



Cell Analogies

Using abstraction to show off your creativity and your knowledge of cells

Project goal: Use abstraction to represent a cell through the use of an analogy.

Cell Analogy: Harry Potter World

Lysosomes: Azkaban
Wizards that turn bad get captured and go to Azkaban.



Endoplasmic Reticulum: owls
The owls transport the packages like the ER does proteins and lipids.



WORLD

Nucleus: Diagon Alley

The nucleus is like Diagon Alley because it is the main center point for all the things that go on in the wizarding world.

Diagon Alley

Nucleolus: Ministry of Magic

The nucleolus is like the Ministry of Magic because the Ministry controls and regulates the wizarding world.



Golgi apparatus: Owl post office

The owl post packages and transports items.

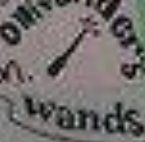


Cell membrane: The Leaky Cauldron



The Leaky Cauldron is like the cell membrane because it only lets wizards into the wizarding world.

Mitochondrion: wands
Wands produce all the power in the wizarding world, like mitochondrion.

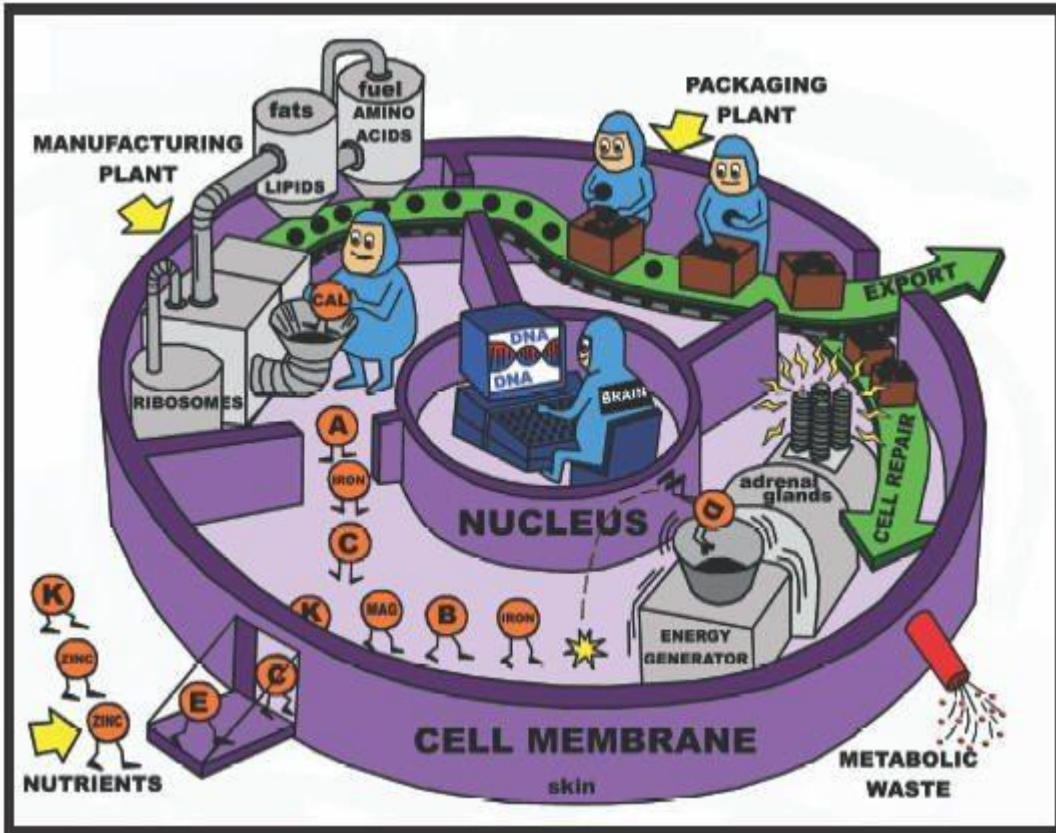


Ribosomes: shops at Hogsmeade

The shops make the goods for the wizarding world.

Hogsmeade

Possible analogies



- A real or fictional place - city, amusement park, store, restaurant, sports arena, school...
- An existing or made up game
- An existing or made up story
- An app - SnapChat, Instagram, YouTube...

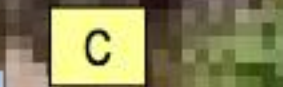
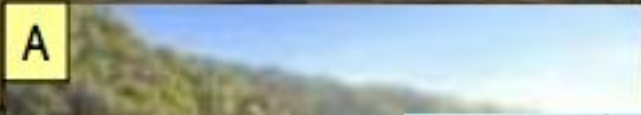
Step 1: Brainstorm what analogy you want to use, and how each cell part fits into your analogy

- A. Cell = City
- B. Cell membrane = City limits
- C. Cytoplasm = Environment
- D. Nucleus = Town Hall
- F. Ribosomes = Factory
- G. Endoplasmic Reticulum = Roads and Highways



Step 2: Visually create your analogy

- Can be a map/drawing, a board game, an illustrated story, a labeled app walkthrough, etc.
- Can be done on an 11x17" piece of paper, in a Google Presentation, or in Scratch.
- Make it colorful and creative, and don't forget to include something to represent each cell part!
- You may label cell parts directly, or label them with letters and include a legend or map key.



Legend
 A: Far Far Away
 B: Brick Wall
 C: Environment
 D: Shrek's Castle
 E: Puss-n-boots Security Service
 F: Gingerbread Man's Cookie Factory
 G: Roads
 H: 3 Blind Mice Delivery Service
 I: Dragon Power Service (DPS)
 J: Donkey Recycling

Step 3: Explain your analogy

- Justify why you selected each component of your analogy to represent that part of the cell and what that analogy part and the cell part have in common
- Identify the type of cell you picked by writing down whether it is a plant or animal cell
- For each component, include:
 - the name of the component
 - the name of the cell part it corresponds to
 - why you selected that component to represent the cell part. For example, the Town Hall represents the nucleus because it controls the town's activities.



Cell city Analogy

Name
Date
Period

- A. The city represents the cell because they are both areas with a fixed boundary.
- B. The city Limits represents the cell membrane because they both surround and border.
- C. The environment represents the cytoplasm because they are both inner space.
- D. The city hall represents the nucleus because they both control activities.
- E. The police force represents the nuclear membrane because they both protect.
- F. The factory represents the ribosomes because they both make products.
- G. The roads represent the endoplasmic Reticulum because they are both transportation systems.
- H. The post office represents the golgi bodies because they both pack and carry.
- I. The power plant represents the mitochondria because they both provide power and energy.
- J. The recycling plant represents the lysosomes because they both recycle and dispose of waste.

