

FSP SCIENCE CONTEST

2022

QUESTION BOOKLET

GRADE 5 & 6

VIBRANT YOUNGSTERS

TIME ALLOWED: 90 Minutes

MAXIMUM MARKS: 90



FAMOUS STUDENTS PLATFORM

INSTRUCTIONS

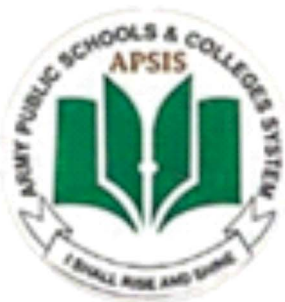
- 1) **DON'T START ATTEMPTING THE PAPER UNTIL INSTRUCTED BY THE INVIGILATOR.**
- 2) **INSTRUCTIONS FROM THE EXAMINATION INVIGILATOR MUST BE CARRIED OUT PROMPTLY.**
- 3) **CAREFULLY RECHECK YOUR NAME, FATHER NAME, SCHOOL NAME, ADDRESS ETC AT THE BUBBLE SHEET / ANSWER SHEET.**
- 4) **RECORD ALL ANSWERS 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**

What is Science?

Science is the knowledge about the natural world that is based on facts learned through experiments and observations. It originally came from the Latin word "scientia" which means knowledge, a knowing, expertness or experience.

Scientific knowledge allow us to develop new technologies, solve practical problems and make informed decisions- both individually and collectively. Because its products are so useful, the process of science is intertwined with those applications.

The most interesting thing about science is that it's never finished. Every discovery leads to more questions, new mysteries, to something else that needs explanation. It's the case of "the more we know, the more we know we know nothing at all". For example the discovery of double-helix structure of DNA revolutionized our understanding of Biology, bringing up whole new areas to be studied, such as genetic modification and synthetic Biology.



By: Ms. Asma Abdul Salam
Coordinator of Physics Department
Garrison Academy for Cambridge Studies, Lahore.



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Science is Everywhere

Science is an essential component of life. Science is everywhere; it connects the curious minds with nature through scientific methods (observations, experiments, asking questions, findings and results). A method of finding and collecting data on the basis of facts and evidences. It is basically inquiry based learning where an individual could inquire, explore and investigate. Science is all about innovation and discovery of new ideas on the basis of knowledge and facts.

The air we feel in the surrounding it's not just "the air" but it is the mixture of different gases; the breathing mechanism, the wonders of human body comprises with different systems, digestion of food, a wide range of living things, water vapors exist in the surrounding, formation of rainbow, colorful clothes we all wear, communication with dear ones are all based on science. It has converted the world into imagination globe.

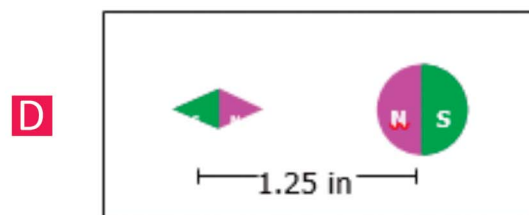
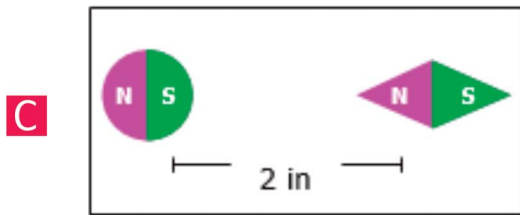
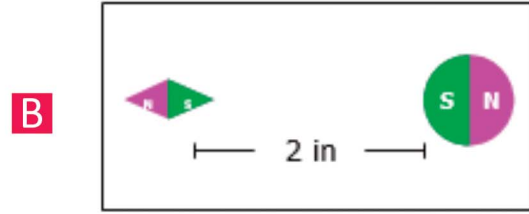
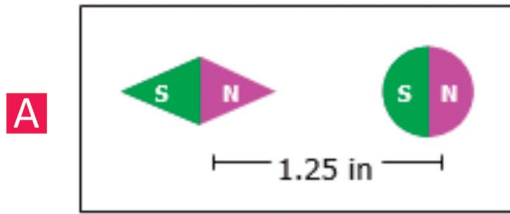
**By: Ms. Abida Zeeshan
HABIB GIRL'S SCHOOL, KARACHI.**



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Q.1) The images below show four pairs of magnets. The magnets in different pairs do not affect each other. All the magnets shown are made of the same material, but some of them are of different sizes and shapes.

Think about the magnetic force between the magnets in each pair. Select the pair with the magnetic force of smallest magnitude.



Q.2) Intake of carbon dioxide and giving out of oxygen is the only process named

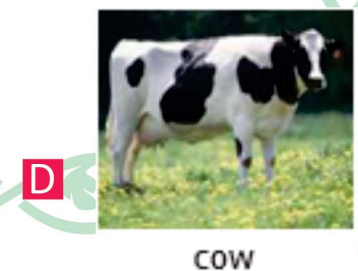
- A** Photosynthesis **B** Respiration **C** Rusting **D** Excretion

Q.3) Compared to the temperature, more oxygen is present in:

- A** Clean Water **B** Hot water **C** Cold water **D** Dilute water

Q.4) A savanna is a warm grassland with a few trees and shrubs. Savannas have a long dry season, during which food is hard to find. Some animals solve this problem by eating the leaves of tall trees.

Which animal's neck is best adapted for reaching the branches of a tall acacia tree?



Q.5) Which property do these four objects have in common?



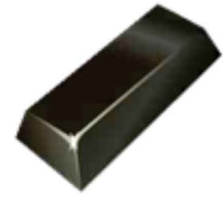
sapphire



bracelet



trombone



metal bar

Select the best answer.

A Shiny

B Fragile

C Salty

D Transparent



Q.6) Crystal Cove is a beach in southern California. It was mostly clear at the beach on Friday because there was a high pressure system over the coast.

Does this passage describe the weather or the climate?

Hint: Weather is what the atmosphere is like at a certain place and time. Climate is the pattern of weather in a certain place.



A Weather **B** Climate **C** Neither weather nor climate. **D** Both, weather and climate.



Q.7) The text below describes a pair of opposing forces. Read the text. Then answer the question below.



Two dogs, Buddy and Lola, play with a rope. Think about two of the forces that act on the rope:

- Lola pulls away from Buddy.
- Buddy pulls toward himself.

As buddy pulls on the rope, what is the direction of the opposing force?

A Away from Buddy

B Toward Buddy

C Upwards

D Downwards

Q.8) We can find them growing on the ground in deserts, on the sides of dry rock, hanging from the branches of trees, those are _____.

- A** Crab **B** Amoeba **C** Lichens **D** Snail



Q.9) Aslam purchased a large trash can for his office. What could be its volume? Select the best estimate.

- A** 17 cups **B** 17 fluid ounces **C** 17 gallons **D** None of these



Q.10) Ahmad intends to visit his friend in the neighboring city. How long is the road from his city to his friend's city? Select the best estimate.

- A** 3 feet **B** 3 yards **C** 3 inches **D** 3 miles



Q.11) Breathing is a process that refers to the inhaling and exhaling of

- A** Gas **B** Air **C** Molecule **D** Proton



Q.12) Read the passage. Then answer the question.

Most of Earth's surface is covered by salt water located in oceans. Ocean water contains between three percent and four percent salt. This is about as salty as one teaspoon of salt mixed into a six-ounce cup of water.



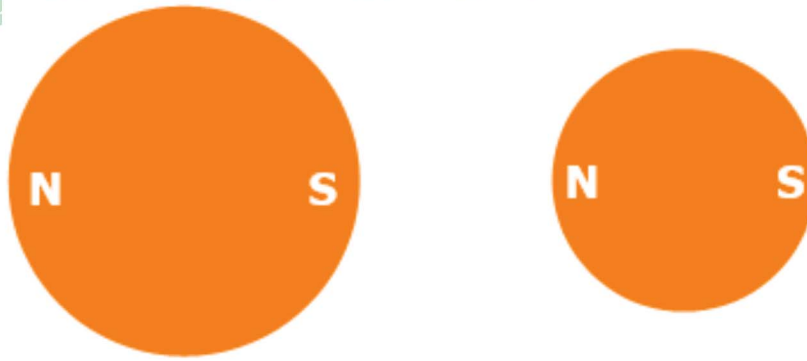
The water in rivers also contains a tiny amount of salt. Rivers eventually carry this salt into oceans. As ocean water evaporates, salts and minerals are left behind. Over time, the ocean becomes more and more salty.

- A. Ocean water contains equal amounts of salt and water.**
- B. Rivers move salt into oceans.**
- C. Salt remains in the oceans when ocean water evaporates.**
- D. Glaciers cover most of Earth's surface.**

How many of the above statements are true?

- A** 1 **B** 2 **C** 3 **D** 4

Q.13) Two magnets are placed as shown.



Will these magnets attract or repel each other?

- A** Attract **B** Repel **C** First attract then repel **D** None of these



Q.14) Below are three examples of using energy from natural resources. Select the use of energy that did not add to air pollution.

- A** Because gasoline had become expensive, the engine on a police car was changed. The new engine burned propane, a fuel made from natural gas.



- B** A power plant used a river's flowing water to produce electricity. This type of power plant is called a hydroelectric power plant.



- C** When the railway from Saint Petersburg to Moscow in Russia opened in 1851, its trains had engines that burned wood.



- D** The engine of a container ship burned fuel made from petroleum oil.



Q.15) People use apple trees for food. We usually eat the part of this plant that contains the seeds. It grows from a pollinated flower.

Which part of the apple tree do we usually eat?

- A** The fruit
- B** The root
- C** The stem
- D** All of these



Q.16) Weather on Earth is caused by heat from the sun and _____.

- A** Climate
- B** Slope
- C** Wind
- D** Direction



Q.17) Which organ allows nutrients from digested food to be absorbed into the body's blood stream?

- A** Bladder
- B** Liver
- C** Diaphragm
- D** Small intestine



Q.18) A fish near the surface of the water might look like easy prey. But many fish are fast and slippery. This helps them escape from predators.

Which animal's feet are best adapted to grab a fish swimming near the surface of the water?



brahminy kite



ostrich



mallard



hen

Q.19) Select the part whose main job is to give strength and stiffness to a plant cell.

A Cytoplasm

B Cell wall

C Chloroplasts

D Mitochondria



Q.20) Ella plays with her niece. When she pulls the sled's rope forward, the rope also pulls her backward.

As Ella walks, she can feel the pull of the rope on her hand.



What is the direction of this force?

A Toward the rope

B Toward Ella

C Upwards

D Downwards



Q.21) To check a leaf that either it has made food or not we can use test using

A Iron solution

B Iodine solution

C Calcium solution

D water



Q.22) Ajmal needs a funnel to do an experiment in the science lab. Which one of the following he needs?

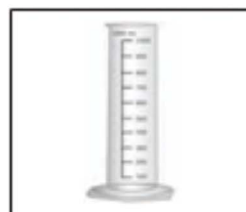
A



B



C



D



Q.23) Areeba purchased a new pen. How long that could be? Select the best estimate.

A 6 inches

B 6 feet

C 6 yards

D 6 miles



Q.24) Sughra is drinking coffee in a cold day of winter. What could be the temperature of a cup of hot coffee? Select the best estimate.

A 145°C

B 145°F

C -145°C

D -145°F



Q.25) Daewoo Pakistan added a new bus into their fleet. What could be the mass of that city bus? Select the best estimate.

A 10 ounces

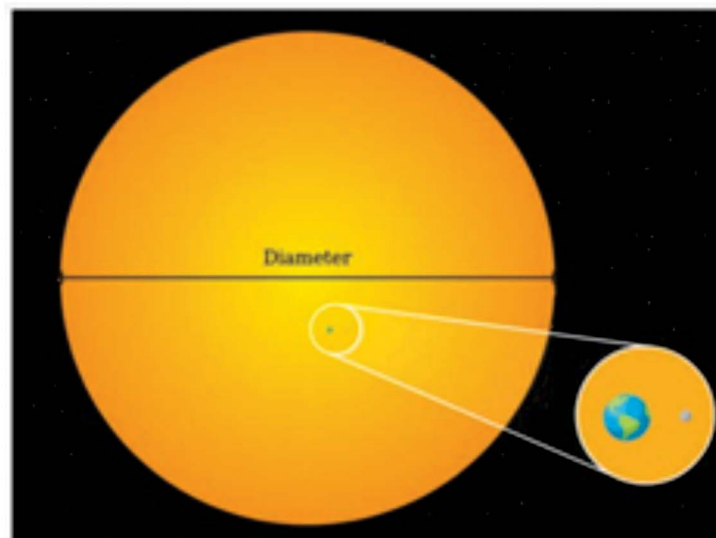
B 10 tons

C 10 pounds

D 10 kgs



Q.26) Our solar system is made up of the Sun and all the objects that move around it. These objects include planets, moons, asteroids, and comets. The sizes of the objects in the solar system are difficult to imagine without the help of a model. Models make certain characteristics of a system easier to understand. A model can be a physical object, a graph, a diagram, or a simulation. The diagram below is a model that shows the relative sizes of the Sun, the Moon, and Earth. The two small dots represent the accurate sizes of Earth and the Moon compared to the Sun. A close-up view of Earth and the Moon is also shown.



Complete the sentence to estimate the diameter of the Sun compared to Earth.

The Sun's diameter is about _____ times greater than Earth's.

A 100

B 3

C 10

D 50

Q.27) The passage below describes a student creating a physical model of Earth's rotation.



Tony is creating a model showing how Earth rotates over the course of one day. He uses a globe to represent Earth.

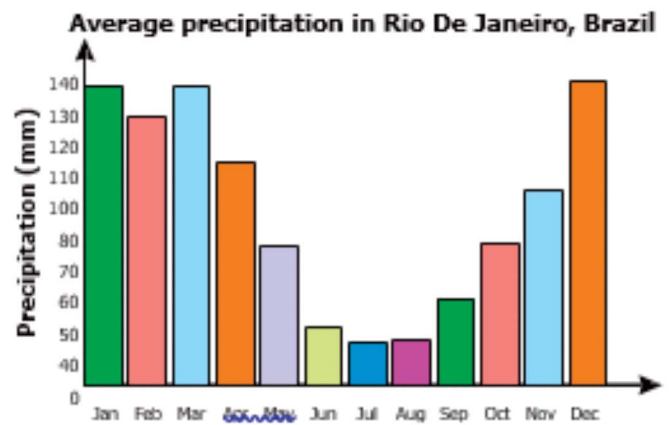
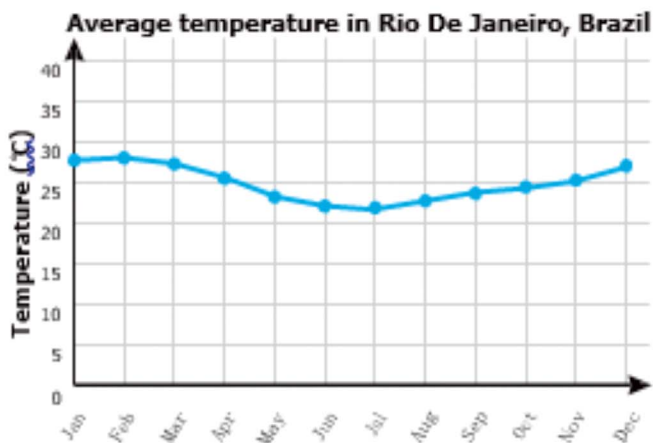
Tony knows that Earth spins on its axis, completing one rotation every 24 hours. He slowly spins the globe counterclockwise, completing one rotation in about 6 seconds.

In Tony's model, 1 second of rotation represents about _____.

- A** 2 Hours **B** 4 Hours **C** 6 Hours **D** 8 Hours



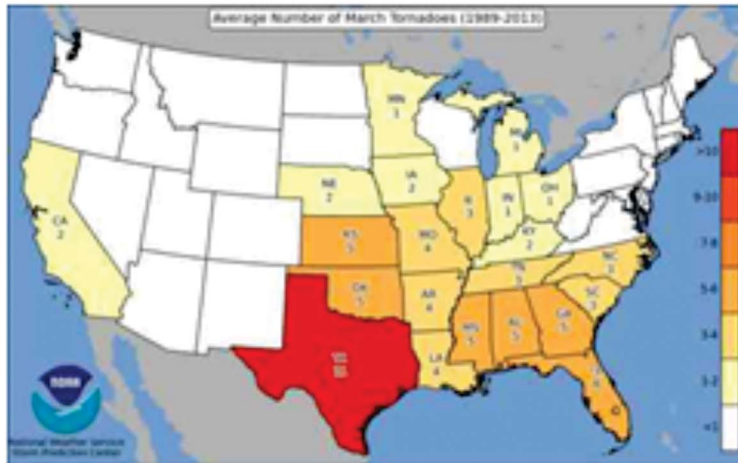
Q.28) Use the graphs to answer the question below.



Select the best weather prediction for Rio De Janeiro in November.

- A** The average temperature will be higher than in December, and there will be about 60 millimeters of precipitation.
- B** There will be a higher average temperature and more precipitation than in April.
- C** The average temperature will be about 20 oC, and there will be more precipitation than in July.
- D** The engine of a container ship burned fuel made from petroleum oil.

Q.29) Natural hazard maps can show data about large areas, such as entire countries, or smaller areas, such as states or cities. The map below shows data about tornadoes in a region.



Which of the following areas had the largest number of tornadoes between 1989 and 2013?

- A** OK **B** MN **C** TX **D** OH



Q.30) Read the text about an animal in motion.

A gecko used its sticky feet to crawl from the bottom of a window to the top of the window.

Complete the statement. Assume that the gecko's mass did not change.

The gravitational potential energy stored between the gecko and Earth _____ as the gecko crawled on the window.

- A** Increased **B** Decreased **C** Stayed the same **D** None of these



BEST OF LUCK!



ANSWER SHEET

INSTRUCTIONS:

- This is a generic answer sheet to be used by participants of all grades. Students of Grade 1-2 will fill in circles of first 20 questions. Grade 3-4 will fill in circles of 25 questions & Grade 5-10 will fill in circles of 30 questions.
- Please recheck your Name, Father Name, Garde & School written below, the same would appear at your certificate.
- Use of lead pencil is not allowed.
- Use only Black / Blue ink to fill in the circles.

Choose only ONE of the FOUR proposed answers (A,B,C or D) & fill in the circles with your answer.

Example of correctly filled table of answers.

A B C D Correct Filling Answer "C"

A B X D wrong filling

A B C D wrong filling

A B C D wrong filling

A B C D wrong filling

Q. No.	Answer			
1	<input type="radio"/> A	<input type="radio"/> B	<input checked="" type="radio"/> C	<input type="radio"/> D
2	<input checked="" type="radio"/> A	<input type="radio"/> B	<input type="radio"/> C	<input type="radio"/> D
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Q. No.	Answer			
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EDUCATIONAL LEADERSHIP & HIGH ACHIEVER AWARDS

FSP MC (VOL-7) 2022

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MS. UMM-E-ROMAN	FSP COORDINATOR	ARMY PUBLIC SCHOOL GLD CAMPUS	RAWALPINDI
MS. UROOBA HAMEED	FSP COORDINATOR	IQRA INTERNATIONAL SCHOOL AND COLLEGE	RAWALAKOT
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FAMOUS STUDENTS PLATFORM

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