

Name: _____

Parts of a Cell

A character designer creates characters that are found in animated films, video games, and apps. Companies, like Disney, Marvel, and Netflix, hire character designers. Character designers do not just design what the characters will look like. They also develop characters' personalities and moods. They do this by drawing the characters with facial expressions and in certain poses and outfits.

Today, you will be a character designer and create the characters for a new animated movie called Cellular City. The movie will be about a human cell that is turned into a city. Each of the organelles in the cell will become a person who works in the city. Your job is to learn about the different organelles found in a human cell. Then, you will turn each organelle into a human-like character who will work in the city.

Step 1: Learning About Parts of a Human Cell

A human cell is called a eukaryotic cell. This means that its nucleus is surrounded by a membrane, called the nuclear membrane. Eukaryotic cells contain structures, called organelles, that make sure the cell works properly. Below are descriptions of some organelles found in a eukaryotic cell.

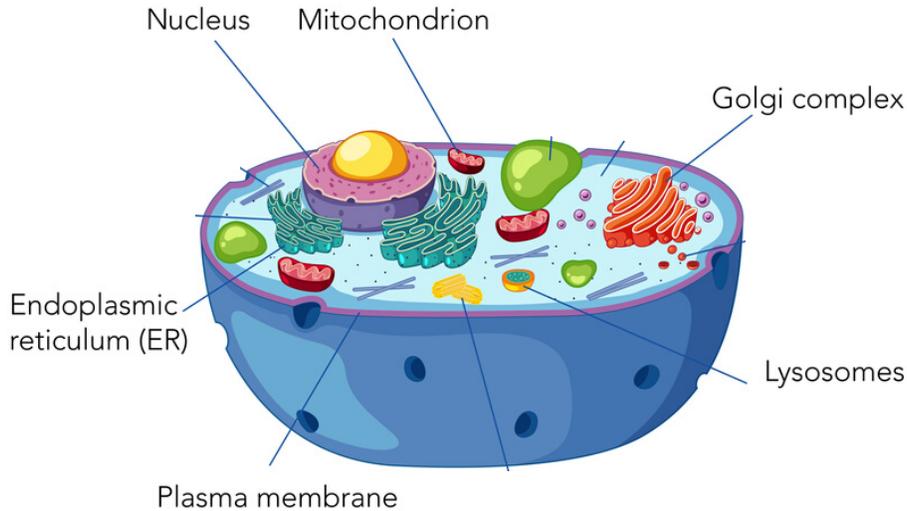
Below is a chart explaining the name of an organelle and its function, or how it works. Read through the organelles and its function.

Organelle	Function	Shape-Function Relationship
Cell Membrane	Controls which substances enter and leave the cell.	
Nucleus	Contains and protects genetic material (DNA), which tells the entire cell how to function.	The nucleus is a round ball that has a second protective layer around it. The shape of the double layer of protection make sure that the DNA can continue to do its job.
Lysosomes	Removes waste from the cell.	
Mitochondria	Take in nutrients from the cell and break it down to create energy for the cell to continue to properly work.	
Golgi Apparatus	Sorts and packages molecules that entered the cell so they can be transported to other areas.	
Rough Endoplasmic Reticulum	Transports and finishes proteins and other molecules in the cell, like lipids.	

Name: _____

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Below is a diagram of a eukaryotic cell with the different organelles labeled. Take a look at the shape of each organelle. The shape of the organelle helps it do its job. In the far right column of the chart above, write how you think the shape of this organelle helps the organelle function.



Step 2: Design characters for movie

You will design character cards for five organelles. A character card has information about the character's job, personality, and what it looks like. Your character cards must have the following:

- Job that the person completes in the city. The job should be related to how the organelle functions in the cell.
- Description of job and tasks the person does while on the job.
- Personality traits that person has, such as friendly, smart, hard-working, creative. The personality traits should relate to the job the person has.
- Drawing of person.

Below is an example of the nucleus character card.

Organelle: Nucleus	Character drawing:
Job: Mayor	
Description of job: The mayor is in charge of the city and tells people what to do.	
Example of task: The mayor helps write laws that tell the people in a city what they can and cannot do, like how fast they can drive.	
Personality traits: Outgoing, strong-willed, caring, ambitious.	

Name: _____

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Organelle:

Job:

Description of job:

Example of task:

Personality traits:

Organelle:

Job:

Description of job:

Example of task:

Personality traits:

Organelle:

Job:

Description of job:

Example of task:

Personality traits:

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Parts of a Cell

Organelle:

Job:

Description of job:

Example of task:

Personality traits:

Organelle:

Job:

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Example of task:

Personality traits: