**Investigating the Effect of Solute Concentration on Diffusion**

* Complete the diffusion experiment. ( /10)
* Produce a graph that depicts the effect of solute concentration on the mass of potato cells. ( /10)
* Write a CEAR paragraph to explain the results of your experiment (*use a graphic organizer to support your work if needed*): ( /14)
  + Develop a **claim** that addresses the research question, “H*ow does solute concentration affect diffusion in plant cells?”*
  + Support your claim with meaningful **evidence**. Include at least 3 pieces of data-driven evidence.
  + **Analyze** the evidence by describing what the data shows.
  + Use scientific information and concepts to explain the **reason** why this evidence and claim make sense.

TOTAL ( /34)

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|  | **Self -Assessment** | **3** | **2** | **1** | **0** |
| **Claim**-A statement or conclusion that answers the original question or problem |  |  | Makes an accurate and complete claim that is relevant to the original question or problem. | Makes an accurate but vague or incomplete claim that does not fully relate to the original question or problem. | Does not make a claim or makes an inaccurate claim that is not relevant to the original question or problem. |
| **Evidence**-Data that supports the claim. The data needs to be appropriate and sufficient to support the claim |  | Provides multiple pieces of evidence that clearly and effectively support the claim. Evidence includes relevant, specific quantitative and/or qualitative data. | Provides some relevant quantitative &/or qualitative evidence that clearly and effectively support the claim. | Makes general statements but does not include specific data. | Does not provide evidence or only provides inappropriate evidence. |
| **Analysis**-A **description** of what the data shows. |  | Clearly and accurately **describes** what the evidence shows (does not explain why). Describes all relevant and important trends in the evidence. | Clearly and accurately **describes** what some of the evidence shows (does not explain why). Describes some relevant and important trends in the evidence. | Makes a general description about the data, but does not describe specific, important trends. | Does not describe the data or does not describe relevant data. |
| **Reasoning** - A justification that connects the evidence to the claim. It shows **why** the data count as evidence by using appropriate scientific principles |  | Provides a clear explanation of why the evidence links to the claim. Reasoning is supported with in-depth appropriate, accurate scientific principles that explain how and why the evidence supports claim. | Provides an accurate explanation of why the evidence links to the claim. Reasoning is supported with appropriate, accurate scientific principles, but lacks depth and needs more elaboration. | Reasoning does not clearly link claim to evidence. Limited relevant scientific principles are discussed. | Does not discuss the connection between the evidence and claim. |
| **Writing** - Style, format, grammar, and organization of the overall response. |  |  | Scientific vocabulary is used appropriately and accurately. Appropriate science tone is used (impersonal, passive). Organization of response is logical (CER). There are no spelling, grammar, or punctuation errors. | Few scientific terms are used appropriately and accurately. Tone is not scientific. Response is not organized in a logical order. There are numerous spelling, grammar, or punctuation errors. | Prompt is not answered. It is extremely difficult to understand the response. |
| **Editing** - Feedback and edits from a peer, family member, or educator. |  |  | Response is edited and includes constructive feedback. Edits are included in revisions. | Response is edited, but lacks valuable feedback and/or feedback was not included in revisions. | Response is not edited. |