**Name:**

**Period:**

**Seat #:**

**A student chewed 4 pieces of an unknown gum at a time, and obtained the following data.   
Use it to answer all the questions below.**

1. Fill in the missing boxes in their data table.
2. Is the unknown gum trident? Write a “Claim, Evidence, Reasoning” to justify your answer. Use what you learned about the gums in the lab to do this.
3. Calculate how many molecules of sugar there were in this unknown gum. Show all work, units, etc.
4. Explain how the given source of error would affect the amount of sugar determined.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mass of  EMPTY CUP | Mass of  CUP+ UNCHEWED  GUM | | | Mass of  UNCHEWED  GUM | Mass of  CUP+CHEWED  GUM | | Mass of  CHEWED GUM | Mass of SUGAR in the gum | Mass of SUGAR **per piece of gum** |
| 2.01 g | 10.98 g | | |  | 2.68 g | |  |  |  |
| **WRITE A CLAIM:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE EVIDENCE:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE REASONING:** | | | | | | | | | |
|  | | | | | | | | | |
| **What is the molar mass of the sugar, C12H22O11? (Show your work)** | | |  | | | | | | |
| **Calculating the molecules of sugar in the unknown gum.** | | | | | | | | | |
|  | | | | | | | | | |
| **Source of Error** | | **Makes sugar amount look too high or too low?** | | | | **Why?** | | | |
| *Student didn’t chew gum long enough* | |  | | | |  | | | |

**Name:**

**Period:**

**Seat #:**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mass of  EMPTY CUP | Mass of  CUP+ UNCHEWED  GUM | | | Mass of  UNCHEWED  GUM | Mass of  CUP+CHEWED  GUM | | Mass of  CHEWED GUM | Mass of SUGAR in the gum | Mass of SUGAR **per piece of gum** |
| 2.25 g | 11.05 g | | |  | 2.96 g | |  |  |  |
| **WRITE A CLAIM:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE EVIDENCE:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE REASONING:** | | | | | | | | | |
|  | | | | | | | | | |
| **What is the molar mass of the sugar, C12H22O11? (Show your work)** | | |  | | | | | | |
| **Calculating the molecules of sugar in the unknown gum.** | | | | | | | | | |
|  | | | | | | | | | |
| **Source of Error** | | **Makes sugar amount look too high or too low?** | | | | **Why?** | | | |
| *Student got some extra saliva into cup* | |  | | | |  | | | |

**Name:**

**Period:**

**Seat #:**

**A student chewed 2 pieces of an unknown gum at a time, and obtained the following data.   
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|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mass of  EMPTY CUP | Mass of  CUP+ UNCHEWED  GUM | | | Mass of  UNCHEWED  GUM | Mass of  CUP+CHEWED  GUM | | Mass of  CHEWED GUM | Mass of SUGAR in the gum | Mass of SUGAR **per piece of gum** |
| 2.2 g | 7.85 g | | |  | 3.05 g | |  |  |  |
| **WRITE A CLAIM:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE EVIDENCE:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE REASONING:** | | | | | | | | | |
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|  | | | | | | | | | |
| **Source of Error** | | **Makes sugar amount look too high or too low?** | | | | **Why?** | | | |
| *Student didn’t chew gum long enough* | |  | | | |  | | | |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mass of  EMPTY CUP | Mass of  CUP+ UNCHEWED  GUM | | | Mass of  UNCHEWED  GUM | Mass of  CUP+CHEWED  GUM | | Mass of  CHEWED GUM | Mass of SUGAR in the gum | Mass of SUGAR **per piece of gum** |
| 2.5 g | 8.06 g | | |  | 3.48 g | |  |  |  |
| **WRITE A CLAIM:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE EVIDENCE:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE REASONING:** | | | | | | | | | |
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|  | | | | | | | | | |
| **Source of Error** | | **Makes sugar amount look too high or too low?** | | | | **Why?** | | | |
| *Student got some extra saliva into cup* | |  | | | |  | | | |

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**Period:**

**Seat #:**

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| Mass of  EMPTY CUP | Mass of  CUP+ UNCHEWED  GUM | | | Mass of  UNCHEWED  GUM | Mass of  CUP+CHEWED  GUM | | Mass of  CHEWED GUM | Mass of SUGAR in the gum | Mass of SUGAR **per piece of gum** |
| 2.05 g | 9.13 g | | |  | 2.95 g | |  |  |  |
| **WRITE A CLAIM:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE EVIDENCE:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE REASONING:** | | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Mass of  EMPTY CUP | Mass of  CUP+ UNCHEWED  GUM | | | Mass of  UNCHEWED  GUM | Mass of  CUP+CHEWED  GUM | | Mass of  CHEWED GUM | Mass of SUGAR in the gum | Mass of SUGAR **per piece of gum** |
| 2.4 g | 9.75 g | | |  | 3.15 g | |  |  |  |
| **WRITE A CLAIM:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE EVIDENCE:** | | | | | | | | | |
|  | | | | | | | | | |
| **WRITE THE REASONING:** | | | | | | | | | |
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