E-mail: Info@saolympiads.co.za website: www.saolympiads.co.za

# Natural Sciences & Technology Olympiad
# GRADE 5

**DATE:** 25 AUGUST 2026

**TIME:** 90 MINUTES

## INSTRUCTIONS:

1. This booklet has 11 pages (including the cover) with 50 multiple-choice questions.
2. Use the answer sheet provided.

   Circle the letter corresponding to your answer.
3. Each question carries 1 mark.
4. You have 90 minutes to answer all the questions on this paper, which works out to an average of 1.8 minutes per question.
5. Read each question carefully before answering.

ENJOY THE OLYMPIAD.

**Grade Five Natural Sciences and Technology Olympiad 2026**

**Indicate the correct answer by circling the corresponding letter on the answer sheet provided.**

**1. An ecosystem is best described as:** **(1)**
A. An area with **plants only**.
B. An area with **animals only**.
C. An area with **interacting living and non-living things**.
D. An area with **living things only**.

**2. Which organism is a PRODUCER?** **(1)**
A. Lion
B. Grass
C. Snake
D. Human

**3. Why are PLANTS important in a food chain?** **(1)**
A. They eat other animals.
B. They break down dead animals.
C. They make their own food using sunlight.
D. They only live in water.

**4. Which of the following is a CONSUMER?** **(1)**
A. Mushroom
B. Grass
C. Algae
D. Rabbit

**5.** Look at the following food chain: **Grass → Zebra → Lion**

**What would happen if the grass disappeared?** **(1)**
A. The lion population would increase.
B. The zebra population would decrease.
C. The lion would eat grass instead.
D. Nothing would change.

**6. Which food chain is CORRECT?** **(1)**

A. Snake → Mouse → Grass
B. Grass → Cow → Human
C. Lion → Grass → Zebra
D. Eagle → Sun → Rabbit

**7. A FOOD WEB is different from a food chain because it:** **(1)**

A. Shows only one feeding path.
B. Shows how energy is lost.
C. Shows many feeding relationships.
D. Only includes plants.

**8. In a food web, if snakes are removed, which animal is most likely to increase in number?** **(1)**

A. Hawks
B. Grass
C. Mice
D. Frogs

**9. What is the main source of energy for all food chains?** **(1)**

A. Water
B. Soil
C. The Sun
D. Animals

**10. Which organism would be a secondary consumer?** **(1)**

A. Grass
B. Grasshopper
C. Frog
D. Tree

**11. Which of the following is a SOLID?** **(1)**

A. Air
B. Water
C. Ice
D. Steam

**12. Which state of matter has no fixed shape and no fixed volume?** **(1)**

A. Solid
B. Liquid
C. Gas
D. Mixture

**13. Why can a LIQUID take the shape of its container?** **(1)**

A. It has a fixed shape.
B. It can flow.
C. It has no mass.
D. It cannot move.

**14. Which property is true for all solids?** **(1)**

A. They flow easily.
B. They change shape.
C. They have a fixed shape.
D. They fill all available space.

**15. A learner pours juice from a bottle into a cup. What state of matter is the juice?** **(1)**

A. Solid
B. Liquid
C. Gas
D. Mixture

**16. What is a MIXTURE?** **(1)**

A. A new substance formed by heating.
B. Two or more substances mixed together.
C. Only solids mixed together.
D. A pure substance.

**17. Which of the following is a MIXTURE?** **(1)**

A. Salt
B. Sugar
C. Air
D. Water

**18. What happens when sand is mixed with water?** **(1)**

A. The sand disappears.
B. A new substance is formed.
C. The sand settles at the bottom.
D. The water turns into a solid.

**19. Which mixture can be separated using a sieve?** **(1)**

A. Salt and water
B. Sand and stones
C. Sugar and water
D. Ink and water

**20. Which of the following helps to reduce pollution?** **(1)**

A. Littering
B. Burning waste
C. Recycling
D. Wasting water

**21. Why is it important to save water?** **(1)**

A. Water is unlimited.
B. Water is only used by animals.
C. Clean water can run out.
D. Water is not important.

**22. Which action shows caring for the environment at school?** **(1)**

A. Leaving taps dripping.
B. Throwing rubbish on the ground.
C. Planting trees.
D. Breaking branches.

**23. What does REUSE mean?** **(1)**

A. Throwing things away.
B. Using something again.
C. Buying new items.
D. Burning waste.

**24. What is most likely to happen if people cut down too many trees?** **(1)**

A. More animals will have homes.
B. Air quality will improve.
C. Animals may lose their habitats.
D. More rain will fall.

**25. Why is plastic pollution harmful to animals?** **(1)**

A. Plastic makes water cleaner.
B. Animals can eat or get trapped in plastic.
C. Plastic helps plants grow.
D. Plastic disappears quickly.

**26. Which type of soil has large particles and lets water drain through quickly?** **(1)**

A. Clay soil
B. Loamy soil
C. Sandy soil
D. Compost

**27. Why is clay soil often sticky when wet?** **(1)**

A. It has large air spaces.
B. It has very small particles that hold water.
C. It drains water very quickly.
D. It is made only of dead plants.

**28. Why is loamy soil best for growing most plants?** **(1)**

A. It holds too much water.
B. It has no nutrients.
C. It is a good mix of sand, clay, and organic matter.
D. It dries out very quickly.

**29.** A farmer wants soil that **holds nutrients but also drains well**.

**Which soil should be used?** **(1)**

A. Sandy soil
B. Clay soil
C. Loamy soil
D. Rocky soil

**30. Why is COMPOST important for soil?** **(1)**

A. It removes nutrients from soil.
B. It makes soil harder.
C. It adds nutrients and improves soil quality.
D. It stops plants from growing.

**31. What is a FOSSIL?** **(1)**

A. A living animal.
B. The remains or traces of plants or animals from long ago.
C. A type of rock used for building.
D. Soil mixed with bones.

**32. How are most fossils formed?** **(1)**

A. When animals freeze in ice.
B. When plants grow in soil.
C. When plants or animals are buried by sediment over time.
D. When animals turn into rocks immediately.

**33. Why are fossils usually found in sedimentary rocks?** **(1)**

A. They form in hot lava.
B. Layers of sediment slowly cover and protect remains.
C. Sedimentary rocks are very hard.
D. They are made only of sand.

**34. What can scientists learn from fossils?** **(1)**

A. How to build houses.
B. What types of plants and animals lived long ago.
C. How fast rocks grow.
D. Why soil is different colours.

**35. Why are fossils important to South Africa?** **(1)**

A. They help make jewellery.
B. They show how animals living today are the same as in the past.
C. They help scientists understand how life and environments have changed.
D. They are only used for decoration.

**36. What is PHOTOSYNTHESIS?** **(1)**

A. The way plants breathe.
B. The process plants use to make their own food.
C. The way animals eat.
D. The movement of water in soil.

**37. Which part of the plant is mainly responsible for photosynthesis?** **(1)**

A. Roots
B. Stem
C. Flowers
D. Leaves

**38. Which gas do plants take in during photosynthesis?** **(1)**

A. Oxygen
B. Nitrogen
C. Carbon dioxide
D. Hydrogen

**39. What is the main source of energy for photosynthesis?** **(1)**

A. Water
B. Soil
C. Sunlight
D. Oxygen

**40. Which substance do plants PRODUCE during photosynthesis?** **(1)**

A. Carbon dioxide
B. Oxygen
C. Nitrogen
D. Smoke

**41. Which of the following can cause a fire?** **(1)**

A. Water
B. Matches
C. Sand
D. Glass

**42. Why should children never play with fire?** **(1)**

A. Fire is fun to watch.
B. Fire can cause serious injuries and damage.
C. Fire is only dangerous at night.
D. Fire makes smoke disappear.

**43. What should you do if your clothes catch fire?** **(1)**

A. Run as fast as you can.
B. Stop, drop, and roll.
C. Hide under a table.
D. Jump into the air.

**44. Which is the safest action if you see a fire starting at home?** **(1)**

A. Try to put it out alone.
B. Run and hide.
C. Tell an adult or call for help immediately.
D. Ignore it.

**45. Why is it important to never leave a fire unattended?** **(1)**

A. Fire needs company.
B. Fire can easily spread and cause damage.
C. Fire will go out quickly.
D. Fire becomes cold.

**46. What are ROCKS made of?** **(1)**

A. Water only
B. Living things
C. Minerals
D. Soil and air

**47. Which type of rock is formed when <u>melted rock (magma or lava) cools and hardens</u>?** **(1)**

A. Sedimentary
B. Metamorphic
C. Igneous
D. Fossil

**48. A rock found with LAYERS and sometimes FOSSILS is most likely a:** **(1)**

A. Sedimentary rock
B. Metamorphic rock
C. Gas rock
D. Volcanic glass

**49. Why should you <u>never touch electrical appliances with wet hands</u>?** **(1)**

A. Water makes hands cold.
B. Water can conduct electricity and cause shock.
C. Appliances will stop working.
D. Water cleans electricity.

**50. Which situation is the SAFEST?** **(1)**

A. Pulling a plug out by the cord.
B. Using broken plugs.
C. Keeping electrical appliances near water.
D. Keeping electrical appliances away from water.

**TOTAL MARKS = 50**