

7 Science Remote Learning Packet

Please submit scans of written work in Google Classroom at the end of the week.

Week 8: May 18-22, 2020

Course: 7 Science

Teacher(s): Miss Weisse natalie.weisse@greatheartsirving.org
Mrs. Voltin mary.voltin@greatheartsirving.org

Weekly Plan:

Monday, May 18

- Review Anatomies of Animal, Plant, & Bacteria Cells and *Teacher Notes – Organelle (Cell Machinery) Details*
- Read *Teacher Notes – Organelle (Cell Machinery) Details Continued*
- Complete Organelle Assignment*

Tuesday, May 19

- Metamorphosis of Plants Poem!
- Practice Filling Animal and Plant Cell Anatomies
- Work On Cell Model Project

Wednesday, May 20

- Metamorphosis of Plants Poem!
- Practice Filling Animal and Plant Cell Anatomies
- Work On Cell Model Project

Thursday, May 21

- Metamorphosis of Plants Poem!
- Practice Filling Animal and Plant Cell Anatomies*
- Adding Finishing Touches to Cell Model Project*

Friday, May 22

- Attend Office Hours at 9:00 AM to *Present Your Cell Model!*
- Turn in your assignments on Google Classroom by the end of the day Sunday May 17.

Statement of Academic Honesty

I affirm that the work completed from the packet is mine and that I completed it independently.

I affirm that, to the best of my knowledge, my child completed this work independently

Student Signature

Parent Signature

Monday, May 18

- Review Anatomies of Animal, Plant, & Bacteria Cells and *Teacher Notes – Organelle (Cell Machinery) Details*
- Read *Teacher Notes – Organelle (Cell Machinery) Details Continued*
- *Complete Organelle Assignment*
 - ◆ Fill out the chart found after the *Teacher Notes* by listing at least three important details about each organelle's structure, function, and purpose.

TEACHER NOTES

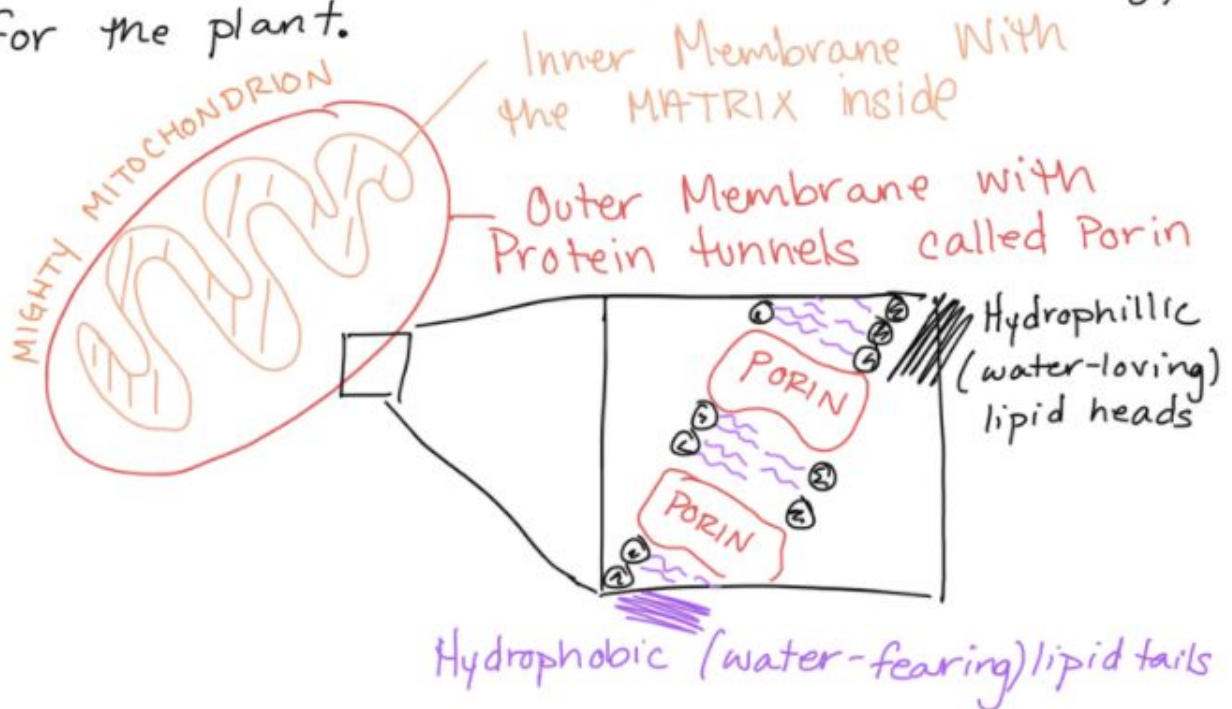
Organelle (Cell Machinery) Details Continued

Last week we discussed the membrane (made up of a lipid bilayer) and the cytoplasm (the viscous fluid inside the cell). Today is our last day of notes, and we'll finish up with mitochondria and the nucleus. Let's get started!

Mitochondria (singular mitochondrion) are organelles that create energy for the cell. The energy of many cells together provides energy for ALL the work our body does – that is a mighty task for such small organelle! This is why Mitochondria are sometimes referred to as "Mighty Mitochondria" or "The Powerhouse of the cell."

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Each **mitochondrion** has two membranes - an inner membrane and an outer membrane - both of which are made up of a lipid bilayer like the membranes surrounding the whole cell. The **OUTER MEMBRANE** has protein tunnels, called **porin**. These tunnels allow small molecules like glucose and ions to enter the cell. The **INNER MEMBRANE** has many folds to increase its surface area to allow more diffusion to occur (like the alveoli in the lungs and villi in the small intestine). We call the inside of the inner membrane the **MATRIX**, and this is where the nutrients we eat are transformed into energy in a chemical reaction called **CELLULAR RESPIRATION**. This chemical reaction is similar to photosynthesis in plants which transforms CO_2 and H_2O into energy for the plant.



The NUCLEUS is the control center of the cell, just like the brain is the control center of the body. The nucleus has two main organelles inside this organelle

- 1) Nucleolus
- 2) Chromosome

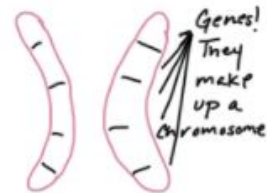
1) The Nucleolus produces ribosomes, which produce proteins. While the mitochondria produces energy for the body, proteins do a lot of the work. And, different are made with different shapes to be able to do different kinds of work. For these reasons, the nucleolus needs to be near the genetic material in the nucleus.

2) The Chromosomes are made up of multiple genes, which are made up of DNA.

→ GENES determine what physical characteristics an organism has, like hair color, eye color, and height.

→ DNA (DeoxyriboNucleic Acid) are instructions to make proteins, which do the work of making the cell what it is (skin cell, nerve cell, or muscle cell for example).

* Chromosomes are responsible for cellular reproduction as described by the 3rd tenet of Cell Theory (cells can only reproduce from other like cells to make cells of the same kind).



* Chromosomes come in pairs. There are 23 chromosome pairs in the human cell.

M I T O C H O N D R I A

N U C L E U S

ORGANELLES OF THE CELL
(CELL MACHINERY)

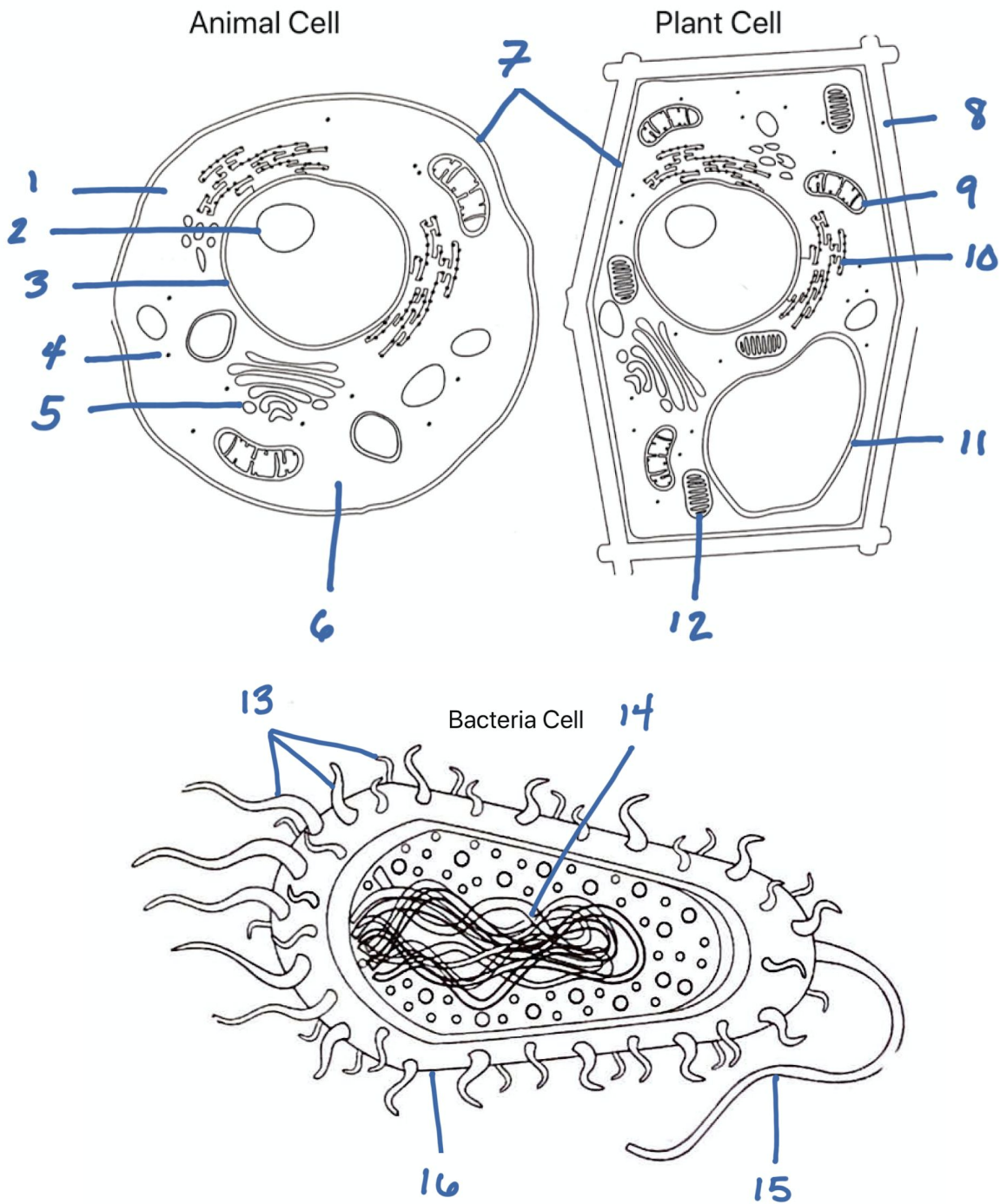
M E M B R A N E

C Y T O P L A S M

Tuesday, May 19

- Metamorphosis of Plants Poem!
 - Practice filling out the Animal, Plant, and Bacteria Cell Anatomies *without using your notes!*
 - Work On Your Cell Model Project.
- ◆ Refer to last week's packet for instructions and ideas!

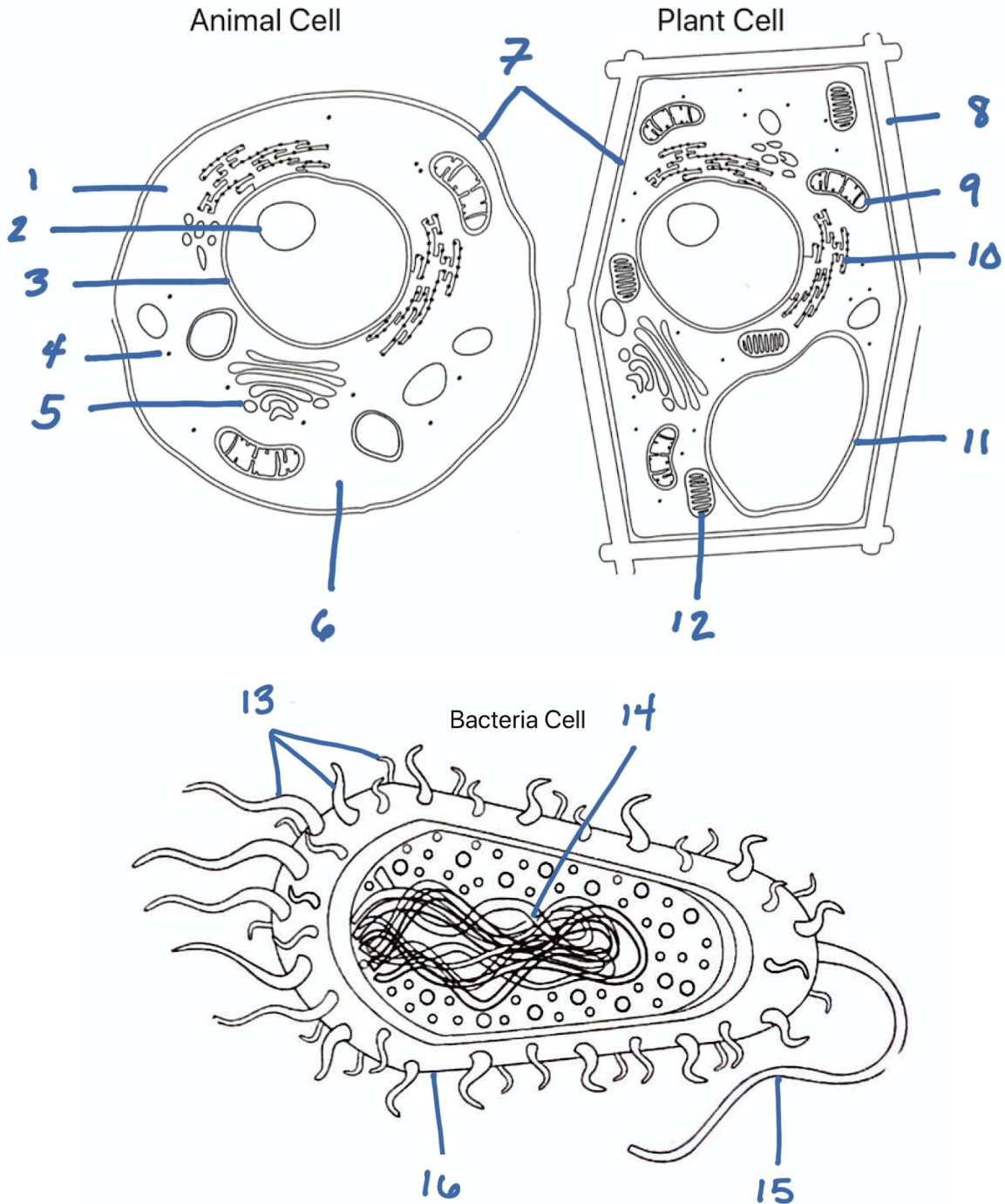
Cell Anatomies



Wednesday, May 20

- Metamorphosis of Plants Poem!
- Practice filling out the Animal, Plant, and Bacteria Cell Anatomies *without using your notes!*
- Continue Working On Your Cell Model Project

Cell Anatomies



Thursday, May 21

→ Metamorphosis of Plants Poem!

→ Fill out the Animal, Plant, and Bacteria Cell Anatomies *without using your notes!*

→ Add Finishing Touches to Cell Model Project. Be prepared to present at office hours!

Cell Anatomies

