**Egg Osmosis Inquiry Lab Report Rubric**

*Learning Objective: I can plan and conduct a scientific investigation to provide evidence that feedback mechanisms maintain homeostasis.*

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| --- | --- | --- | --- | --- | --- |
| **Section** | **Mastery (4.5-5.0)** | **Superior (3.5-4.4)** | **Proficient (2.5-3.4)** | **Novice (1.5-2.4)** | **Insufficient (0-1.4)** |
| **Introduction** *Homeostasis**Cell membrane**Osmosis* | Detailed description of experiment overview. Includes important vocabulary words and detailed explanation of the structure and function of cell membranes and the importance of osmosis in maintaining homeostasis.  | Adequate overview of the experiment. Includes important vocabulary words to describe how cell membranes maintain homeostasis.  | Simple overview of the experiment. Includes some vocabulary words and simple explanation of how the structure of cell membranes maintain homeostasis.  | Simple overview of experiment. Lacks explanation of structure and function of the cell membrane.  | Introduction is absent or completely off topic.  |
| **Hypothesis***3 hypothesis including 3 different solutions* | Includes all three hypotheses and hypothesis is in the correct “If… then… because…” format and includes the independent and dependent variables. Hypothesis is directional in its prediction and detailed in the explanation.  | Hypothesis is in the correct format and includes both variables, and is directional in its prediction. Lacks some detail in its explanation.  | Hypothesis has both variables but lack significant description in its “because” section.  | Hypothesis contains one variable and is written in the wrong format. May not include all three hypotheses. | Hypothesis is absent.  |
| **Data Analysis***Pictures before and after of eggs**Includes numerical data and analysis* | Data is recorded in a detailed and organized manner. Photos are clear and show clear differences in eggs before and after experiment. All aspects of the data table are recorded, specific, and show analysis of how egg changed.  | Most aspects of the data table are recorded in a detailed manner. Photos present that show eggs before and after experiment. Lacking analysis of numerical data.  | Most aspects of the data table are recorded but are unorganized or messy. Most photos present that show eggs before and after the experiment. Lacks analysis of numerical data.  | Data table is incomplete, messy, unorganized or difficult to read. No photos included in lab report. No analysis presented.  | Results aren’t recorded, data table missing, no analysis of what happened.  |
| **Conclusion- Vocabulary***Diffuse/diffusion**Hypotonic**Hypertonic**Isotonic**Solution**Solvent**Solute**Concentration* | All conclusion questions are answered thoughtfully and scientifically, using all of the vocabulary words and descriptive data to support conclusions. Student makes significant connections to real life situations and applies content knowledge to fully explore the topic. Applies additional information found during individual research to develop personal understanding of subject.  | All conclusion questions are answered in a satisfactory manner and includes most of the vocabulary words and data to support conclusions. Students makes limited connections to real life situations. Some research is done to support application of subject.  | Questions are answered, but are brief and provide little insight beyond the basics of the experiment. Some vocabulary words are used and few connections are made to real life situations. No research was done to explore the topic.  | Not all conclusion questions are answered or all questions are given unsatisfactory answers. No further discussion is provided beyond the basics of the experiment. Few vocabulary words are used.  | No effort is made to answer the conclusion questions or answers include incorrect answers.  |
| **Conclusion- Cause and effect language** *Due to**Because**Therefore**Caused**Resulted in**Led to**Consequently* | Student explores the topic with fluent range of academic language and consistently writes in a formal style with sentence variety. Variety in sentence structure is shown in conclusion and hypotheses. *Explores descriptive language* ***beyond*** *sentence frames with an emphasis on words like due to, resulted in, led to, consequently, because, therefore*, etc.  | Student displays sound use of a variety of academic words and phrases and generally writes in a formal style. *Explores descriptive language using sentence frames and including more variety of their choice.*  | Student uses some academic language but may disregard some of the more formal stylistic choices; may repeat familiar academic words too often. *Uses descriptive words that are limited to sentence frames.*  | Student neglects or misuses academic language, which detracts from the formal style. *Attempts using sentence frames, or uses incorrectly or inappropriately.*   | Student uses simple language and writing is choppy and difficult to understand. *No attempt to use language frames or academic language.*  |

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