STEM NOTEBOOK

**Chemical Interactions**

Investigation 1: Mystery Substance



BIG QUESTION: How can careful observations and reasoning skills be used to identify a mystery substance?

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| What Do You See? |
| What Do You Think? |
| What Do You Think Now? |

OBSERVATIONS ORGANIZER

*Observations of: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_*

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| ***Think of properties you can see*** *such as size, shape, color, lines, texture, pattern, behavior…* | I observed… |
| ***Think of the other senses*** *of smell, sound, touch, and perhaps taste* | I noticed… |
| *Connect it with something that you already know.* | It reminds me of… |
| *Add more detail to support your statement.* | This is so because… |
| *Be curious and ask questions you could investigate.* | I am curious about… I wonder what would happen if… |

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| FOCUS QUESTION: How can water help us to identify an unknown substance? |
| PLAN | DATA |
| Explanation: |

WORD BANK/CONTENT

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| FOCUS QUESTION: What information about a material can I obtain from labels and careful observations? |
| OBSERVATIONS:

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| Chemical Name | Chemical Formula | Common Name | Observations |
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| EXPLANATIONS: What patterns do you see? |

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| FOCUS QUESTION: What observations can be made when materials are combined? |
| OBSERVATIONS:

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| --- | --- | --- | --- |
| Well # | Substance 1 | Substance 2 | Results |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 9 |  |  |  |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  |  |

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| EXPLANATION: |

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| FOCUS QUESTION: How can our previous observations and our reasoning skills be used to identify the mystery substance? |
| OBSERVATIONS:

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| --- | --- | --- | --- |
| Well # |  |  |  |
| 1 |  |  |  |
| 2 |  |  |  |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |

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| SUMMARY OF PROCESS: |
| CLAIM: |
| EVIDENCE: |

WORD BANK/CONTENT

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| BIG QUESTION: |
| CLAIMI claimI claim I claim | EVIDENCEI know this becauseI know this becauseI know this because |