**# \_\_\_\_\_\_\_**

**Cells: How Living Things Grow**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Part 1: Sam’s Puppy**

Sam brought home a tiny puppy. His puppy grew and four weeks later, the puppy had grown to twice its original size. Which answer best explains why Sam’s puppy got bigger?

1. The number of cells in the puppy’s body increased.
2. The puppy’s body absorbed the food it ate.
3. The puppy’s cells grew larger as it got older.
4. Parts of the puppy’s body stretched out more.

Explain your answer. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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**Part 2: Cell Division**

Cell division involves the distribution of identical genetic material, DNA, to two daughter cells. What is most remarkable is the accuracy with which the DNA is passed along without dilution or error, from one generation to the next. Scientists have agreed that the process of cell division can be described in stages. Use your pages 80-85 C to complete the chart below.

|  |  |  |
| --- | --- | --- |
| **Stage** | **What It Looks like** | **What is happening** |
| Interphase |  |  |

**Mitosis**

|  |  |  |
| --- | --- | --- |
| **Stage** | **What it looks like** | **What is happening** |
| Prophase |  |  |
| Metaphase |  |  |
| **Stage** | **What it looks like** | **What is happening** |
| Anaphase |  |  |
| Telophase |  |  |
| Cytokinesis |  |  |

**Mitosis** continued

**Part 3: Making Connections**

1. For what reasons/purposes do you think cell division is important? Explain each.
2. Where is the genetic material of a cell contained? Describe how genetic material in eukaryotic cells is organized.
3. How is the genetic material in two daughter cells similar to the genetic material in a parent cell?