

## Attachment A: Mystery of the Missing Bug Worksheet

| <b>Group</b>                       | <b># of Individuals</b> | <b>Tolerance Value</b> |
|------------------------------------|-------------------------|------------------------|
| <b>Sensitive to pollution</b>      |                         | <b>1</b>               |
| <b>Semi-sensitive to pollution</b> |                         | <b>4</b>               |
| <b>Semi-tolerant of pollution</b>  |                         | <b>6</b>               |
| <b>Tolerant of pollution</b>       |                         | <b>9</b>               |
| <b>Total</b>                       |                         | <b>X</b>               |

**Multiply the number of individuals in each group by their tolerance values.**

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**What is the sum of the four products?** \_\_\_\_\_

**Divide the sum of the four products by the total number of individuals in your sample.** \_\_\_\_\_

**This number is the Biotic Index of your sample site.**

**Compare the biotic index of your sample site with the chart below.**

| <b>Biotic Index</b> | <b>Water Quality</b> | <b>Degree of Pollution</b>          |
|---------------------|----------------------|-------------------------------------|
| <b>0.00-3.50</b>    | <b>Excellent</b>     | <b>No apparent pollution</b>        |
| <b>3.51-4.50</b>    | <b>Very Good</b>     | <b>Slight pollution</b>             |
| <b>4.51-5.50</b>    | <b>Good</b>          | <b>Some pollution</b>               |
| <b>5.51-6.50</b>    | <b>Fair</b>          | <b>Fairly significant pollution</b> |
| <b>6.51-7.50</b>    | <b>Fairly poor</b>   | <b>Significant pollution</b>        |
| <b>7.51-8.50</b>    | <b>Poor</b>          | <b>Very significant pollution</b>   |
| <b>8.51-10.00</b>   | <b>Very poor</b>     | <b>Severe pollution</b>             |

**What is the water quality of your sample site?**

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**Which students in your class have the sample of the most polluted site?**

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