

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**DIRECTIONS:** As you read in Zoe’s intro, Zoe is a single-celled organism with various components. Read about the purpose of each of Zoe’s components and record them in the table below. DO NOT copy word for word.  Summarize each organelle’s purpose in one sentence or less!

|  |  |
| --- | --- |
| **ORGANELLE** | **PURPOSE** |
| Mitochondria |  |
| Flagellum |  |
| Cell Wall |  |
| Cytosome |  |

STOP AFTER ROUND 1 AND ANSWER THE FOLLOWING QUESTIONS

How many pieces of food did you collect in Round 1? \_\_\_\_\_

In your opinion, how well did you collect food?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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What was easy or hard during round 1?

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**DIRECTIONS:** Complete the table on the next page based on your progress through Zoe’s evolution.

|  |  |  |
| --- | --- | --- |
| **Year** | **Population Size** | **Mutation** |
| 1 | 100 |  |
| 50,000 |  |  |
| 100,000 |  |  |
| 150,000 |  |  |
| 200,000 |  |  |
| 250,000 |  |  |
| **300,000** |  |  |
| 350,000 |  |  |
| 400,000 |  |  |
| 450,000 |  |  |
| **500,000** |  |  |
| 550,000 |  |  |
| 600,000 |  |  |
| 650,000 |  |  |

Which of Zoe’s organelle’s do you think is the most useful? Explain your answer using specific examples from your experience playing the game.

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**DIRECTIONS:** After many, many years, Zoe’s species has evolved!  Read about the purpose of each of Berta’s new components and record them in the table below. DO NOT copy word for word.  Summarize each organelle’s purpose in one sentence or less!

|  |  |
| --- | --- |
| **ORGANELLE** | **PURPOSE** |
| Wings |  |
| Tail |  |
| Beak |  |
| Feather Colors |  |
| Eyes |  |

**DIRECTIONS:** Complete this table based on your progress through Berta’s evolution.

|  |  |  |
| --- | --- | --- |
| **Year** | **Population Size** | **Mutation** |
| 1,000,050,000 |  |  |
| 1,000,100,000 |  |  |
| 1,000,150,000 |  |  |
| **1,000,200,000** |  |  |
| 1,000,250,000 |  |  |
| 1,000,300,000 |  |  |
| 1,000,350,000 |  |  |
| **1,000,400,000** |  |  |
| 1,000,450,000 |  |  |
| 1,000,500,000 |  |  |
| 1,000,550,000 |  |  |
| 1,000,600,000 |  |  |
| 1,000,650,000 |  |  |

**DIRECTIONS:** Answer the following questions based on your experience with Zoe’s Evolution.

How did the environments of both Zoe and Berta influence the changes with their bodies? Explain your answer using specific examples from your experience playing the game.

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What body parts/organelles were similar between Zoe and Berta? Describe at least two.

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How do beneficial mutations (longer tail, larger mitochondria, etc) help the populations like Zoe’s and Berta’s survive?

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