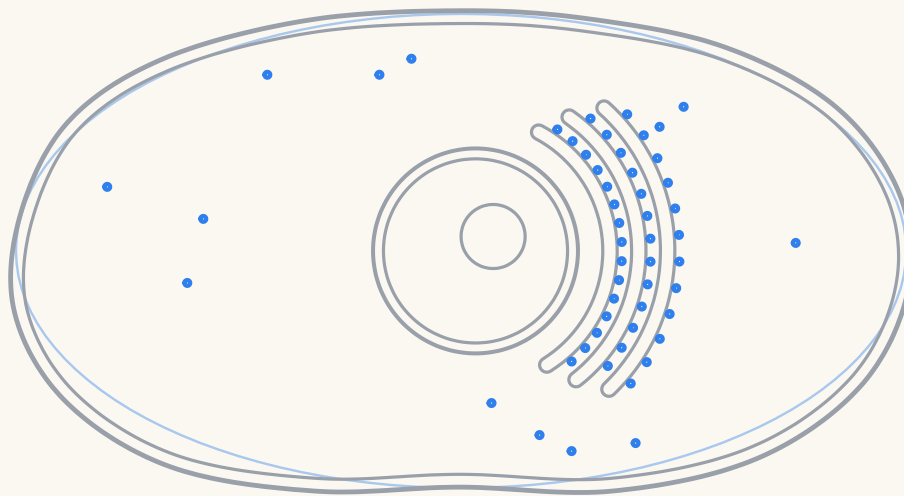
Inside the nucleus, slightly up and to the right of its center, draw a small solid-looking circle about a third as wide as the nucleus. This is the nucleolus. It builds the parts that ribosomes are made from. Placing it off center makes the diagram look more natural than a perfect bull's-eye.

 **Tip:** Small and dark reads better than large and pale for this one.

STEP 6 Fold the rough ER around the nucleus

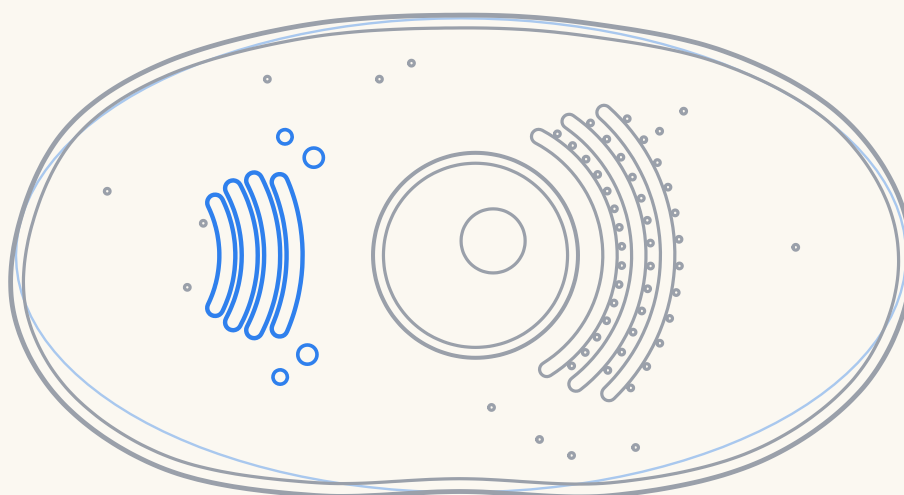
On the right side of the nucleus, draw three long curved tubes that hug it like rainbow arcs, each one a bit bigger than the last. Give every tube rounded ends and an even width. This is the rough endoplasmic reticulum, or rough ER, a network of folded membranes. In a real cell it connects to the nuclear envelope; I leave a hairline gap so the diagram stays easy to read.

 **Tip:** Draw the inner arc first, then copy its curve for the next two. They'll stay parallel.

STEP 7 Dot the ribosomes

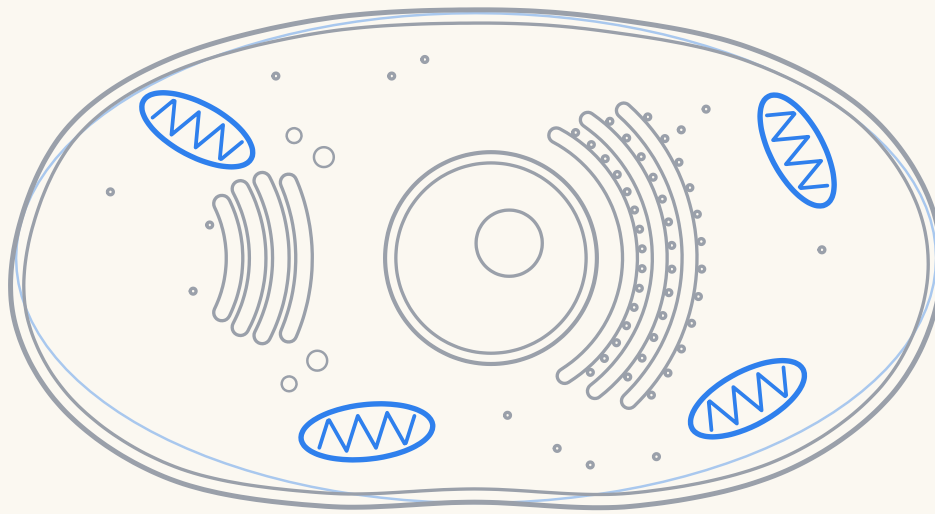
Ribosomes are what make the rough ER rough. Press small dots along the outer edge of each ER arc, spaced about a dot's width apart. Then scatter ten or so loose dots across the cytoplasm, because many ribosomes float freely too. Both kinds build proteins. Keep the free ones spread out instead of clumped together.

 **Tip:** Tap the pencil straight down for each dot. Dragging it turns dots into commas.

STEP 8 Draw the Golgi stack and vesicles

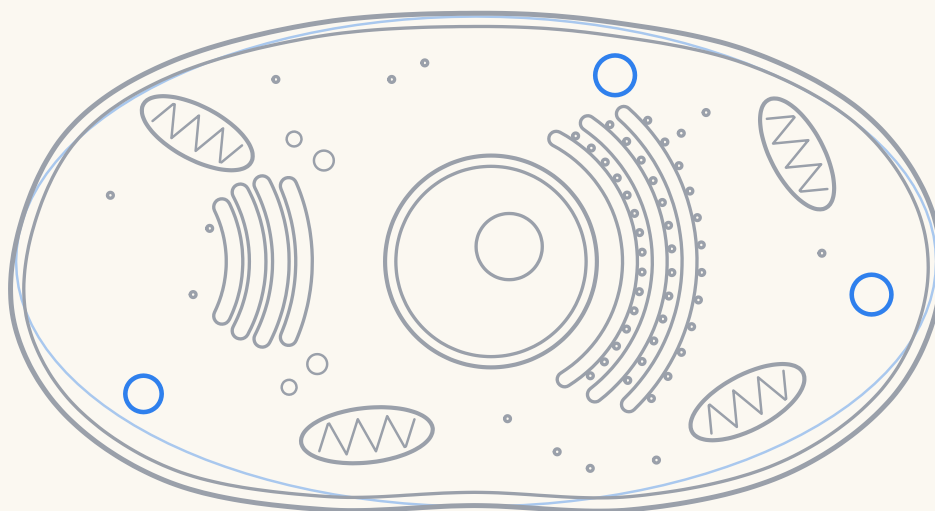
Left of the nucleus, draw four curved, flattened sacs stacked side by side, bulging toward the nucleus like a set of parentheses. Make the middle ones the longest. This stack is the Golgi apparatus, which sorts and packages proteins. Near its top and bottom, add a few tiny circles for vesicles, the little bubbles that carry those packages around the cell.

 **Tip:** Leave a clear gap between the sacs. Touching sacs look like one blob after inking.

STEP 9 Add the mitochondria with their folds

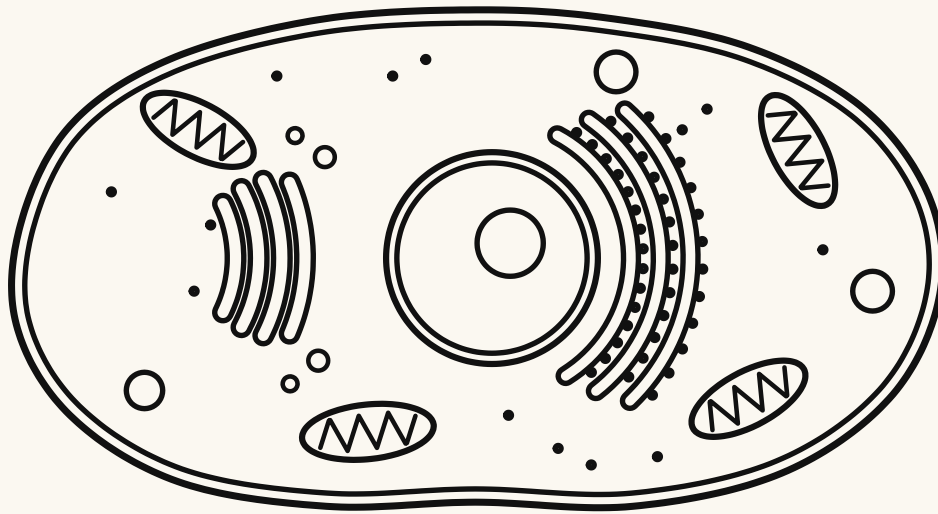
Draw four bean-shaped ovals in the open corners of the cell, each tilted a different way. They're the mitochondria, where the cell releases energy from food. Inside each bean, draw a zigzag line from end to end. Those folds are the cristae, the inner membrane folded up to fit more of it inside. I keep every zigzag away from the outline so the bean shape stays clear.

 **Tip:** Tilt each bean differently. Four in a row at one angle look like they're marching.

STEP 10 Place a few lysosomes

Lysosomes are small round sacs full of enzymes that break down waste and worn-out parts. Draw three plain circles in the empty spaces left over: one near the top, one bottom left and one on the right edge. Keep them bigger than the vesicles but far smaller than a mitochondrion.

 **Tip:** Fill gaps with lysosomes last. They're the easiest part to move around.

STEP 11 Ink the diagram and erase the guides

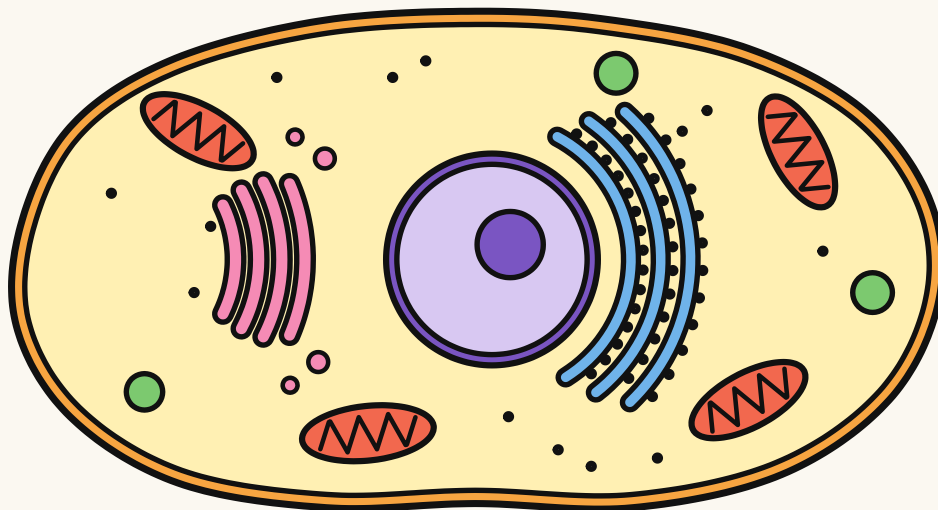
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Go over every keeper line with the fineliner. Most beginners start with the tiny dots, but I ink the long membrane lines first while my hand is steady, then the nucleus, then the organelles. Let the ink dry fully. After that, erase the faint guide oval and circle until only crisp black lines remain.

Tip: Count to thirty before erasing. Fresh fineliner ink smears more than you'd expect.

STEP 12 Color every organelle

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Fill the cytoplasm with light yellow and the membrane band with orange. Give the nucleus light purple, then use dark purple for the envelope ring and the nucleolus. Color the rough ER blue and the Golgi with its vesicles pink. Finish with red mitochondria and green lysosomes. Each part gets its own color, so labeling later is a breeze.

Tip: Color the big yellow area first with light pressure, then the small organelles on top of it.