NAME(S)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DUE DATE\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Cells and Cell Organelles Choice Board Assignment

Column 1 – Vocabulary. Choose ***ONE*** of the following tasks to complete. Each task is worth ***15 points***.

Vocabulary Terms: prokaryote, eukaryote, organelle, nucleus, mitochondria, chloroplast, cell membrane, cell wall , ribosomes, endoplasmic reticulum, golgi apparatus, lysosomes, vacuole, cytoplasm, centriole

1. Vocabulary flashcards. Create flashcards for each of the vocabulary terms above. The definitions need to be in your own words, not copied from the glossary.
2. Create a crossword puzzle using the definitions of each term as the clue.
3. Create a 15 questions quiz for the vocabulary terms. The quiz should include matching and multiple choice questions.

Column 2 –Each task is up to a ***total of 50 points***.

Vocabulary Terms: nucleus, mitochondria, chloroplast, cell membrane, cell wall, ribosomes, smooth endoplasmic reticulum, rough endoplasmic reticulum, golgi apparatus, lysosomes, centriole

1. Frayer Models (Choose 5 organelles that you are least familiar with). Follow the Frayer model outline below the vocabulary terms above.

|  |  |
| --- | --- |
| Describe the *Role or Function* of the organelle within the cell  Organelle Name | Create a tweet from the perspective of the organelle describing how you help the cell maintain homeostasis (140 characters or less) |
| Illustrations – draw the actual picture of the organelle AND a picture that helps you remember the function of the organelle. | Explain what would happen to the cell if the organelle was removed from the cell or was not working properly in the cell. |

1. Facebook Organelles (Choose 5 organelles that you are least familiar with). Create a Facebook page for the organelles listed above. The following information needs to be included on the page you create. Be creative and appropriate.
   1. A profile picture
   2. Profile information such as:
      1. Where you work (plant cell, animal cell or both)
      2. Relationship status
      3. Job or function within the cell
      4. Friends (other organelles that you work closely with
      5. Any relationships to the macromolecules
   3. A wall that includes posts that other organelles would write about you or say.
2. Compare and contrast plant and animal cells using a venn diagram **(25 points)**. Also compare and contrast eukaryotic cells and prokaryotic cells using a venn diagram. Be sure to include organelles present, number of cells and examples. **(25 points)**

Column 3. Analogies. Choose ONE of the following tasks to complete. This task should be completed on a large sheet of paper.

1. Castle analogy. This option can earn you up to **50 points**
   1. Copy and complete the table below on a large separate sheet of paper. **10 points**

|  |  |  |
| --- | --- | --- |
| Analogy | Organelle | Reasoning |
| Wall around the kingdom |  |  |
| Lagoon |  |  |
| Garden |  |  |
| Horse drawn carriages |  |  |
| King |  |  |
| Castle |  |  |
| Roads |  |  |
| Windmill |  |  |
| Atmosphere |  |  |
| Castle walls |  |  |
| Machine Shops |  |  |

* 1. Create a detailed and colorful picture that represents the analogy. Be sure to label each part of the diagram that corresponds to an organelle. **20 points**
  2. Write a short story or narrative that explains the analogy. Use the classroom “Widget” example as your outline. You should use complete sentences to show how the Castle is analogous to a cell. **20 points**

1. Create your own analogy. This option can earn you up to **50 points**
   1. Copy and complete the table below on a large separate sheet of paper. **10 points**

|  |  |  |
| --- | --- | --- |
| Analogy | Organelle | Reasoning |
|  | Cell membrane |  |
|  | Mitochondria |  |
|  | Ribosomes |  |
|  | Cytoplasm |  |
|  | Nucleus |  |
|  | Golgi apparatus |  |
|  | Endoplasmic Reticulum |  |
|  | Vacuole |  |
|  | Your choice |  |

* 1. Create a detailed and colorful picture that represents the analogy. Be sure to label each part of the diagram that corresponds to an organelle. **20 points**
  2. Write a short story or narrative that explains the analogy. Use the classroom “Widget” example as your outline. You should use complete sentences to show how your analogy compares to a cell. **20 points**

1. Choose **ONE** of the following organelles to research.

Mitochondria

Lysosomes

Golgi apparatus

Endoplasmic reticulum

Nucleus

Cell (plasma) membrane

Your research of the organelle should include the following topics:

* 1. Functions of your organelle, when properly working. **(5 points)**
  2. Do any other organelles directly depend on your organelle? **(5 points)**
  3. What genetic diseases or disorders can occur if your organelle is not working properly? **(10 points)**
  4. What causes the organelle to not function properly (mutations, environmental factors, etc.)? **(10 points)**
  5. Are there any ways to correct the dysfunctional organelle? **(10 points)**
  6. How common is it to find the organelle not working properly? **(5points)**
  7. Anything else you find important or interesting ☺ **(5 points)**

TASK: Create an informative brochure, explaining the information above, from the doctor’s point of view. This should be something that could be found at a doctor’s office and given to parents/guardians of children that are affected by the dysfunction of an organelle. The brochure should be accurate and explain the science but put in terms understood by the general population. **(Earn up to 50 points total)**

NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_DUE DATE **Wednesday 1/27 at the end of class**

Organelle Choice Board.

Complete one task in each column. We will choose one task on your board for you. This assignment will be taken out of 115 total points.

See the attached sheet for task descriptions.

Turn this form in with your assignment on Wednesday.

|  |  |  |
| --- | --- | --- |
| COLUMN 1 (15 points) | Column 2 (50 points) | Column 3 (50 points) |
| Flash cards | Frayer models | Castle Analogy |
| Crossword puzzle with answer document | Facebook pages | Create your own analogy |
| Multiple choice quiz with answer key | Compare and contrast (2 Venn diagrams) | Organelle Dysfunction Brochure |