



**INTERNATIONAL
FSP CONTESTS**

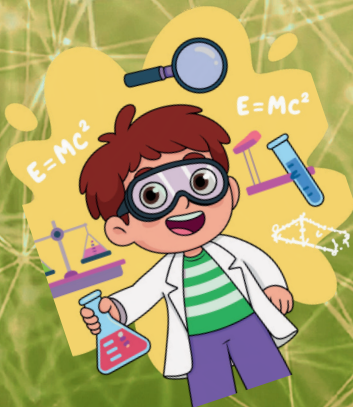


**FSP
SCIENCE
CONTEST
QUESTION
BOOKLET**

Volume-23

**GRADE 7 & 8
VIBRANT YOUNGSTERS**

EXHIBIT YOUR SKILLS TO THE WORLD



**Time Allowed 90 minutes
Maximum Marks :90**

INSTRUCTIONS FOR THE EXAMINATION INVIGILATORS

- 1). Invigilation must be carried out promptly.
- 2). Don't start attempting the paper until instructed by the invigilator.
- 3). Carefully recheck your name, father name, school name, address etc. at the bubble sheet/answer sheet.
- 4). Record all answers on the bubble sheet only, select best answer from the four given options and mark only one option in each question.
- 5). Use blue/black ink to fill up the circles for your answers on the bubble sheet use of lead pencil is not allowed.
- 6). Use of any helping material including cell phones and electronic devices is strictly prohibited.
- 7). Every correct answer earns three points. there would be negative marking, one point would be deducted for every incorrect answer.
- 8). Candidates may not leave the examination room unescorted for any reason, and this includes using the washroom.
- 9). No materials or electronic devices shall be brought in to the room.
- 10). There are five categories of the contest as under:
 - A Vibrant youngsters Grade 1 & 2
 - B Vibrant youngsters Grade 3 & 4
 - C Vibrant youngsters Grade 5 & 6
 - D Vibrant youngsters Grade 7 & 8
 - E Vibrant youngsters Grade 9 & 10/0-levels
- 11). Only registered students can participate in the contest.
- 12). No candidate shall take out of the hall any answer book(s) or part of an answer book, whether used or unused, or other supplied material.
- 13). If a participant does not understand a word or phrase on the exam paper, neither examiner nor invigilator is permitted to answer.
- 14). For information about upcoming contests or providing valuable feedback, please visit www.fspcompetitions.org
- 15). Any academic misconduct or malpractice must be reported to FSP vibrant youngsters at info@fspcompetitions.org

Q1: During a winter camp, students noticed that when salt was sprinkled over icy pathways, the ice began to melt even though the temperature remained below 0°C. They discussed how adding a substance to water can change its physical properties and affect its freezing behavior.

What scientific principle explains why the ice melted after salt was added?

- A. Salt increases the temperature of ice
- B. Salt lowers the freezing point of water
- C. Salt absorbs sunlight and produces heat
- D. Salt converts ice directly into vapor

Q2: While conducting an experiment, students placed a metal spoon and a plastic spoon inside a cup of hot tea. After a few minutes, the metal spoon became too hot to touch, while the plastic spoon remained relatively cool. They concluded that different materials transfer heat differently.

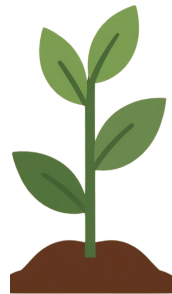
Which property of the metal spoon caused it to become hotter faster?

- A. High density
- B. High thermal conductivity
- C. Low melting point
- D. High elasticity

Q3: A plant kept near a window began to bend toward the sunlight after several days. The leaves appeared to grow more on the side away from the light source. Students observed that the plant responded to environmental conditions.

What is this growth response called?

- A. Photosynthesis
- B. Respiration
- C. Phototropism
- D. Germination



Q4: During a physics demonstration, a teacher rolled a ball across a smooth floor. The ball gradually slowed down and eventually stopped moving. The teacher explained that even when a surface appears smooth, microscopic forces act between the ball and the floor.

Which force caused the ball to stop?

- A. Magnetic force
- B. Gravitational force
- C. Frictional force
- D. Electrical force

Q5: In a laboratory experiment, vinegar was mixed with baking soda in a flask. Students observed bubbling and gas formation. When a balloon was placed over the mouth of the flask, it inflated without any air being blown into it.

Which gas was most likely produced during this reaction?

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



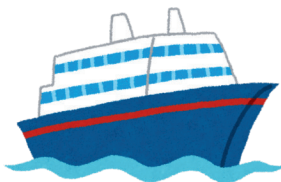
Q6: A student noticed water droplets forming on the outside of a cold glass of lemonade placed on a table. The droplets were not leaking from inside the glass but appeared to form from the surrounding air.

Which process explains the formation of these droplets?

- A. Evaporation
- B. Condensation
- C. Sublimation
- D. Melting

Q7: While studying buoyancy, students observed that a massive steel ship floated easily in the ocean, yet a small steel coin sank immediately when dropped into water. They discussed how shape and water displacement affect floating.

Why does the ship float while the coin sinks?



- A. Ships are lighter than coins
- B. Ships displace a larger volume of water
- C. Coins are attracted downward by magnets
- D. Ships contain air that cancels gravity

Q8: An electric circuit was built with a battery and one bulb. The bulb glowed brightly. When two additional bulbs were added in series, all bulbs became dimmer. Students analyzed how current and resistance change in circuits.

Why did the bulbs become dimmer when more were added in series?

- A. Voltage increased
- B. Resistance increased
- C. Current increased
- D. Battery power doubled

Q9: While hiking in the mountains, students observed that breathing felt more difficult and water boiled at a lower temperature than usual. They learned that certain environmental conditions change with altitude.

Which factor decreases at higher altitudes?

- A. Temperature
- B. Oxygen mass
- C. Air pressure
- D. Gravity



Q10: In a biology class, students compared the human body to a well-organized factory. They discussed how cells form tissues, tissues form organs, and organs work together in systems.

Which statement correctly describes body organization?

- A. Organs are made of cells directly
- B. Tissues are made of similar cells
- C. All cells perform the same function
- D. Organ systems form tissues

Q11: A student threw a ball straight upward. The ball slowed down, stopped briefly at its highest point, and then returned to the ground. The student considered which force acted continuously during this motion.

Which force caused the ball to return to the ground?

- A. Air resistance only
- B. Friction
- C. Gravity
- D. Magnetism

Q12: When lightning strikes during a storm, people see the flash before they hear the thunder. Students measured the time gap between the two events.

Why is thunder heard after lightning is seen?

- A. Sound travels faster than light
- B. Light travels faster than sound
- C. Thunder forms later than lightning
- D. Lightning is closer to Earth



Q13: During a geology lesson, students learned that some rocks contain fossils of ancient marine organisms. These rocks were formed from layers of sediment deposited over millions of years.

Which type of rock most likely contains fossils?

- A. Individual rock
- B. Metamorphic rock
- C. Sedimentary rock
- D. Magma



Q14: A student observed that sugar dissolved faster in warm water than in cold water, even when both were stirred equally. She hypothesized that particle motion plays a role in dissolving.

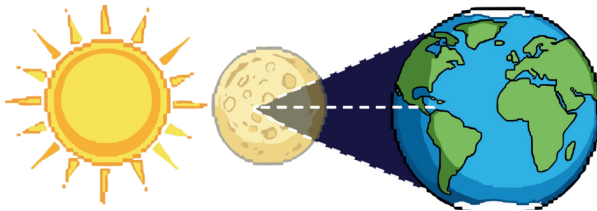
Why does sugar dissolve faster in warm water?

- A. Warm water is heavier
- B. Warm water molecules move faster
- C. Sugar melts in water
- D. Cold water contains more oxygen

Q15: In a space model demonstration, students rotated a globe on its axis while shining a flashlight on it. They observed that different parts of the globe moved into and out of the light.

What does this rotation model explain?

- A. Seasons
- B. Phases of the Moon
- C. Day and night
- D. Solar eclipses



Q16: Scientists studying plate tectonics observed that when two continental plates collide, massive mountain ranges form over millions of years.

What process is responsible for mountain formation at convergent boundaries?

- A. Erosion
- B. Deposition
- C. Plate collision
- D. Weathering

Q17: During a biology experiment, students observed that green plants release oxygen when exposed to sunlight but not in darkness.

Which process produces oxygen in plants?

- A. Respiration
- B. Photosynthesis
- C. Transpiration
- D. Germination



Q18: A student doubled the force applied to a stationary cart and observed that the cart accelerated more quickly.

Which scientific law explains this relationship?

- A. Newton's First Law
- B. Newton's Second Law
- C. Newton's Third Law
- D. Law of Gravity



Q19: When warm air rises and cool air sinks in the atmosphere, it forms a circular pattern of air movement.

What is this process called?

- A. Radiation
- B. Conduction
- C. Convection
- D. Reflection

Q20: In a chemical experiment, a piece of iron was left outside and eventually developed a reddish-brown coating. Students recognized this as a chemical change involving oxygen.

What is this process called?

- A. Melting
- B. Rusting
- C. Evaporation
- D. Freezing



Q21: Astronomers observed that Earth takes approximately 365 days to complete one full orbit around the Sun.

What does this movement cause?

- A. Day and night
- B. Tides
- C. One year
- D. Phases of the Moon



Q22: A mirror produces an image that appears to switch left and right but remains upright.

What is this effect called?

- A. Refraction
- B. Diffraction
- C. Lateral inversion
- D. Absorption



Q23: A thermometer was used to measure body temperature during a medical check-up.

What does a thermometer measure?

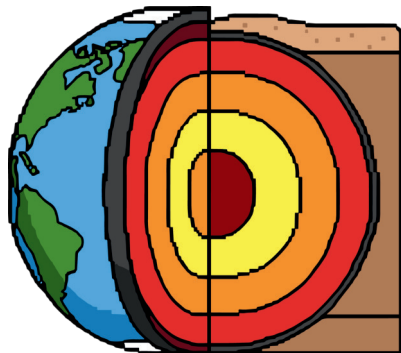
- A. Heat energy
- B. Temperature
- C. Pressure
- D. Density



Q24: The Earth's outer core is composed mainly of molten iron and nickel.

What important function does the outer core perform?

- A. Produces oxygen
- B. Generates Earth's magnetic field
- C. Forms mountains
- D. Controls weather



Q25: A point light source casts a shadow of an object onto a screen. When the object is moved closer to the light source, the shadow becomes larger.

Why does the shadow increase in size?

- A. Light spreads outward from the source
- B. The object becomes heavier
- C. The screen moves backward
- D. Light bends around the object

Q26: A student measured atmospheric pressure using a barometer at different heights and found that pressure decreased as height increased.

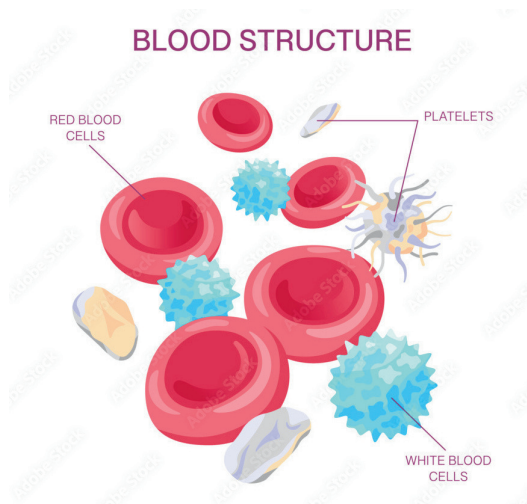
Why does air pressure decrease with altitude?

- A. Air becomes heavier
- B. There are fewer air particles above
- C. Gravity stops acting
- D. Temperature increases

Q27: Blood samples examined under a microscope showed cells responsible for carrying oxygen to body tissues.

Which blood cells perform this function?

- A. White blood cells
- B. Platelets
- C. Red blood cells
- D. Plasma cells



Q28: An electric car uses stored chemical energy in batteries to power an electric motor that turns the wheels.

Which energy transformation occurs in this process?

- A. Chemical to mechanical
- B. Mechanical to light
- C. Electrical to sound
- D. Heat to chemical

Q29: During a lunar eclipse, Earth moves between the Sun and the Moon, casting a shadow on the Moon.

What causes a lunar eclipse?

- A. Moon blocks sunlight from Earth
- B. Earth blocks sunlight from Moon
- C. Sun disappears
- D. Clouds cover the Moon



Q30: Scientists discovered fossils of tropical plants in Antarctica, suggesting that continents have shifted over time.

Which theory explains this evidence?

- A. Evolution
- B. Continental drift
- C. Gravity
- D. Photosynthesis

ANSWER SHEET

Grade 7 & 8

Q.NO ANSWER

- 1 (A) ● (C) (D)
- 2 (A) ● (C) (D)
- 3 (A) (B) ● (D)
- 4 (A) (B) ● (D)
- 5 (A) ● (C) (D)
- 6 (A) ● (C) (D)
- 7 (A) ● (C) (D)
- 8 (A) ● (C) (D)
- 9 (A) (B) ● (D)
- 10 (A) ● (C) (D)
- 11 (A) (B) ● (D)
- 12 (A) ● (C) (D)
- 13 (A) (B) ● (D)
- 14 (A) ● (C) (D)
- 15 (A) (B) ● (D)

Q.NO ANSWER

- 16 (A) (B) ● (D)
- 17 (A) ● (C) (D)
- 18 (A) ● (C) (D)
- 19 (A) (B) ● (D)
- 20 (A) ● (C) (D)
- 21 (A) (B) ● (D)
- 22 (A) (B) ● (D)
- 23 (A) ● (C) (D)
- 24 (A) ● (C) (D)
- 25 ● (B) (C) (D)
- 26 (A) ● (C) (D)
- 27 (A) (B) ● (D)
- 28 ● (B) (C) (D)
- 29 (A) ● (C) (D)
- 30 (A) ● (C) (D)



International FSP Contests



www.fspcompetitions.org



info@fspcompetitions.org