ORGANELLE HEROES LAB

You are responsible for turning in the following components!

1. ***Lab Write-Up*** (25 points)
   This will be the news article about your organelle. Please include these 5 items in your news article:
   - **Headline**: this needs to be catchy and brief (Ex: Amazing Centrioles Acts Fast to Divide the Cell).
   - **Byline**: who wrote this and what is their title? (Ex: By Miss Jocelyn Paris, Teacher of awesome 8th grade science nerds).
   - **Lead Paragraph**: Includes all the who, what, when, where, why, and how.
   - **Explanation** (body paragraph): Details and eye-witness accounts of what happened.
   - **Conclusion**: wrap-up of the events and the outcome. Brief 2-3 sentences summarizing the event.

2. ***Hero Organelle Model*** (25 points)
   Must resemble the organelle.
   Must add color.
   Must have a superpower that relates to the organelle's REAL function.
   Must be creative and awesome!
   Must have a creative Superhero Name relating to the Organelle and/or it's function.

SUMMARY TABLE 7.2 **Eukaryotic Cell Components**

Icons not to scale		Structure		Function
		Membrane	Components	
	**Nucleus**	Double ("envelope"); openings called nuclear pores	Chromosomes Nucleolus Nuclear lamina	Genetic information Assembly of ribosome subunits Structural support
	**Ribosomes**	None	Complex of RNA and proteins	Protein synthesis
	Endomembrane system			
	***Rough ER***	Single; contains receptors for entry of selected proteins	Network of branching sacs Ribosomes associated	Protein synthesis and processing
	***Golgi apparatus***	Single; contains receptors for products of rough ER	Stack of flattened cisternae	Protein processing (e.g., glycosylation)
	***Smooth ER***	Single; contains enzymes for synthesizing phospholipids	Network of branching sacs Enzymes for synthesizing lipids	Lipid synthesis
	***Lysosomes***	Single; contains proton pumps	Acid hydrolases (catalyze hydrolysis reactions)	Digestion and recycling
	**Peroxisomes**	Single; contains transporters for selected macromolecules	Enzymes that catalyze oxidation reactions Catalase (processes peroxide)	Oxidation of fatty acids, ethanol, or other compounds
	**Vacuoles**	Single; contains transporters for selected molecules	Varies—pigments, oils, carbohydrates, water, or toxins	Varies—coloration, storage of oils, carbohydrates, water, or toxins
	**Mitochondria**	Double; inner contains enzymes for ATP production	Enzymes that catalyze oxidation-reduction reactions, ATP synthesis	ATP production
	**Chloroplasts**	Double; plus membrane-bound sacs in interior	Pigments Enzymes that catalyze oxidation-reduction reactions	Production of ATP and sugars via photosynthesis
	**Cytoskeleton**	None	Actin filaments Intermediate filaments Microtubules	Structural support; movement of materials; in some species, movement of whole cell
	**Plasma membrane**	Single; contains transport and receptor proteins	Phospholipid bilayer with transport and receptor proteins	Selective permeability—maintains intracellular environment
	**Cell wall**	None	Carbohydrate fibers running through carbohydrate or protein matrix	Protection, structural support