

# Decoding Diatoms

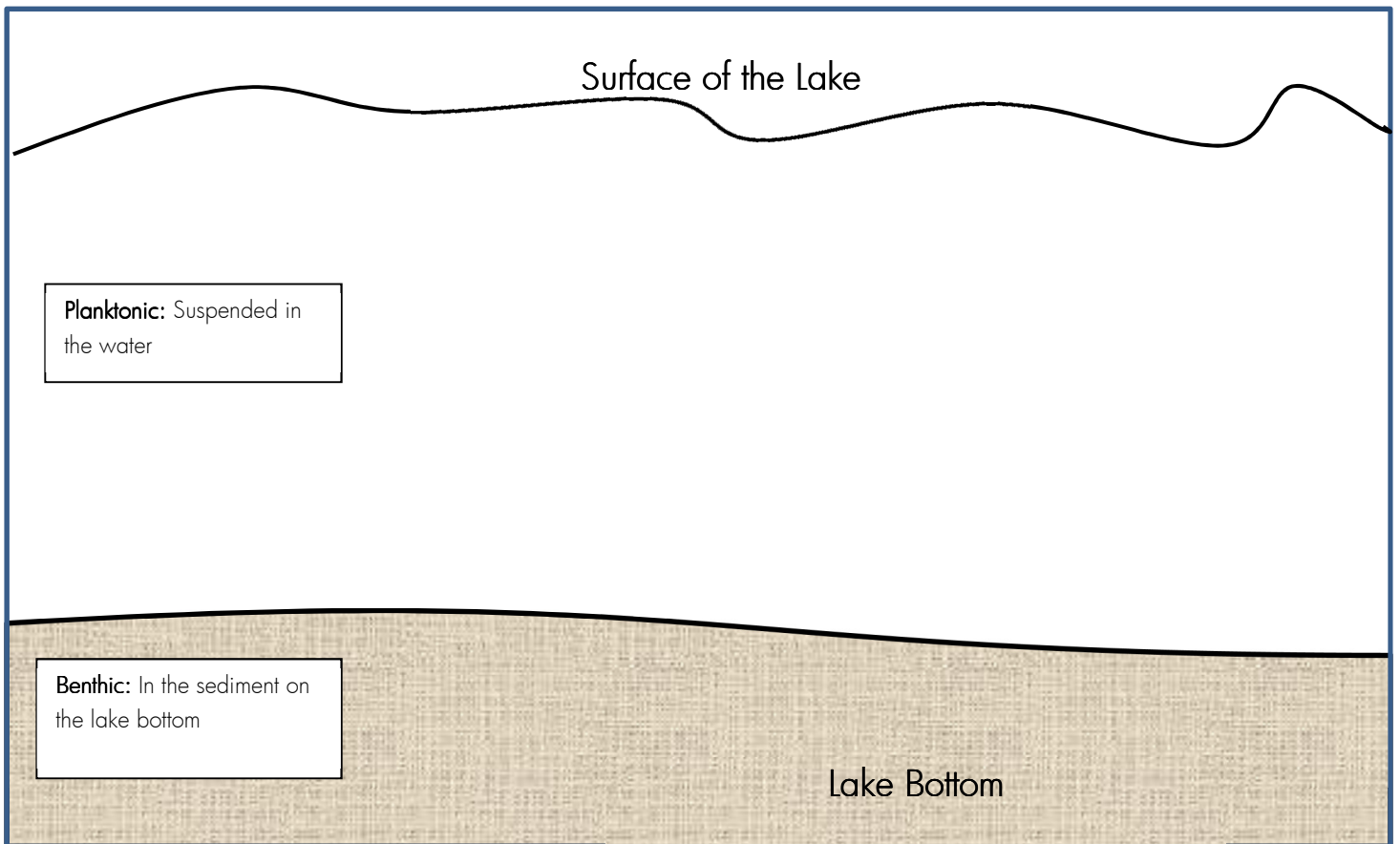
Name: \_\_\_\_\_

Core Layer investigated: \_\_\_\_\_

1. Use the species cards to identify the diatoms present in your layer

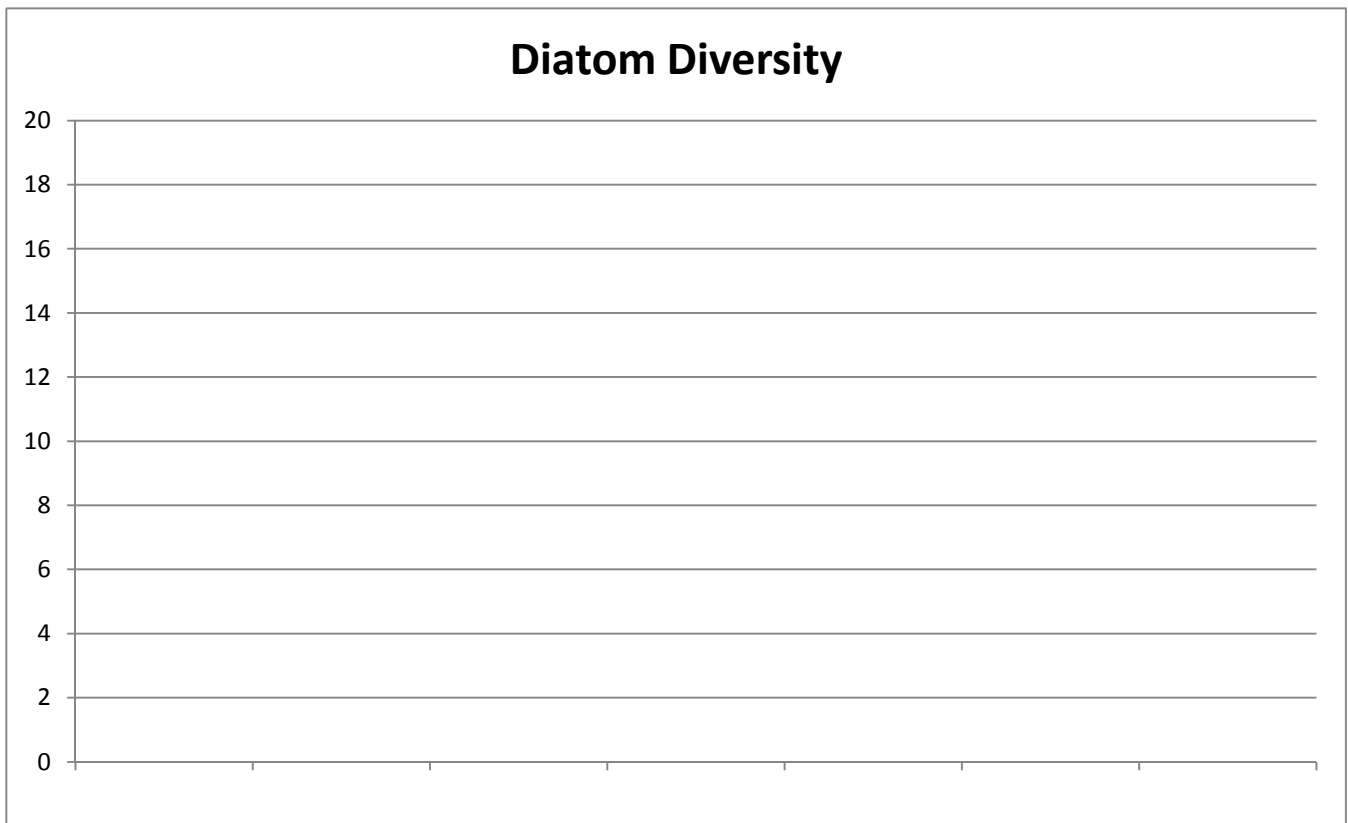
Diatom Present	Habitat	What aides growth	What limits growth?

2. Draw and label each diatom where it would have lived in the lake.



Are most of your diatoms Benthic or Planktonic? (circle one)

3. Graph the quantity of each diatom. Be sure to label the axes.



4. Think and respond

Which species of diatoms has the great number of individuals present? What conditions are necessary to help them grow?

Which species of diatoms has the fewest individuals present? What conditions prevent them from growing?

## 5. Compare and Conclude

### Lake George Diatom Research

1700-1850	Low Aulacoseira Many Raphids Benthic dominant (Staurosira)	<ul style="list-style-type: none"> <li>• Before human settlement</li> <li>• Natural conditions of clear water, lots of benthic habitat of macrophytes and sand</li> </ul>
1850-1900	Increase Staurosira  Increase raphids	<ul style="list-style-type: none"> <li>• Deforestation, 1898 dam built – more sand (more habitat)</li> <li>• Increased macrophytes (nutrients)</li> </ul>
1904 – 1973	Increase Aulacoseira, Cyclotella  Low raphids	<ul style="list-style-type: none"> <li>• 1945 peak planktonic</li> <li>• Tannery (metal contaminants)</li> </ul>
1973 – 1993	Aulacoseira No raphids Fragilaria crotonensis dominates	<ul style="list-style-type: none"> <li>• More nutrients</li> <li>• Eutrophication</li> </ul>
1993-2011	Cyclotella increases  Raphids increase	<ul style="list-style-type: none"> <li>• Improved water quality – clearer water, less nutrients</li> <li>• More benthic habitat, light</li> <li>• Response to less nutrients inputs because of Clean Water Act in 1972 – important to realize that pollution in water takes a long, long time to clean up</li> </ul>

Based on the types and quantity of diatoms you found, what time period does your section of the core represent?

What large scale environmental changes were occurring at that time?

How are diatoms useful to learning about a lake's history?