



Biology Competition for Primary Schools for the Proteus Award

Academic year 2025/2026

15 October 2025

COMPETITION SHEET

Dear competitor!

Before you begin, read the instructions and questions carefully. Fill in your answers only on the mark sheet; you can take the competition sheet home with you when you have finished. If you have chosen the wrong answer, cross it out and mark the correct option. If the examiner cannot make out which answer is marked as correct, you will not get any points.

Write legibly! You can use a ballpoint pen or a fountain pen; other pens, pencils and ink removers are not allowed.

The mark sheet indicates the number of points obtained for the correct answer.

Questions are separated with a line. There is a total of 40 questions, with a total score of 40 points.

Good luck with the competition!



1. What are the four dimensions of a river?

- A. Longitudinal, lateral, vertical and seasonal.
 - B. Longitudinal, lateral, vertical and temporal.
 - C. Spring, summer, autumn, winter.
 - D. X, y, z, and s.
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2. Which of the following characteristics describe a wild or natural river ecosystem?

- A. It is dynamic and changeable.
 - B. It is dynamic and stable.
 - C. It is an ecosystem with expressed seasonal dynamics.
 - D. It is stable and unchanging.
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3. Which of the listed processes applies to erosion?

- A. Deposition of sediment.
 - B. Dental damage in beavers.
 - C. Displacement of sediment.
 - D. Increased river nutrient concentrations.
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4. Below is a list of different habitats. Which one of them is the home of the white-throated dipper?

- A. High-mountain rivers rich in oxygen.
 - B. Wetlands.
 - C. Slow-flowing lowland rivers.
 - D. Small streams.
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5. Which of the following food chains is characteristic also for lowland rivers?

- A. Algae – invertebrates – white-throated dipper.
- B. Invertebrates – huchen – human.
- C. Crayfish – fish – beaver.
- D. Algae – shellfish – small fish – otter.

6. Can we mitigate the effects of climate change by conserving rivers and their processes?

- A. No, because we do not have an influence on climate change.
 - B. Yes, because by conserving rivers we can influence their regulation and in turn contribute to climate change mitigation.
 - C. No, because river conservation does not have an impact on climate change.
 - D. Yes, because conserved river ecosystems support the water cycle and thus mitigate the effects of extreme droughts and floods.
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7. Which of the following claims applies to the seepage of surface waters into the ground?

- A. It only takes place in the Karst.
 - B. It allows water storage in the ground and is part of vertical connectivity.
 - C. Seepage of surface waters into the ground does not occur in rivers.
 - D. It is a part of vertical connectivity and accelerates with riverbed canalization.
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8. Which of the following functions are performed by riparian vegetation?

- a. *It increases erosion,*
- b. *stabilizes the riverbed,*
- c. *provides shade and cools water temperature in the river,*
- d. *reduces stream biodiversity,*
- e. *increases the river flow,*
- f. *provides diverse habitats.*

- A. a. c. e.
- B. b. e. f.
- C. b. c. f.
- D. d. e. f.

9. Which of the terms below describes interruption of a river's natural flow?

- A. Fragmentation.
 - B. Isolation.
 - C. Eutrophication.
 - D. Hydromorphology.
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10. Which of the barriers below interrupt the longitudinal connectivity of a stream?

- A. Weir, dam, dike, sluice gate, culvert, rock ramp.
 - B. Weir, dam, culvert, sluice gate, roadside ditch, rock ramp.
 - C. Dam, dike, spurs, sluice gate, weir.
 - D. None of the above.
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11. Which of the ecosystems below is *not* usually inhabited by stone crayfish?

- A. Cold streams.
 - B. Man-made reservoirs.
 - C. Torrential rivers and lakes.
 - D. The Drava and the Sava basins.
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12. Which of these statements about the huchen is false?

- A. The huchen is the largest predator in our waters.
 - B. The huchen is a Natura 2000 species.
 - C. The huchen belongs to the trout family.
 - D. The huchen lives in the Adriatic basin.
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13. What is the function of the skin flap at the back of the beaver's throat?

- A. It opens the windpipe when the beaver comes out of the water.
 - B. It seals the windpipe and allows the beaver to eat underwater.
 - C. It seals the windpipe and allows the beaver to use its teeth underwater, but not to eat.
 - D. It opens the windpipe and allows the beaver to make alarm calls.
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14. Which animal is described below? ... "are monogamous animals and their family life is very much like humans"; the partners mate for life. The partners live together with offspring of two generations. Together they look after their young and keep them safe." Tatjana Gregorc

- A. Otters.
 - B. Beavers.
 - C. Stone crayfish.
 - D. Little ringed plovers.
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15. Otters use vibrissae to hunt. What are vibrissae?

- A. Whiskers.
 - B. Long claws.
 - C. Excellent smell.
 - D. Strong tail.
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16. River regulation prevents formation of gravel bars. This has an adverse impact on one of the species listed below. Which one?

- A. White-throated dipper.
 - B. Non-biting midge.
 - C. Otter.
 - D. Little ringed plover.
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17. How does the stone crayfish escape when threatened? Choose the correct answer.

- A. By quickly moving its legs, dragging its claws behind.
 - B. By quickly moving its legs and claws, which help it swim.
 - C. Backwards, by flipping its tail.
 - D. Forwards, by flipping its tail.
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18. What are bioindicators? Choose the correct answer.

- A. Organisms whose presence indicates the pollution of the environment.
 - B. Organisms found only in rivers.
 - C. pH test strips.
 - D. Organisms whose presence or absence indicates the quality of the environment.
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19. Statements below describe benthic invertebrates. Which one is true?

- A. Their activity causes gravel to break down.
 - B. They contribute to the self-purification capacity of rivers.
 - C. They improve biodiversity through their feeding activities.
 - D. They aerate sediment.
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20. What happens when a river loses sediment? Circle the correct answer.

- A. The river becomes deeper and erodes the banks.
 - B. Water becomes more potable.
 - C. Fish reproduce more quickly.
 - D. The amount of oxygen increases.
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21. The red colour in larvae of non-biting midges results from ... Circle the correct answer.

- A. Haemoglobin-like pigment.
 - B. Sediment.
 - C. Algae they feed on.
 - D. All of the above.
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22. Willow flowers group into a type of inflorescence called ...

- A. ... catkins.
 - B. ... fluffs.
 - C. ... catkins.
 - D. ... hairies.
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23. Which of the statements below describes willows?

- A. They inhabit exclusively riverine areas.
 - B. They are the first to occupy newly formed sites (gravel bars).
 - C. They are among the last to occupy newly formed sites (gravel bars).
 - D. They inhabit exclusively areas alongside standing waters.
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Statements below describe river ecology. For statements 24 to 40, circle T if the statement is true or F if the statement is false. Each correct answer is worth one point.

- 24.** Otters and beavers can cohabitate.
- 25.** About 140 years ago, crayfish nearly became extinct.
- 26.** Beavers are exclusively herbivore.
- 27.** Grey infrastructure is an obsolete flood control solution.
- 28.** Slurry running off fields into nearby rivers has a positive impact on biodiversity.
- 29.** Benthic invertebrates in rivers allow us to assess hydromorphological alteration and connectivity.
- 30.** Rivers with preserved natural processes have the ability to self-purify in the event of minor nutrient pollution.
- 31.** The destruction of aquatic environments is three times faster than the destruction of terrestrial ecosystems.
- 32.** Six rivers in Slovenia are protected and within Natura 2000 sites.
- 33.** Migrations of fish are part of their behaviour pattern.
- 34.** Trees growing by a river have an impact on riverbed biodiversity.
- 35.** The Mura is a free-flowing river that runs uninterrupted in the territory of Slovenia to the Danube.
- 36.** Spraints are otter pups.
- 37.** The white-throated dipper is a migratory bird.

- 38.** The sterlet can grow more than 4 metres in length.
- 39.** Stoneflies are very sensitive to river nutrient content.
- 40.** Non-biting midge larvae can survive in waters with very little oxygen.

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