**What do I need in order to survive?**

**The “Egg-speriment”**

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Hour \_\_\_\_\_ Date \_\_\_\_\_\_\_\_**

**Data Sheet:** Directions were followed; proper measurements were recorded, qualitative observations were recorded, data sheet is neat and organized (data table has been inserted into lab report following the procedure). **\_\_\_\_\_\_/15**

**Graph**: Bar graph made on the computer, graph corresponds with data sheet, has a title, both axes are labeled accurately. Graph is inserted just after the data table in report.  **\_\_\_\_\_\_/10**

**Report:** **Background information** explains the purpose of the cell membrane. *Diffusion and osmosis* are used and defined while describing the results of the carrot activity. The reader clearly knows why and what changes occurred to the carrot. Your **data analysis** summarizes the results of the labs and includes *specific data (measurements)* and *explanation* of changes to the egg. The **conclusion** answers the original question of how does a solution effect the movement of water across an egg’s cell membrane. A statement about whether your *hypothesis was supported or not supported* by your data is included with an explanation. You were able to describe improvements or extensions to the method that would benefit the scientific investigation – what would you do differently next time and why.  **\_\_\_\_\_\_/25**

**Total score** **\_\_\_\_\_\_\_/50**

**Criterion A: Knowing and understanding \_\_\_\_\_**

**Criterion C: Processing and Evaluating \_\_\_\_\_**

Students are expected to:

* Outline scientific knowledge
* Apply scientific knowledge and understanding to solve problems set in familiar situations and suggest solutions to problems set in unfamiliar situations.
* Interpret information to make scientifically supported judgements.

|  |  |
| --- | --- |
| **CRITERION A: *KNOWING AND UNDERSTANDING*** | |
| **Level of Achievement** | **Descriptor** |
| 0 | I did not reach level 1. |
| 1-2 | I recalled the definition of diffusion. I **selected** scientific knowledge and understanding to **suggest solutions** to problems set in **familiar** situations. I **applied** information to **make judgements with limited success**. |
| 3-4 | I was able to **state** the definition of diffusion and osmosis. I was able to apply scientific understanding to solve problems in familiar situations. I was able to apply scientific information by identifying the cause of some of the changes to the egg. I provided an explanation to show my understanding. |
| 5-6 | I was able to outline diffusion and osmosis. I was able to **apply** my knowledge and understanding to **solve problems** set in **familiar situations and suggest solutions** to problems set in unfamiliar situations**.** I was able to **apply** information to **make scientifically supported judgements**. |
| 7-8 | I was able to **describe** diffusion and osmosis. I was able to **apply** my knowledge and understanding to **solve problems** in **familiar and** **unfamiliar situations.** I was able to analyze information to **make scientifically supported judgements**. |

Students should be able to:

* Present collected and transformed data
* Interpret and outline results using scientific reasoning
* Describe improvements or extensions to the method

|  |  |
| --- | --- |
| **CRITERION C: *PROCESSING AND EVALUATING*** | |
| **Level of Achievement** | **Descriptor** |
| 0 | I did not reach level 1. |
| 1-2 | I **collected and presented** data in numerical and visual forms. I **interpreted** data**.** I **stated** improvements or extensions to the method that would benefit scientific investigation **with limited success**. |
| 3-4 | I **correctly collected and presented** data in numerical and visual forms. I **accurately interpreted** data and **outlined** results**.** I stated improvements or extensions to the method that would benefit scientific investigation. |
| 5-6 | I **correctly collected, organized and presented** data in numerical and visual forms. I **accurately interpreted** data and **outlined** results **using scientific reasoning.** I **outlined** improvements or extensions to the method that would benefit scientific investigation. |
| 7-8 | I **correctly collected, organized, transformed and presented** data in numerical and visual forms. I **accurately interpreted** data and **outlined** results **using correct scientific reasoning.** I **described** improvements or extensions to the method that would benefit scientific investigation. |