

Question 1

Which is true about plastids of vascular plants?

- A Chloroplasts are surrounded by two membranes.
- B Respiration takes place in chloroplasts.
- C Photosynthesis takes place in both chloroplasts and chromoplasts.
- D In contrast to mitochondria, chloroplasts do not contain DNA.

Question 2

Cetaceans and fishes, despite being unrelated to each other, display striking morphological resemblance. How is this evolutionary phenomenon called?

- A divergence
- B mutualism
- C commensalism
- D convergence

Question 3

Which of the following options lists only animals with direct development (i.e. lacking larval stage and metamorphosis)?

- A seven-spot ladybird (*Coccinella septempunctata*), common blackbird (*Turdus merula*), European pond turtle (*Emys orbicularis*)
- B European green lizard (*Lacerta viridis*), grass frog (*Rana temporaria*), European garden spider (*Araneus diadematus*)
- C common earthworm (*Lumbricus terrestris*), grass snake (*Natrix natrix*), platypus (*Ornithorhynchus anatinus*)
- D alpine newt (*Ichthyosaura alpestris*), blue whale (*Balaenoptera musculus*), freshwater pearl mussel (*Margaritifera margaritifera*)

Question 4

Lyme disease is caused by:

- A tick-borne encephalitis virus
- B *Borrelia burgdorferi* bacterium
- C HPV virus
- D *Neisseria gonorrhoeae* bacterium

Question 5

Root hairs are part of:

- A vascular bundles
- B rhizodermis
- C root cap
- D cuticle

Question 6

Which of the following birds is ground-nesting and lays usually four spotted eggs?

- A great spotted woodpecker (*Dendrocopos major*)
- B common kingfisher (*Alcedo atthis*)
- C northern lapwing (*Vanellus vanellus*)
- D common swift (*Apus apus*)

Question 7

Anucleate blood cells whose count rises in high altitudes are called:

- A thrombocytes
- B leukocytes
- C erythrocytes
- D granulocytes

Question 8

Which of the following cell types **do not** take part in immune processes?

- A lymphocytes
- B neutrophils
- C monocytes
- D megakaryocytes

Question 9

In biology, the term „transduction“ denotes:

- A phenotypic change of bacterium brought about by mutation
- B breakage of bacterial chromosome, followed by integration of it's fragment into F plasmid
- C transfer of genetic material between bacteria via bacteriophage
- D transfer of DNA from donor to recipient bacterium via conjugative pore

Question 10

Which following organisms can **not** be considered decomposers?

- A cyanobacteria
- B acetic acid bacteria
- C Penicillium fungus
- D soil-inhabiting nematodes