



PRE- AND POST-ASSESSMENT PROCEDURES

RATIONALE: The pre- and post-assessments have several functions that will be helpful in conducting the program and determining its success and modifications for future years.

PRE-ASSESSMENT

- Will “prepare” the students for learning and activities.
- Should be conducted *before* any instruction on the first day—after initial introduction of program leaders.
- No prompts or instruction other than letting the students know that the function of the pre-assessment is only to *determine what they know about the water environment*.
- Be sure students put their names on testing materials so you can track their improvements.
- Will not be graded, but students should take it seriously because it will help to determine the focus of the activities.
- Should be collected, examined, and corrected after the class. Retain until the spring.
- There should be a numerical value (number of correct answers) on each assessment.

POST-ASSESSMENT

- Should be conducted on the wrap-up day *before* the final student evaluation and discussion.
- No discussion or review should be conducted before the post-assessment. Simply explain that it will be “*compared to the pre-assessment to determine what they have learned.*”
- Again, make sure the students put their names on both the pre- and post-assessments.
- May be self-corrected in the classroom and part of the discussion.
- Explain that it is the classroom teacher’s choice to use the post-assessment for a grade.
- After they have completed their post-assessments, pass out the pre-assessment and have the students put down their pencils and compare their pre- and post-assessments.
- Ask the students to summarize their learning on the back of the post-assessment.

PRE/POST-ASSESSMENT AS A CURRICULAR EVALUATION TOOL:

Objective Analysis: Compare averages from the pre- and post-assessment, or use a statistical model, to ascertain the level of learning and retention.

Subjective Analysis: By simply looking at what the students learned from before to after the curriculum, instructors can rationalize what worked and what didn’t work and how the curriculum could be improved. The students and classroom teacher can also be instrumental and helpful in improving the curriculum.

Modifications: By looking at the results of the assessment and feedback provided by the students on the program evaluation, the curriculum can be changed and improved to better meet the needs of students, outcomes, and objectives.



STUDENT ASSESSMENT

PRE-ASSESSMENT

POST-ASSESSMENT

(CIRCLE ONE)

Name _____ Hour _____ Score _____

Directions: Please answer the questions to the best to your ability. Put your best answer on the line. You may guess. This assessment is to determine what you know about the aquatic environment and to help guide our teaching.

- ____ 1. How do you know your PFD fits right?
 - a) Won't slide off over your upward extended arms
 - b) Loose enough so you can breathe
 - c) Big enough so you can tuck your knees under
 - d) All the above
- ____ 2. Which is not a paddle stroke?
 - a) "C" stroke
 - b) "J" stroke
 - c) Cross-bow stroke
 - d) Wrist stroke
- ____ 3. If you tip your canoe over:
 - a) Hold on and stay with the canoe
 - b) Swim fast to shore
 - c) Hold your canoe paddle up and yell "HELP"
 - d) Float on your back and wait
- ____ 4. What is the front of the canoe called?
 - a) Aft
 - b) Stern
 - c) Gunwale
 - d) Bow
- ____ 5. Where do most of aquatic plants and animals live?
 - a) Deep part of lake
 - b) In clearest water
 - c) Shallow margins and shores
 - d) Two feet below surface
- ____ 6. What does "Critical habitat" mean?
 - a) Important for organisms to live
 - b) Deadly
 - c) Something you can't stop
 - d) Relatively unsustainable
- ____ 7. Which is NOT a critical habitat designation?
 - a) Woody habitat
 - b) Extensive riparian wetlands
 - c) Macroinvertebrates
 - d) Emergent and floating leaf vegetation
- ____ 8. Where can you find your lake's critical habitat designation?
 - a) Google
 - b) Wisconsin Association of Lakes
 - c) DNR website
 - d) Signs at boat landings
- ____ 9. What does turbidity mean?
 - a) How large the fish are
 - b) How healthy the lake is
 - c) How acidic the lake is
 - d) How clear the water is
- ____ 10. How do we measure water clarity?
 - a) Secchi disc
 - b) Hygrometer
 - c) Clearometer
 - d) Spectrometer
- ____ 11. How do you measure acidity of lake water?
 - a) Barometer
 - b) pH paper
 - c) Secchi disc
 - d) Sling psychrometer
- ____ 12. Phosphorous/phosphates can:
 - a) Cause aquatic plants to grow too fast
 - b) Cause algae blooms
 - c) Helps "clear" lakes
 - d) Both a and b
- ____ 13. Which is an aquatic invasive plant?
 - a) Eurasian water milfoil
 - b) Northern milfoil
 - c) Coontail
 - d) Floating-leaf bur-reed
- ____ 14. Which is not a type of aquatic plant?
 - a) Noxious americanis
 - b) Submerged
 - c) Free Floating
 - d) Emergent
- ____ 15. What is characteristic of an invasive plant?
 - a) Often takes over native plant habitat
 - b) Usually accidentally introduced
 - c) Usually difficult to eradicate
 - d) All of the above
- ____ 16. Aquatic plants are:
 - a) not found in the ocean
 - b) illegal to transport on boat/trailer
 - c) only spread by seed
 - d) all the above

- ____ 17. What is a “benthic macroinvertebrate?”
- Animal with no backbone that lives on the bottom of a lake/pond/river
 - Small insect with a backbone
 - Small animal with a bent backbone
 - An invasive species
- ____ 18. Benthic macroinvertebrates:
- have nymphs that “fly” around lakes
 - indicate the “health” of a lake
 - primarily eat minnows
 - a leech is not an example
- ____ 19. Which one is not a macroinvertebrate?
- Small minnow
 - Mayfly
 - Caddisfly
 - Water penny
- ____ 20. Incomplete Metamorphosis:
- is done by caddisflies
 - is done by butterflies
 - is done by stoneflies
 - lacks the nymph stage
- ____ 21. What is the “littoral” lake zone?
- Where fishermen throw their litter
 - Deeper part of the lake
 - Where there are no plants
 - Where most of the rooted plants grow
- ____ 22. What is the limnetic zone?
- Where most of the fish are
 - Deep area of the lake
 - Shallow part of lake
 - Where most macroinvertebrates live
- ____ 23. Which is not a woody plant?
- Oak
 - Cattail
 - White pine
 - Willow growing in shoreline
- ____ 24. Sedges:
- always grow in water
 - are always invasive
 - have red flowers
 - usually have sharp edges
- ____ 25. Pine that releases seeds when burned?
- Red pine
 - White pine
 - Jack pine
 - Black spruce
- ____ 26. Which tree has needles in clusters of five?
- Red pine
 - White pine
 - Jack pine
 - Black spruce
- ____ 27. Trees are important to lakes because they:
- provide oxygen to the water
 - provide shade and warms the water
 - provide “cover” for fish
 - trees don’t really help the lake
- ____ 28. The cambial layer:
- is the living part of a tree under the bark
 - contains xylem tubes
 - contains phloem tubes
 - All the above
- ____ 29. Where does most of our energy ultimately come from?
- Atomic power plant
 - Coal generators
 - Geothermal
 - Sun
- ____ 30. Which is a producer?
- Fungus
 - Any animal with sharp teeth
 - Any green plant
 - Any “working” animal including people
- ____ 31. What is a 2nd Order Consumer?
- Animal that eats another animal
 - b. Mushroom
 - Cactus plant
 - d. Cow
- ____ 32. You can tell the age of a tree by:
- counting the limbs and dividing by two
 - using a tree boring instrument
 - using a clinometer
 - use an annual meter
- ____ 33. You can measure the height of a tree by:
- using a sling psychrometer
 - using a hygrometer
 - using a clinometer
 - climbing the tree and using a measure tape
- ____ 34. Plankton are:
- microscopic plants and animals in lake/ocean
 - the same as macroinvertebrates
 - micro aquatic dust particles
 - All the above

- ____ 35. Which is a zooplankton?
- a) Algae
 - b) Copepods & Daphnia
 - c) Diatoms & Spyrogyra
 - d) Woody habitat for lake animals
- ____ 36. How are plankton collected?
- a) Forceps and ice cube tray
 - b) Fine mesh net
 - c) Pytotrap
 - d) Any of the above
- ____ 37. An animal that eats only the flesh of another animal is called a:
- a) producer
 - b) herbivore
 - c) carnivore
 - d) omnivore
- ____ 38. Which is a decomposer?
- a) Bacteria
 - b) Snake
 - c) Fish
 - d) Scavenger
- ____ 39. Which food chain/web shows the correct flow of energy?
- a) Sun---phytoplankton---minnow---zooplankton---big walleye---human/otter
 - b) Sun---bacteria---algae---big walleye---minnow
 - c) Sun---phytoplankton---zooplankton---minnow---big walleye---human/otter
 - d) Sun---zooplankton---phytoplankton---minnow---big walleye---human/otter
- ____ 40. Fisheries managers consider the following when making fishing regulations:
- a) what types of fish people want in the lake
 - b) how many fish are in the lake
 - c) the sizes of the fish in the lake
 - d) All of the above
- ____ 41. What is a seine?
- a) The way a lake changes with the tide
 - b) A prey fish found in northern Wisconsin
 - c) A net used to catch fish in shallow water
 - d) A type of zooplankton
- ____ 42. Fishery managers use size limits for some species to:
- a) keep people off of lakes
 - b) make sure a lake doesn't get overfished
 - c) manage how many fish can reproduce in the lake
 - d) Both b and c



PRE/POST ASSESSMENT ANSWER SHEET

Before any instruction administer the Pre-Assessment. After giving the Pre-Assessment, go over the answers with the students in class and have them check their own paper and record their own score. This will insure that the material was briefly discussed/covered in the beginning. Do the same at the last class session and have the students determine their score difference.

1. A
2. D
3. A
4. D
5. C
6. A
7. C
8. C
9. D
10. A
11. B
12. D
13. A
14. A
15. D
16. B (Wisconsin state law)
17. A
18. B
19. A
20. C
21. D
22. B
23. B
24. D (stems are solid and triangular)
25. C
26. B
27. C
28. D
29. D
30. C
31. A
32. B
33. C
34. A
35. B
36. B
37. C
38. A
39. C
40. D
41. C
42. D