Answer Key – Guiding Questions – Viva la Difference! Presentation

An introduction to the biological productivity of Florida lakes and the characteristics that make them so unique.

Name: _____ Class Period:_____ Date:_____

1) Name at least two characteristics that most people use to describe lakes:
   a. **Color** and
   b. **water clarity (Answers could vary: polluted, ugly, pretty, etc.)**

2) Lake scientists (limnologists) have devised a way to **classify or describe** lakes. It's known as the "**trophic state** classification system."

3) The term "**trophic"** originated from the Greek language and it means " **nourishment or nutrition**."

4) Fill in the appropriate word(s) to finish each sentence:

   a. The prefix **"oligo"** means **scant or lacking …not very much**.
   b. The prefix **"meso"** means "**moderate" or "medium."**
   c. The prefix **"eu"** means "**good or sufficient".**
   d. The prefix **"hyper"** means "**over abundant" or "extreme**."

5) Scientists gather data or measurements on four basic characteristics or "parameters" and then use the information to decide the correct trophic category for a lake. The four parameters are: **total chlorophyll, total phosphorus, total nitrogen, and Secchi depth (water clarity).**

6) Chlorophyll are tiny green pigments found in most algae. Oligotrophic lakes tend to have **small** concentrations of chlorophyll.

7) Phosphorus and nitrogen are **nutrients** required for the survival of all plants and algae. It's also a prime ingredient found in fertilizers that we use on our lawns and gardens.

8) Hypereutrophic lakes tend to have **large or excessive** amounts of nutrients.

9) Water clarity can be measured with a device known as a Secchi **disk**.

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10) If we know the trophic state of a lake, we can get a good idea of its **biological productivity.**

11) Circle the best word in this sentence: <u>A eutrophic lake will have LESS / **MORE** fish</u>.

12) Large **plants** (known as macrophytes) are also an important part of a lake's trophic state.

13) Aquatic Plants can be classified into three main groups: **emersed,** submersed, floating, and **floating-leaved.**

14) Florida lakes generally support an abundance of plants because**: most of our lakes are shallow (less than 12 feet deep); our weather is often warm year round (few, if any, freeze in the winter); many parts of Florida have soils that are rich in phosphorus – a nutrient that enhances plant growth.**

15) **Invasive**   plants can fool us into classifying a lake in the wrong category. They can grow so abundantly that they make the water appear to be very **clear .**

16) Aside from invasive plants, a lake's trophic state can be influenced by **natural** and/or **human** factors.

17) A **hurricane** would be an example of a *natural* influence. Stormwater runoff is a **human** influence.

18) **Managing** is another word for "taking care of" a lake.

Standards

Suggested state standards that pertain to this activity are included in the *Silent Invaders* Audio-Visual Presentation Teacher Guide