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

Natural Sciences & Technology Olympiad
GRADE 6

DATE: 27 AUGUST 2025

TIME: 90 MINUTES

INSTRUCTIONS:

1. This booklet has 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 for the paper which works out to an average of 1.8 minutes per question.
5. Read each question carefully.

ENJOY THE OLYMPIAD.

Grade Six Natural Sciences and Technology Olympiad 2025

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

1. Which of the following is an example of a gas? (1)
   A) Juice
   B) Oxygen
   C) Oil
   D) Rock

2. Water vapour in the air condenses to form liquid water droplets. This process is an example of… (1)
   A) Vapourasation
   B) Condensation
   C) Sublimation
   D) Deposition

3. If you want to separate a mixture of iron filings and flour which separation method would you use? (1)
   A) Decanting
   B) Hand sorting
   C) Magnetism
   D) Sieving

4. Zama observed that when a solid is heated, it changes to a liquid. When heated further, it changes to a gas. What is the phase called when a liquid changes to a gas? (1)
   A) Boiling
   B) Disappearing
   C) Evaporation
   D) Dilute

5. Isabella says that plasma is the component of blood, which is the fourth state of matter, . Is she correct? (1)
   A) Agree, because blood is something magical.
   B) Disagree, because blood is a liquid.
   C) Agree, because blood is made up of plasma and cells.
   D) Disagree, because fire is something untouchable.

6. Which of the following foods is the main source of fibre? (1)
   A) Oats
   B) Eggs
   C) White rice
   D) Cheese

7. Eating less red meat and more vegetables and fruits can lead to a lack of … (1)
   A) Vitamin C
   B) Vitamin B
   C) Vitamin B12
   D) All of the above

8. If a person is allergic to lactose, which foods should they avoid? (1)
   A) Rice
   B) Potatoes
   C) Dairy
   D) Vegetables

9. An example of highly processed food includes… (1)
   A) Grilled chicken, brown rice, and broccoli
   B) Pasta with tomato sauce and a side salad
   C) Cheeseburger, french fries, and a milkshake
   D) Brown rice and meat

10. Your classmate believes cutting off all food containing carbohydrates and including fats is a healthy way to lose weight. This type of diet is called… (1)
    A) An Improper Diet
    B) A Fad Diet
    C) A Ketogenic Diet
    D) A Vegetarian diet

11. Another name for the oesophagus in the digestive system is … (1)
    A) Intestine
    B) Windpipe
    C) Food pipe
    D) Herbivore

12. Animals that eat both plants and animals are called… (1)
    A) Carnivores
    B) Omnivores
    C) Herbivores
    D) Insectivores

13. The function of the liver in the body is to… (1)
    A) Empower the body
    B) Control the blood sugar levels
    C) To detoxify the blood
    D) To give energy to the body

14. The unit for measuring forces is called… (1)
    A) Metres
    B) Joules
    C) Kilograms
    D) Newtons

15. _____ is a unit of energy often used to express the nutritional value of food. (1)
    A) An index
    B) A weight
    C) A mass
    D) A calorie

16. What is the role of producers in an ecosystem? (1)
    A) To consume other organisms for food
    B) To break down dead organisms
    C) To make their food through photosynthesis
    D) To hunt and eat other animals

17. In the food chain, the arrows can be used to…? (1)
    A) To show the direction of energy of plant growth
    B) Represents the feeding relationships
    C) Indicate the sequence of an organism
    D) To give organisms names

18. _____ is another name for tropical grassland (1)
A) Food web
B) Desert
C) Savanna
D) The jungle

19. A good example of a predator is… (1)
A) Ice-cream
B) Leopard
C) Smoothie
D) Ant

20. Which statements are true about photosynthesis? (1)

(i)	Plants make their food.
(ii)	Through photosynthesis, plants keep the ecosystem running.
(iii)	Chlorophyll is the green pigment found on the leaves.
(iv)	Photosynthesis is all about plants rotting
(v)	Photosynthesis is all about plant irrigation.

A) (ii), (iii) and (iv)
B) (iii), (iv) and (v)
C) (i), (iii) and (iv)
D) (i), (ii) and (iii)

21. In the digestive system, the good bacteria assist with… (1)
A) Digesting acids
B) Keeping the gut healthy
C) Breaking down hard food balls
D) Gastric acids

22. What is peristalsis? (1)
A) The movement of the tongue
B) The involuntary muscle movement in your digestive system
C) Painful heartburn
D) Reduced level of contamination

23. Which of the following is a reactant of photosynthesis? (1)
    A) Oxygen
    B) Carbon dioxide
    C) Glucose
    D) Sunlight

24. During photosynthesis, plants use energy from sunlight to convert carbon dioxide and water Into… (1)
    A) Glucose and oxygen
    B) Glucose and carbon dioxide
    C) Oxygen and water
    D) Chlorophyll and glucose

25. Composting involves… (1)
    A) Processing waste materials such as paper, glass, metal etc.
    B) Managing waste and collecting it
    C) Turning waste from plants, food scraps and garden cutting into nutrients for the soil
    D) Turning waste materials and selling them for income

26. What is the purpose of the ***design process*** in technology? (1)
    A) To test new games
    B) To create and improve products or solutions
    C) To build houses
    D) To repair broken machines

27. Which of the following diseases is associated with several red blood cells being lower than normal? (1)
    A) Anaemia
    B) Scurvy
    C) Cardiovascular disease
    D) Osteoporosis

28. A person with diabetes needs to be mindful of which nutrient intake. (1)
    A) Protein
    B) Carbohydrates
    C) Fats
    D) Vitamins

29. If a person wants to reduce their risk of developing obesity, which dietary recommendation would be most effective? (1)
    A) Increase consumption of sugary drinks
    B) Eat more processed and fried foods
    C) Limit portion sizes and eat more fish, brown rice, fruit and vegetables
    D) Eat whatever you like, you live once anyway

30. Nasi has been diagnosed with a protein-lacking disease meaning she does not eat enough food with protein. What disease is she likely to develop? (1)
    A) Flue
    B) Asthma
    C) Kwashiorkor
    D) Tooth decay

31. How did indigenous people process their food to avoid spoilage? (1)
    A) They used the freezing method
    B) They used irradiation
    C) They added chemicals
    D) None of the above

32. _____ is a cheap and good conductor of electricity. (1)
    A) Rubber
    B) Plastic
    C) Wood
    D) Silver

33. _____ is a good example of static electricity. (1)
    A) Positive charges
    B) Electric current
    C) Electricity
    D) Lightning

34. What material is an example of a ***man-made*** material? (1)
    A) Wood
    B) Air
    C) Plastic
    D) Sand

35. Neon lights an example of? (1)
    A) Natural light
    B) Artificial light
    C) Current electricity
    D) Direct current

36. A wooden spoon is an example of a… (1)
    A) Metalloid
    B) Metal
    C) Plank
    D) Non-metal

37. An astrologer is someone who… (1)
    A) Studies electricity
    B) Studies fossils
    C) Studies astronomy
    D) Studies the stars, planets and the sun to predict the future

38. Which one is an example of a solution mixture below? (1)
    A) Water and disprin
    B) Rice and meet
    C) Eggs and tomato
    D) Water and a teabag

39. A cycad is an example of a/an…. (1)
    A) Plant
    B) Animal
    C) Rock
    D) Metal

40. Which of the following is the name of the first artificial satellite launched into space? (1)
    A) Sputnik 1
    B) Apollo 11
    C) Hubble
    D) Voyager 1

41. Which step comes first in the *technology design process*? (1)
A) Identify
B) Make
C) Evaluate
D) Communicate

42. Distilled water is… (1)
A) Normal tap water
B) Sparkling water
C) The type of water that has impurities removed
D) The type of water that is dirty and it is suitable for animals

43. Which of the following technologies is used to study the composition of stars and planets? (1)
A) Spectroscopy
B) Microscopy
C) Telescopes
D) Photography

44. The acronym SALT in astronomy stands for… (1)
A) South Europe's Largest Telescope
B) South Africa's Largest Telescope
C) Southern African Large Telescope
D) South Asia's Large Telescope

45. Which of these technologies is used to communicate wirelessly over short distances? (1)
A) Bluetooth
B) USB Cable
C) DVD Player
D) Hard Drive

46. Which of the following is the cause of black holes in space? (1)
A) When a giant star collapse and a big mass is packed in a small volume
B) When the sun's strongest rays hit the space
C) When the energy that holds the star disappears
D) When giant meteoroids collapse

47. How can the rhino-poaching problem be solved? Choose the best suitable option: (1)
A) Educate people to raise awareness
B) Donate to stop rhino poaching
C) Help relocate rhinos to safe places
D) All of the above

48. What does viscosity measure? (1)
A) The colour of a liquid
B) How fast a liquid flows
C) The temperature of a liquid
D) The weight of a liquid

49. Which of the following liquids has the ***highest viscosity***? (1)
A) Water
B) Honey
C) Milk
D)Orange juice

50. What is the main purpose of a telescope? (1)
A) To measure temperature
B) To look at very small objects
C) To look at objects that are far away
D) To find the weight of objects

TOTAL MARKS = 50