

Cell Parts

A Technology Integrated Lesson

Do-Now



Do-Now: Answer the question in a complete sentence.

Name an organelle and explain its function in the cell.

The _____ is important to the cell because _____.

3:00

Today's Objective

SWBAT describe in writing the functions of organelles by completing a cell organelle analogies worksheet with 100% accuracy.

1:00
Stop



Essential Question?

How do organelles help the cell function?

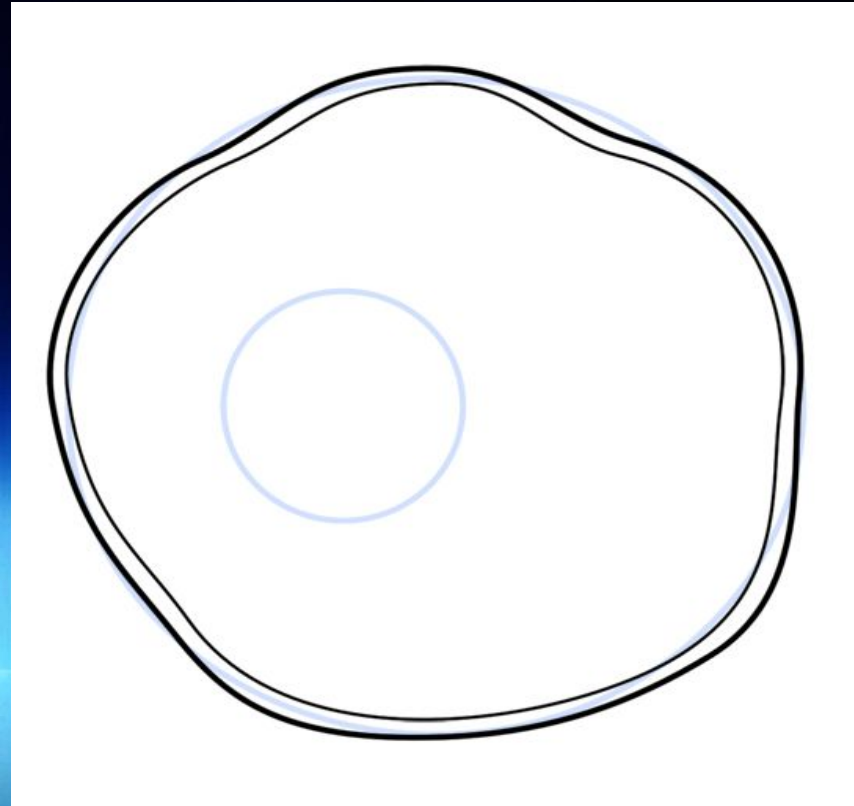
Think of the Avengers and the roles they play in the S.H.I.E.L.D organization.

Cell Model

Directions:

- ❖ In your notebook, use this template of a cell as a guide to help you create what you think a cell looks like.
- ❖ Include the organelles and place them where you think they will go. (Don't forget to label the organelles).

There is no right or wrong answer here.
Do your best.



CellExplorer: Mission 2



Your mission is to escape from the cell before your ship runs out of supplies. Test your knowledge of the organelles and their functions by navigating through the cell to locate the correct organelle that matches the question or statement given.

Record your personal percentage in your notebook so that you can track your progress.

Cell Parts

Avengers Style



The Nucleus AKA Nick Fury



The nucleus protects the DNA of the cell just like Nick Fury protects all of the members of the Avengers information.

What other connections can you make with Nick Fury and the nucleus?

The Nucleolus AKA The Helicarrier



The Nucleolus is inside of the Nucleus and makes ribosomes. Just like the nucleolus contains the ribosomes, *the Helicarrier* holds the Avengers, the S.H.I.E.L.D. staff, and the Quinjets while in transport.

Smooth Endoplasmic Reticulum AKA Tony Stark

The SER (Smooth Endoplasmic Reticulum) is responsible for building lipid molecules, hormones and other molecules in the cell. *Tony Stark* is an inventor and builds gadgets and the infamous Iron Man Suit.



Mitochondria AKA Thor

The main role of the mitochondria is to create energy. Thor is the god of lightning, which is his energy source.

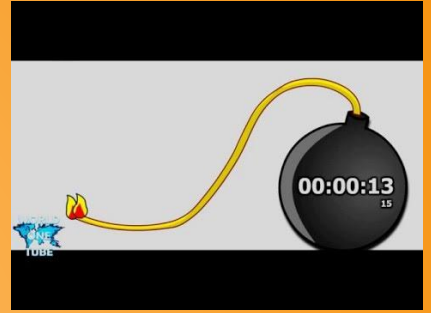
The mitochondria is also known as the “*power house*” of the cell



Think Fast...

Tony Stark is like the Smooth Endoplasmic Reticulum because he...

- A) Is smooth with the ladies.
- B) Is an inventor and builds stuff.
- C) Has a energy source inside him that gives him power.



Cytoskeleton AKA The Hulk

The main role of the cytoskeleton is to maintain the cell's structure and shape. The Hulk is strong (like the structure of the cytoskeleton) and hard to defeat.



Cell Membrane AKA S.H.I.E.L.D Security Team

The cell membrane is the boundary that surrounds the cell and regulates what enters and leave the cell. Much like how the *S.H.I.E.L.D Security Team* protects the Avengers and the agents aboard the Helicarrier and controls who enters.



Golgi Apparatus AKA Captain America

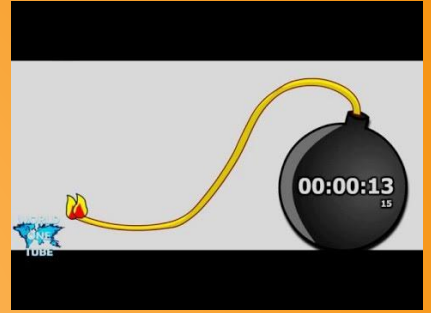


The Golgi Apparatus modifies proteins and sends them where they need to go. *Captain America* is the (for the lack of a better word) Captain of the Avengers. He organizes and tells squads where to go.

Think Fast...

Fill in the blank.

The Golgi Apparatus _____ proteins and
_____ them where to go.



Rough Endoplasmic Reticulum AKA Quinjet

The Rough Endoplasmic Reticulum (RER) is responsible for transporting proteins, just like *the Quinjet* is responsible for transporting the Avengers to their special missions.



The Cytoplasm AKA Phil Coulson



The Cytoplasm is jelly-like stuff that hold everything together in a cell. The role *Phil Coulson* plays in S.H.I.E.L.D is to be sure everyone stays together and works as a team.

Ribosomes AKA The Superpowers

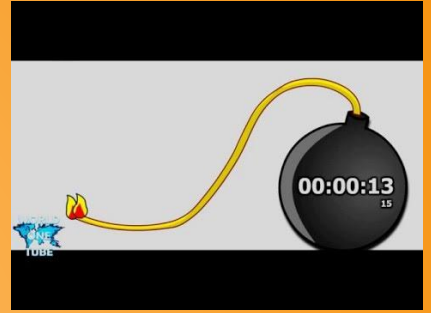
The role of Ribosomes in the cell is to make proteins. They are like the *Superpowers* the Avengers have because the superpowers allow the Avengers to do all of the amazing things they do. Without proteins, cells wouldn't be able to do the amazing things they do and they would die.



Think Fast...

True or Nah.

The Cytoplasm is a hard structure inside a cell that the organelles move through.



Another Analogy



Cell Analogy Worksheet

Directions:

For each cell organelle listed, create an analogy (fill in the blanks) to help you better understand its function. Think about the analogies you saw today (Avengers and Harry Potter)

Example: Nick Fury is like the Nucleus because he protects all of the information for the Avengers.

The image features a central blue circle surrounded by several concentric red circles, creating a tunnel-like effect. The text "That's all J" is written in a white, cursive font across the blue center.

That's all J