|  |
| --- |
| ***Longnose Butterfly Fish Suction Feeding*** |
| Time 0 | **Cone A** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 | N/A |  |
| b | 14.9 |
| **Cone B** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 | N/A |  |
| c | 31.2 |
| d | 1.1 |
| e |  |
| ***Volume of feeding mechanism before expansion (t0)*** |  |
| Time 1 | **Cone A** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 | N/A |  |
| b | 14.9 |
| **Cone B** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 |   |  |
| c | 31.6 |
| d | 1.1 |
| e |  |
| ***Volume of feeding mechanism at maximum expansion (t1)*** |   |
| ***Volume change during feeding event (***$ mm^{3}$***)*** |  |
| ***Duration of feeding event (sec)*** | 0.022 |
| ***Area of mouth at maximum expansion (t1) (***$ mm^{2}$***)*** |   |
| ***Velocity of water flow into mouth (mm/sec)*** |  |
|  |  |
| ***Longnose Butterfly Fish Suction Feeding Answer Key*** |
| Time 0 | **Cone A** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 | N/A | 390.1 |
| b | 14.9 |
| **Cone B** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 | N/A | 1036.0 |
| c | 31.2 |
| d | 1.1 |
| e | 8.8 |
| ***Volume of feeding mechanism before expansion (t0)*** | 1426.1 |
| Time 1 | **Cone A** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 | N/A | 390.1 |
| b | 14.9 |
| **Cone B** | **Length (mm)** | **Area (**$mm^{2}$**)** | **Volume (**$mm^{3}$**)** |
| a | 5.0 |  3.8 | 1049.3 |
| c | 31.6 |
| d | 1.1 |
| e | 8.9 |
| ***Volume of feeding mechanism at maximum expansion (t1)*** |  1439.4 |
| ***Volume change during feeding event (***$ mm^{3}$***)*** | 13.3 |
| ***Duration of feeding event (sec)*** | 0.022 |
| ***Area of mouth at maximum expansion (t1) (***$ mm^{2}$***)*** |  3.8 |
| ***Velocity of water flow into mouth (mm/sec)*** | 158.8 |
|  |  |