**Building Polymers Activity: Data Tables**

**Biopolymers: Building Blocks of Life Worksheet**

 Student Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Class/Period \_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_

**Activity 1 Data Table: Building Straight-Chain Polymers**

|  |  |  |
| --- | --- | --- |
| **Chain Length Data** | **Value** | **Unit** |
| Average (mean)  |  | Monomers/chain |
| Minimum |  | Monomers |
| Maximum  |  | Monomers |
| Median |  | Monomers |

Calculate the mean by this formula,

$$Mean= \frac{Total number of monomers in all chains}{Number of chains}=\frac{ \\_\\_\\_\\_\\_\\_\\_\\_ monomers }{\\_\\_\\_\\_\\_\\_\\_\\_ chains}$$

**Activity 2 Data Table: Building 2-D Polymers with Bends**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Number of Chains** | **0 bends** | **1 bend** | **2 bends** | **3 bends** | **>3 bends** |
| **Dimer (2-long)** |  |  |  |  |  |
| **Trimer (3-long)** |  |  |  |  |  |
| **Tetramer (4-long)** |  |  |  |  |  |
| **Pentamer (5-long)** |  |  |  |  |  |
| **Hexamer (6-long)** |  |  |  |  |  |
| **Heptamer (7-long)** |  |  |  |  |  |
| **Octamer (8-long)** |  |  |  |  |  |
| **Nonamer (9-long)** |  |  |  |  |  |
| **Decamer (10-long)** |  |  |  |  |  |
| **Polymer (>10-long)** |  |  |  |  |  |

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**Building Polymers Activity: Data Analysis and Discussion**

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**Questions**

1. **In your data, do the median and mean have the same value? Why do you think that happened?**
2. **List three differences between the chains you made in Activity 1 and Activity 2.**
3. **Based on your data, is the median or mean the most important number to describe your collection of chains? Explain your answer.**