NIRJA SAHAY DAV PUBLIC SCHOOL

KANKE, RANCHI - 06

SUMMER VACATION HOMEWORK (SESSION 23-24)

Summer holidays are meant to improve your skills and enhance your capabilities in a relaxed manner. You get to learn something new and useful. You get the time to introspect and develop positive attitude through your work and research. This helps to improve your knowledge and prepare you for a better future.

Let the summer break be useful and fun filled for you.

Life Skills- The 10 Life Skills which we all need to develop are the ability to master our emotions, our health, our finances, our relationships and our school performance. Our ability to master these things has a direct impact on how we feel about ourself, our emotional balance, our physical health and our independence.

Life skills empowers young people to take positive action to participate in their communities, engage in continuous learning, protect themselves and promote health and positive social relationship.

To inculcate these Life Skills, we would like to encourage each one of you to participate in the community outreach programme. Enjoy them

COMMUNITY OUTREACH PROGRAMME

a) **Volunteering for Old age People**

b) **Each One Teach One**

c) **Sustainable Development Goal 2 is about creating a world free of hunger by 2030.To achieve it, immediate and intensified efforts are required to transform food system, ensure food security and improve nutrition. Being a major part of the society, you prepare a report based on investigations with your peer group in your locality on ZERO HUNGER DRIVE.**

Daily Activities

Read English Newspaper

Water the plants

Help your mom in kitchen

Practice Yoga for fitness

SCIENCE (BIOLOGY)

NUTRITION

Please get a print out of the work sheet and fill in the blanks.

1. **Which of the following options describes the characteristics of a living being?**
   (a)Nutrition (b) Respiration (c) Excretion (d) All of these
2. **Which of these is not required for photosynthesis?**
   (a)Sunlight (b) Carbon dioxide (c) Oxygen (d) Water
3. **Amoeba captures food with the help of _____.**
4. **The largest gland associated with human digestive system is _____.**
5. **The process by which green plants prepare their own food is called _____.**
6. **The mode of nutrition in amoeba is _____.**
7. **Organisms that derive their food from decaying matter are called _____.**
8. **The saliva contains _____ enzyme.**
9. **The walls of small intestine have _____ to increase the surface area for absorption of digested food**
10. **The process of digestion starts at _____ in humans.**
11. **The mode of nutrition in green plants is _____.**
12. **The processes which together perform the maintenance job are _____.**
13. **Life on earth depends on _____ based molecules.**
14. **Carbohydrates which are not used immediately are stored in the form of _____ in plants and _____ in humans.**
15. **Light energy is absorbed by _____ in autotrophs.**
16. **Water molecules splits into _____ and _____ during photosynthesis.**
17. **_____ are tiny pores present on the surface of the leaves.**
18. **Nitrogen is taken up by the plants as inorganic _____and_____ prepared by Bacteria from atmospheric nitrogen.**
19. **_____ are biological catalyst that breaks down food into smaller molecules.**
20. **The rhythmic movement in the gut that pushes the food forward is called _____movement.**
21. **Gastric glands in the _____ release HCl, _____ and mucus.**
22. **_____ protects the inner lining of the stomach from the action of HCl.**
23. **The exit of food from the stomach to small intestine is controlled by _____ muscle.**
24. **The longest part of the alimentary canal is _____.**
25. **Bile juice, makes the food _____ for the pancreatic juice to act on it.**
26. **Bile salts, break the fats into smaller globules for the _____ to act on them.**
27. **Pancreatic juice contains _____ for digestion of proteins, _____ for breaking down emulsified fats.**
28. **The enzymes present in the juice secreted by small intestine, convert proteins to _____, carbohydrates into _____ and fats into _____ and _____.**
29. **The _____ absorb water from the undigested food.**
30. **The exit of the waste material is regulated by anal_____.**
31. **The process of conversion of _____ energy into _____ energy is called photosynthesis.**
32. **_____ is the natural source of light for photosynthesis.**
33. **When the guard cells swell up due to the entry of water, the stomata gets _____.**
34. **Bile and pancreatic ducts open into _____.**
35. **_____ regulates the opening and closing of stomata.**
36. **$6CO_2 + 12H_2O$----------→ _____ +_____ +_____.**

37. _____ is produced as a byproduct of photosynthesis.
38. The action of bile can be called _____.
39. Food is finally digested in _____.
40. Bile is produced by _____.
41. Gastric juice is _____ in nature.
42. The first enzyme to mix with food in the digestive tract is _____.
43. _____ is the process of procuring and utilization of food.
44. The functions of stomata are _____ and _____.
45. _____ is an example of saprophyte.

RESPIRATION

1. The food material taken during nutrition is used in cells to provide _____.
2. Pyruvate is a _____ carbon molecule while glucose is a _____ carbon molecule.
3. During fermentation in yeast, the pyruvate gets converted to _____ and _____ and is called _____ respiration.
4. The process of conversion of glucose into pyruvate takes place in the _____.
5. The pyruvate breaks up to _____ and _____ in the mitochondria and is called _____ respiration.
6. The release of energy is much greater in _____ than in _____ respiration.
7. Cramps in the muscles are caused due to _____ converting into _____ during sudden activity.
8. The energy released during cellular respiration is immediately used to synthesize a molecule called _____ which is the energy _____ and acts as a fuel.
9. The rate of breathing is much faster in _____ than terrestrial animalsThe oxidation of food in the living cells is called _____.
10. The technical term used for biological oxidation of glucose into carbon dioxide and water in the presence of oxygen is called _____.
11. The respiratory organ in fish is _____.
12. The functional unit of lungs are _____
13. A molecule of glucose generates _____ molecules of ATP.
14. Respiration is the process in which energy is released and stored in the form of _____.
15. Respiration and _____ are just the opposite processes.
16. The lime water turns milky due to presence of _____ gas in the exhaled air.
17. The primary substance for respiration is _____.
18. The narrowed and most numerous tubes of lungs are termed as _____.
19. In anaerobic respiration _____ gas is given out.
20. Oxygen in lungs ultimately reaches the _____.
21. During respiration, the muscles of the diaphragm _____.
22. _____ is the respiratory pigment found in RBC .
23. Diffusion is insufficient to meet _____ requirement of multicellular organisms.
24. Gaseous exchange in woody plants takes place through _____ and _____.
25. Rings of _____ prevent the trachea and bronchi ,prvent their collapse when air is not passing through them.
26. The full form of ATP is _____.
27. The lungs always contain a residual volume of air so that there is enough time for _____ to be absorbed and _____ to be released.
28. CO_2 is _____ soluble in water than oxygen so is mostly transported in _____ form in the blood.
29. _____ is injurious to health.
30. The form of energy used in respiration is _____.
31. Which of the following statement(s) is (are) correct?
    (a) Pyruvate can be converted into ethanol and carbon dioxide by yeast.
    (b) Fermentation takes place in aerobic bacteria.

(c) Fermentation takes place in mitochondria.
(d) Fermentation is a form of anaerobic respiration.
(1) (a) and (c) (2) (b) and (c) (3) (b) and (d) (4) (a) and (d)

32. The mechanism of breathing out of _____ is called exhalation.
33. At night, when there is no photosynthesis occurring, _____ elimination is the major activity going on while during day _____ elimination is the major activity.
34. Write the correct sequence of air flow from the atmosphere to the atmosphere.

Answer the following questions in A4 size paper-

(a) Which organism is known as the natural purifier of air?
(b) "White blood corpuscles are called the soldiers of the body." Why?
(c) What happens if conducting tubes of circulatory system develop a leak/ How could this be avoided?
(d) What happens to the rate of breathing during vigorous exercise and why?
(e) Lack of oxygen leads to cramps in cricketers. Why?

PROJECT

Prepare a working model of Human Excretory System

PORTFOLIO

Prepare your Portfolio in A4 size colourful paper with the following details

PAGE 1
INDEX
PAGE 2(SAMPLE GIVEN)
1. Name
2. Class
3. Section
4. Roll
5. Admission no
6. Father's Name and Mobile Number
7. Mother's Name and Mobile Number
8. Blood Group
9. Address
10. Your passport size photograph

PAGE 3
1. My Strength
2. My Weakness
3. My Hobby (with photograph)
4. The Opportunity I got
5. I am scared of

PAGE 4
A labelled diagram of your choice in biology with research about it in about 50-75 words.
PAGE 5
Record of weekly test (Biology)
PAGE 6
Record of Biology Notebook correction
PAGE 7
Peer Assessment
PAGE 8
Class Teacher Assessment
PAGE 9
Self Assessment
PAGE 10
(SAMPLE GIVEN)

PAGE 2 (SAMPLE)

Photo

Welcome to My Portfolio

I am: _____ bearing admission no _____

in DPS Guwahati and reading in Grade_____ .

Email Id: _____ Blood Group:_____

Contact No: Father: _____and Mother: _____

Address:_____

What I understand by portfolio:

_____

_____

_____

_____

My Goals:

_____

_____

_____

_____

In the end my portfolio will reflect my abilities:

_____

_____

_____

_____

PAGE 5

RECORD OF WEEKLY TEST(BIOLOGY)

SL.NO	DATE	MARKS	SIGN OF THE STUDENT	SIGN OF THE PARENT	SIGN OF THE SUB TEACHER
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					

PAGE 8 RECORD OF NOTEBOOK CORRECTION

Name of the Student _____ Class and Section_____

NOTEBOOK CORRECTION(BIOLOGY)

Sl no	MONTH	DATE	DATE	DATE	DATE	DATE	DATE	SIGN STUDENT	SIGN TEACHER
1	APRIL								
2	MAY								
3	JUNE								
4	JULY								
5	AUGUST								
6	SEPTEMBER								
7	OCTOBER								
8	NOVEMBER								
9	DECEMBER								
10	JANUARY								
11	FEBRUARY								
12	MARCH								

PEER ASSESSMENT

SL No.	Descriptors(Parameters for assessment)	Round 1	Round 2	Round 3	Total
1.	Helps classmates in case of difficulties in academic and personal issues				
2.	Seek feedback from teachers and peers for self-improvement				
3.	Actively listens and pays attention to others				
4.	Sees and appreciates other's point of view				
5.	Demonstrates leadership skills, like responsibility, intiative etc				
6.	Is optimistic				
7.	If unsuccessful ,gracefully takes the task again				
8.	Supports and empathizes with others				
9.	Politely declines –'say no', when he/she does not want to undertake a task				
10.	Is innovative in ideas				
	TT Grand by Self at the end of the year	**N/D= N/10x5**			**N/10**
	Name of Peer1/ Peer2/ Peer3/TT by self				
	Signature of Peer1/ Peer2/ Peer3				
	Signature of Class/Subject teacher				

Signature of the Student: _____

Grading scheme for peer assessment:

1	2	3	4	5
Poor	Fair	Average	Good	Excellent

Class Teacher Assessment

SL No.	Descriptors(Parameters for assessment)	Round 1	Round 2	Round 3	Total N/3
1.	Takes initiative to plan ,create and direct various events				
2.	Demonstrate positive attitudes towards learning				
3.	Takes suggestions and criticism in the right spirit				
4.	Accepts norms and rules of the school				
5.	Feels free to ask questions				
6.	Respect ideas and opinion of others				
7.	Treats classmates as equal ,without any sense of superiority or inferiority				
8.	Does not bully others				
9.	Shares credit and praise with team members and peers				
10.	Participates eagerly in intra school /inter school events				
	Grand TT	**N/D= N/10x5**			**N/15**
19.	Signature of the Teacher				

Signature of the Student: _____

Grading scheme for peer assessment:

1	2	3	4	5
Poor	Fair	Average	Good	Excellent

Self-Assessment

SL No.	Descriptors	Round 1	Round 2	Round 3	Total
1	Attaches a lot of importance to school activities and programmes				
2	Shoulders responsibility happily				
3	Takes cares of school property				
4	Respect teachers and school rules				
5	Sensitive and concerned about environmental degradation				
6	Kind and helpful towards classmates, people of community				
7	Experiments to find new solution				
8	Analyzes and critically evaluate events on the basis of data and information				
9	Questions and verifies knowledge				

Parameters:

1	2	3	4	5
Poor	Fair	Average	Good	Excellent

Signature of the Student: _____

My Accomplishments/Achievements (If any)

Development in My Strengths:

I need to work on:

Signature of the Students: _____

The Portfolio should be colourful and should be Art Integrated.

ART INTEGRATED PROJECT

India's fuel consumption is growing faster than global average. India is world's third largest importer of crude oil after US and China. In the context of increasing demand and scarcity of petroleum, each state of our country is taking measures. Make a comparative study between Jharkhand and Telangana regarding their fuel consumption and ways to reduce Carbon footprint.

NCERT TEXT BOOK

Complete the exercise questions of lesson 1 (Chemical reactions and equations) in homework copy.

PRACTICAL NOTE BOOK

Complete the lab notebook by noting down the activity details prescribed during lab activities.

SCIENCE (PHYSICS)

Q.1The distance of object from the mirror is equal to the focal length of the mirror. Then the image lies on……

1.must be on infinity
2.may be on infinity
3.may be on focus
4. none

Q2. Define Snell's law? If ray of light travel from air to glass, angle of incidence = 30deg.find angle of refraction.

Q3. Define angle of incidence and angle of reflection with respect to normal with diagram

Q4. Define refractive index and what is the refractive index of water with respect to air

Q5. A concave mirror produces three times magnified (enlarged) real image an object placed at 10cm in front of it. Where is the image located?

Q6 An object is placed 20cm from convex mirror, its image is formed 12cm from mirror. Find the focal length of mirror.

विषयः हिंदी

1. क्षितिज भाग 2 (गद्य) पाठ- 'नेताजी का चश्मा' के प्रश्नोत्तर अपनी गृह कार्य कॉपी में लिखिए।

2. कला एकीकृत योजना के अंतर्गत अलंकार (श्लेष, उत्प्रेक्षा, अतिशयोक्ति और मानवीकरण) पर आधारित बिंदुवार प्रस्तुतीकरण (PPT) के रूप में वर्णित कीजिए।

3. प्लास्टिक के विरुद्ध लोगों में जागरूकता लाने के लिए कपड़े के थैले बनाने की तीन दिवसीय कार्यशाला के बारे में 25 से 30 शब्दों में विज्ञापन तैयार कीजिए।

4. आपके आस-पास की दुकानों में मिलावटी सामान बेचा जा रहा है। इसकी सूचना देते हुए जिला स्वास्थ्य अधिकारी को शिकायती ईमेल लिखिए।

5. परीक्षा के दिनों में अनियमित विद्युत आपूर्ति की समस्या की ओर ध्यान आकृष्ट करते हुए, प्रबंधक, राज्य विद्युत आपूर्ति निगम को पत्र लिखिए।

6.वाद- विवाद प्रतियोगिता हेतु 'राष्ट्रीय शिक्षा-नीति-2020' विषय के पक्ष/विपक्ष में अपने विचार तैयार करें।(निर्धारित समय 03 मिनट)*

ENGLISH

Section 1 - READING SKILL

1. **Read the editorial of an English Newspaper of your choice and express your views on the same.**
2. **Read any two novels and write book review in your book review copy.**
   Suggested Readings:
   a) **The Story of My Life - Hellen Keller**
   b) **The Diary of Young Lady - Anne Frank**
3. **Prepare and practice for Periodic Test I**

Section 2 - SPEAKING SKILL

1. **Prepare speech on the following topics:**
   a) **Role of youth in upliftment of society**
   b) **Value of Time**

विषय - संस्कृतम्

1.अधोलिखित समयं संस्कृतभाषायां परिवर्तनम् कृत्वा सचित्र वर्णनं कुरु।

(क) 10.00बजे (ख)10.15बजे (ग)10.30बजे (घ) 10.45बजे।

2. तृतीयः पाठः(रमणीया ही सृष्टिरेषा)चतुर्थः पाठः (आज्ञा गुरुणाम् ही अविचारणीय) इति पाठस्य संपूर्णं अभ्यास कार्यं स्वटिप्पणी पुस्तिकायां लिखत।

2.पाठ्यक्रमानुसार सम्पूर्णं सन्धि कार्यं नियमानुकूलं कृत्वा न्यूनातिन्यून पंच उदाहरणं अपि लिखत्।

3."उद्यमस्य महत्वं " इति विषयं अधिकृत पञ्च सरल वाक्यं लिखत।

टिप्पणी-उपरोक्त सम्पूर्णं कार्यं संस्कृतस्य टिप्पणी पुस्तिकायां लिखत।

SOCIAL SCIENCE - ECONOMICS

Answers the following questions.

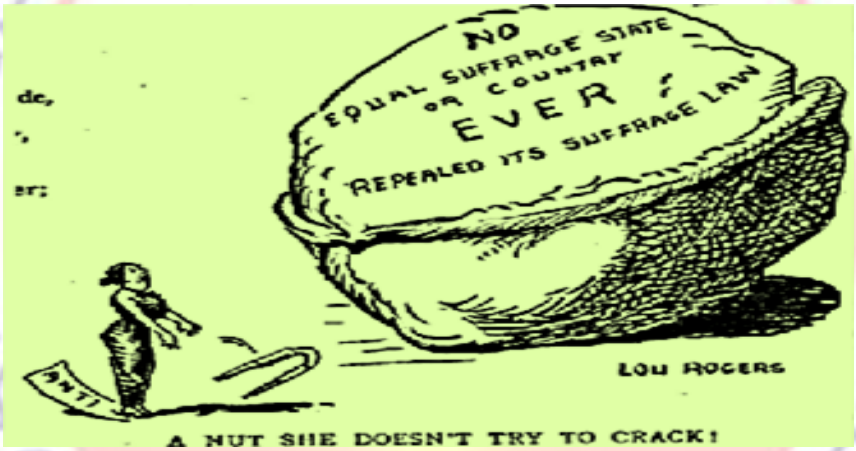
1. **What is the criterion used by the World Bank in classifying different countries? What are the limitations of this criteria.**
2. **Why do we use averages? Illustrate with the help of an example?**
3. **Why is the issue of sustainability important for development?**
4. **What are the various aspirations of persons besides income?**
5. **How is G.D.P. (gross domestic product) calculated?**
6. **Why is tertiary sector becoming so important in India?**
7. **What do you mean by disguised unemployment?**
8. **Why is NREGA 2005' referred as the right to work?**

9. **"There is also a need for protection and support of the workers in the unorganized sectors". Explain.**
10. **Why does the government support some activities of the public?**

HISTORY/CIVICS/ GEOGRAPHY

1. **Do a case study of any one country on "Federalism".**
2. **"The changing status of Women in 20th century-causes and effects" Write an article on the above-mentioned topic illustrating with suitable Source examples The article should cover examples from both Indian and world history. You have been provided with examples of the sources.**

Source 1.



Source 2

3. **Courtesy US Library of Congress Source 3**
   Woman is the incarnation of ahimsa. Ahimsa mean infinite love, which again means infinite capacity for suffering. And who but woman, the mother of man, shows this capacity in the largest measure?
   Let her translate that love to the whole of humanity... And she will occupy her proud position by the side of man... She can become the leader in satyagraha...---- Quotation by Mahatma Gandhi
4. **Find out more about nationalist symbols in countries outside Europe. For one or two countries, collect examples of pictures, posters, poems, stories or music that are the symbol of nationalism and paste / write about them in history note book/ scrap book.**
5. **Prepare an extensive Comparison Table of Energy Resources used in India. (Include conventional, non-conventional, potential and stock resources)**

Mathematics

1. If d is the HCF of 56 and 72, find x, y satisfying d = 56 x + 72y. Also, show that x and y are not unique.
2. Find the largest number which divides 245 and 1029 leaving remainder 5 in each case.
3. Use Euclid's division algorithm to find the HCF of :
   (i) 306 and 657 (ii) 1260 and 7344 (iii) 1296 and 2520
   (iv) 392 and 267540 (v) 176 and 38220 (vi) 27727 and 53124
4. Two tankers contain 1000 litres and 760 litres of petrol respectively. Find the maximum capacity of a container which can be used to measure petrol of both tankers in exact number of times.
5. Find the zeroes of the quadratic polynomial and verify the relationship between the zeroes and coefficient of polynomial $p(x) = x^2 + 7x + 12$
6. Verify that, 1, – 2 are zeroes of cubic polynomial $2x^3 + x^2 – 5 + 2$. Also verify the relationship between the zeroes and their coefficients.
7. Apply the division algorithm to find the quotient and remainder on dividing p(x) by g(x) as given below $p(x) = x^4 – 3x^2 + 4x + 5$, $g(x) = x^2 + 1 – x$
8. If α, β are the zeros of the polynomial $f(x)=2x^2 + 5x + k$ satisfying the relation $\alpha^2 + \beta^2 + \alpha\beta=21/4$,, then find the value of k for this to be possible.
9. If sum of the squares of zeros of the quadratic polynomial f (x) - 8x + k is 40, find the value of k.
10. Find the number of terms common to two AP's 3, 7, 11, … 407 and 2, 9, 16, …., 709.
11. If the third term of an A.P. is 12 and the seventh term is 24, then the 10^{th} term is …….
12. If 3+ 5+ 7+ .....upto n terms = 7 then the value of n is ……..
    5+ 8+ 11+ .....upto 10 terms
13. The sum of n terms of two arithmetic progressions are in the ratio (3n + 8) : (7n + 15). Find the ratio of their 12^{th} terms.
14. In an A. P. if m^{th} term is n and the n^{th} term is m, where $m \neq n$. Find the pth term.
15. Solve the following system of equations 1/2X – 1/Y = -1, 1/X +1/2Y = 8, where $x \neq 0$, $y \neq 0$.
16. Solve : 37x + 41y = 70, 41x + 37y = 86
17. For what value of k will the following system of linear equations has no solution?
    3x + y = 1, (2k – 1)x + (k – 1)y = 2k + 1
18. Find the values of p and q for which the following system of equations has infinite number of solutions
    2x + 3y = 7, (p + q)x + (2p – q)y = 21
19. In a two digits number, the ten's digit is three times the unit's digit. When the number is decreased by 54, the digits are reversed. Find the number.
20. A man travels 370 km partly by train and partly by car. If he covers 250 km by train and the rest by car, it takes him 4 hours. But, if the travels 130 km by train and the rest by car, he takes 18 minutes longer. Find the speed of the train and that of the car.
21. A boat covers 32 km upstream and 36 km downstream in 7 hours. Also, it covers 40 km upstream and 48 km downstream in 9 hours. Find the speed of the boat in still water and that of the steam.

INFORMATION TECHNOLOGY

1. Draw and colour **"Different Signs of Visual Communication"** in A4 sheet only.
2. Prepare an art integrated activity on **"Communication Skills including 7 C's of Effective Communication"** in Power Point Presentation.(submit printout only)
3. Prepare a document file using MS Word on **"Various types of Barriers in Effective Communication"**. (submit A4 sheet only)
4. Draw and colour **"The Diagram of Communication Cycle"** in A4 sheet only.
5. Prepare an art integrated activity on **"Principles of Effective Communication"** in Power Point Presentation.(submit printout only)

Note: Keep all above activities in a single file.