KOTHARI INTERNATIONAL SCHOOL, PUNE

SUMMER VACATION ASSIGNMENT

Session 2024-25

Grade: IX

GENERAL GUIDELINES:

1. **Do not copy & paste from the Internet**. Questions will be asked verbally on the content of the assignments given.
2. Submission of Holidays HW: **10th June 2024.** Marks will be deducted if not submitted by the due date.
3. The Holidays Homework can be downloaded from **School's website**
4. For Assignment related queries, do contact the **subject teacher via email** given underneath every subject assignment.

ENGLISH

Complete Unit 1 and 2 of Words and Expressions Book.

SOCIAL SCIENCE

A) Portfolio

Sustainable development has been defined in many ways, but the most frequently quoted definition is from Our Common Future, also known as the Brundtland Report: "Sustainable development is **Development which meets the needs of the present without compromising the ability of future generations to meet their own needs'.**

Make a PORTFOLIO on Sustainable Development with key highlights on

1] Introduction of Sustainable Development.

2] Need for Sustainable Development.

3] Core elements of Sustainable Development.

4]Global and regional initiatives.

5]Progress and Challanges ahead.

B) MAP-On a <u>Physical map of India locate the following Mountain Ranges</u>:

The Karakoram, The Zaskar, The Patkai Bum, The Jaintia, The Vindhya Range, The Aravali, The Cardamon hills, The Indian desert, The western Ghats.The Satpuras, The Nilgiri hills,

Peaks: K2, KanchenJunga, Nanga Parbat, Anai Mudi, Mahendragiri.

Use A3 SIZE SHEET for the map.

SCIENCE

BIOLOGY

Q1.Make a 3D model of any plant cell or animal cell.

Q2.Draw a mind map to show cell components, cell organelles and its discoveries and function.

Q3. Draw the nucleus of the cell and write a short note for the following A) Double layered structure which encloses the nucleus B) Visible entangled mass of thread like structure C) A darkly stained round structure inside the nucleus

Q4. On A4 size sheet draw a neat labelled diagram of mitochondria and label its parts

PHYSICS

Dear Students,

Write your holiday homework neatly in your notebook. Use legible handwriting and proper spacing between words and sentences. Double-check your work for any spelling or grammatical errors before submission. Remember, presenting your work neatly reflects your commitment to excellence and helps you stay organized.

Complete the following holiday homework:

- MCQ
- Case study analysis.
- Assertion and reason.

MCQ

1. What is the difference between distance and displacement?

a) Distance is scalar, displacement is vector

b) Distance is vector, displacement is scalar

c) Both distance and displacement are scalar

d) Both distance and displacement are vector

2. A car travels 100 meters north, then 50 meters south. What is its total displacement?

a) 150 meters north

b) 50 meters north

c) 50 meters south

d) 150 meters south

3. If an object is moving with constant speed, what can be said about its acceleration?

a) It is positive

b) It is negative

c) It is zero

d) It is changing constantly

4. Which of the following is a vector quantity?

a) Distance
c) Displacement
b) Speed
d) Time

5. What is the SI unit of acceleration? a) m/s b) m/s^2 c) m/s^3 d) m/s^4

6. If a car travels 60 kilometres in 2 hours, what is its average speed?

a) 30 km/h
c) 120 km/h
b) 60 km/h
d) 15 km/h

7. What is the velocity of an object if it moves 10 meters to the east in 5 seconds?

a) 10 m/s
c) 5 m/s
b) 2 m/s
d) 50 m/s

8. Which of the following statements is true regarding velocity and speed?

a) Velocity is always greater than speed

b) Speed is always greater than velocity

c) Velocity and speed are always equal

d) Velocity and speed can be equal, but velocity includes direction information

9. A car accelerates uniformly from rest to a velocity of 20 m/s in 10 seconds. What is its acceleration?

a) $2\ m/s^2$
c) $20\ m/s^2$
b) $0.2\ m/s^2$
d) $200\ m/s^2$

10. If an object moves with a constant speed, what can be said about its acceleration?

a) It is positive
c) It is zero
b) It is negative
d) It is changing constantly

Case Study Questions

Case Study-1

Alex is a marathon runner who is training for an upcoming race. He typically runs 6 days a week, covering various distances and terrains. Alex meticulously tracks his training progress using a GPS running watch and a training log. Last week, Alex

recorded the following data: Sunday: Ran 16 kilometres on a trail with varying terrain at an average speed of 6.5 minutes per kilometre.

Monday: Ran 10 kilometres on flat terrain at an average speed of 5 minutes per kilometre. Tuesday: Ran 8 kilometres on hilly terrain at an average speed of 6 minutes per kilometre.

Wednesday: Rest day.

Thursday: Ran 12 kilometres on a combination of flat and hilly terrain at an average speed of 5.5 minutes per kilometre.

Friday: Ran 6 kilometres on a treadmill at a constant speed of 10 kilometres per hour.

Saturday: Rest day.

Questions:

1. What is Alex's total distance covered during the week?

   a) 42 kilometres
   c) 48 kilometres
   b) 50 kilometres
   d) 52 kilometres

2. What was Alex's average speed for the week?

   a) 5.5 minutes per kilometre
   c) 5.75 minutes per kilometre
   b) 6 minutes per kilometre
   d) 5.25 minutes per kilometre

3. On which day did Alex run the fastest on average?

   a) Monday
   c) Thursday
   b) Tuesday
   d) Sunday

4. What was Alex's displacement for the week?

   a) Cannot be determined from the given data
   c) 42 kilometres north
   d) 42 kilometres northwest
   b) 42 kilometres east

5. If Alex ran a total of 48 kilometres during the week, what was his average speed?

   a) 5.5 minutes per kilometre
   c) 6 minutes per kilometre
   b) 5.75 minutes per kilometre
   d) 5.25 minutes per kilometre

Case Study-2

Emma is a high school student who commutes to school every day. She uses various modes of transportation depending on the day and her schedule. Here's a summary of Emma's commuting activities for the past week: Monday: Walked to school, covering a distance of 2 kilometres in 20 minutes. Tuesday: Took the bus to school, which travelled 5 kilometres in 15 minutes due to heavy traffic. Wednesday: Rode her bike to school, cycling 3 kilometres in 12 minutes. Thursday: Walked to school again, but took a longer route this time, covering 3.5 kilometres in 30 minutes. Friday: Carpooled with friends to school, traveling 6 kilometres in 20 minutes.

Questions:

1) On which day did Emma spend the most time commuting to school?

a) Monday
c) Thursday
b) Tuesday
d) Friday

2) What was Emma's average speed when walking to school on Monday?

a) 5 km/h
c) 7 km/h
b) 6 km/h
d) 8 km/h

3) How many kilometres did Emma travel in total during the week?

a) 17 kilometers
c) 19 kilometers
b) 18 kilometers
d) 20 kilometers

4) Which mode of transportation did Emma use for the shortest commute time?

a) Walking
c) Bike
b) Bus
d) Carpooling

5) How long did Emma spend commuting to school on Wednesday, including cycling time?

a) 10 minutes
c) 15 minutes
b) 12 minutes
d) 20 minutes

Assertion (A) and Reason (R)

Following questions consist of two statements – Assertion (A) and Reason (R). Answer these questions selecting the appropriate option given below:

(a) Both A and R are true and R is the correct explanation of A.

(b) Both A and R are true but R is not the correct explanation of A.
(c)A is true but R is false.
(d) A is false but R is true.

i. Assertion: Displacement can never be greater than the distance traveled by an object. Reason: Displacement is the shortest distance between the initial and final positions of an object, while distance traveled is the total length of the path covered.

ii. Assertion: An object can have a constant speed but changing velocity. Reason: Velocity is a vector quantity that includes both speed and direction, so if the direction changes while the speed remains constant, the velocity changes.

iii. Assertion: When an object moves in a straight line, its displacement is equal to the distance travelled. Reason: In a straight line motion, displacement is the same as the distance travelled because the shortest path between two points is a straight line.

iv. Assertion: If a car travels a distance of 100 kilometres in 2 hours, its average speed is 50 km/h. Reason: Average speed is calculated by dividing the total distance traveled by the total time taken.

v. Assertion: Speed is a scalar quantity, while velocity is a vector quantity. Reason: Speed only has magnitude, while velocity has both magnitude and direction.

vi. Assertion: A train traveling at a constant speed around a curved track experiences zero acceleration. Reason: Acceleration is the rate of change of velocity, so if the speed remains constant, there is no change in velocity and hence no acceleration.

vii. Assertion: When an object moves with uniform circular motion, its speed remains constant. Reason: Uniform circular motion implies constant speed, but the direction of motion changes continuously, resulting in a constant change in velocity and thus non-zero acceleration.

viii. Assertion: If an object moves from point A to point B and then returns to point A, its displacement is zero. Reason: Displacement is a vector quantity representing the change in position, so if the object returns to its initial position, its displacement is zero.

ix. Assertion: A car traveling at a speed of 60 km/h and then slowing down to 30 km/h experiences a decrease in velocity. Reason: Velocity is a vector quantity that includes both speed and direction, so if the speed decreases, the velocity decreases.

x. Assertion: If two objects travel the same distance at the same time, they must have the same average speed. Reason: Average speed is calculated by dividing the total distance travelled by the total time taken, so if the distance and time are the same, the average speed is the same for both objects.

CHEMISTRY

Note- Use Half Chart paper and border it properly.

1. Make a mindmap on the chapter “Is matter around us pure?” (Classification of Matter)?

Explore examples from your surroundings . Enrich your mind map by using colourful pen and

pasting pictures of examples of different types of matter

HINDI

परियोजना कार्य - विषय - 'अंधविश्वास एक सामाजिक समस्या'

दिए गए विषय पर जानकारी हासिल कर निम्नलिखित संकेत बिंदुओं के आधार पर २०० शब्दों में एक रपोर्ट तैयार करें | रिपोर्ट तैयार करनए के लिए निम्नलिखित संकेत बिंदुओं

संकेत बिन्दु -

1.अंधविश्वास क्या है क्या है ?

2.अंधविश्वास के कारण क्या-क्या है ?

3.अंधविश्वास के कुछ उदाहरण

4.अंधविश्वास को दूर करनए के लिए आप क्या करोगे ?

A4 पेपर पर कार्य करे |

कार्य साफसुथरा तथा आकर्षक होना जरुरी है |

MATH

General Instructions:

1. **Do the questions on project sheets or A4 sheets**
2. **Make a folder and keep all the work in it.**

Q1. Locate the following on the number line:

a) $\sqrt{17}$
b) $\sqrt{5.5}$

Q2. Project work:

(i) Make a project on history of Number ☐ (pie). (using illustrations , interesting facts etc)

(ii) Bring articles, amazing facts, riddles, and recent discoveries in the field of Mathematics. (any 3)

Q3. Worksheet:

1. What is the value of $(21)^{3/2} \times (21)^{5/2}$
2. Express 1.8181… in the form p/q where p and q are integers and $q \neq 0$.
3. Simplify :

   a) $\sqrt{45} - 3\sqrt{20} + 4\sqrt{5}$

   b) $(3+\sqrt{3})(2+\sqrt{2})$

4. Find the value to three places of decimals of each of the following. It is given that $\sqrt{2} = 1.414$, $\sqrt{3} = 1.732$, $\sqrt{5} = 2.236$

   a) $(\sqrt{5} + 1) / \sqrt{2}$
   b) $2/\sqrt{3}$

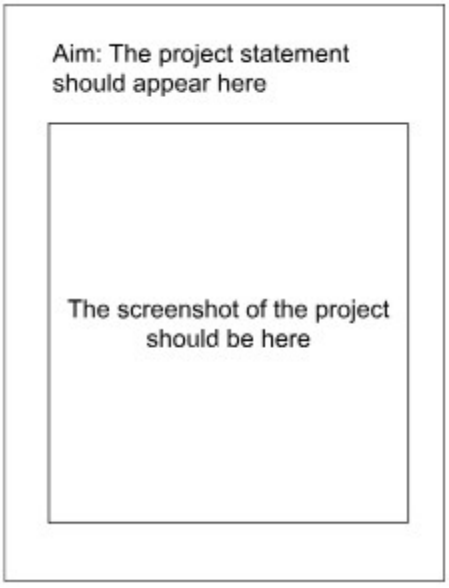
Q4. Kakuro or Kakkuro or Kakoro (Japanese: カックロ) is a kind of logic puzzle that is often referred to as a mathematical transliteration of the crossword. Kakuro puzzles are regular features in many math-and-logic puzzle publications across the world.

Solve 10 Kakuro puzzles and stick them on A4 sheets.

ICT

Please complete the following, take print out and put it in a file folder and submit. Softcopies to be submitted in Google classroom.

Each page should have the following layout:



Activity 1: Make it about any of the SDG Goals

Activity 2: A blog about your summer holiday

Activity 3: A report on Gudi Padwa celebration -include images

Activity 4: Write a topic of Biology and include appropriate picture

Activity 5: Make a Christmas scene.

FRENCH

Activity - do a detailed Research on the following topic- ' Le systeme scolaire en France ' (the 'French Schooling system')

Find out :

1. Which are the different curriculums followed in schools of France?
2. Which are the different subjects offered in a French school?
3. What are the different extracurricular activities followed in schools in Europe?
4. Usually how many days of the week do the students have their classes?
5. When do they get Holidays, etc. ?

Use A3 or A4 size sheets for your project.

----------x----------x----------x----------x----------x----------x----------x----------x----------