

DAV Public School Gandhi Nagar (CCL), Ranchi – 8

Holiday Home – Work (2018-19)

Class :IX

Mathematics

- Which is greater?
(a) $\sqrt[3]{3}$ or $\sqrt[4]{4}$ (b) $\sqrt[3]{7}$ or $\sqrt[5]{5}$
- Find six rational between and $\sqrt{2}$ and $\sqrt{3}$.
- Express in the form of $\frac{p}{q}$ where p and q are integer and $q \neq 0$.
(a) $3.\overline{45}$ (b) $3.7\overline{66}$ (c) $\overline{.367}$
- Simplify: $\frac{7+3\sqrt{5}}{3\sqrt{5}} + \frac{7+3\sqrt{5}}{3-\sqrt{5}}$
- Represent $\sqrt{4.5}$ on the number line.
- If $x = 1 + \sqrt{2}$ find the value of $(x - \frac{1}{x})^3$
- Simplify: $\frac{1}{\sqrt{3} + \sqrt{2} - \sqrt{5}}$
- If $a = 5 - 2\sqrt{6}$ find the value of $\sqrt{a} - \frac{1}{\sqrt{a}}$
- Show that: $\sqrt{y^{-1}y} \cdot \sqrt{y^{-1}z} \cdot \sqrt{z^{-1}x} = 1$
- Rationalize: $\frac{1}{7+5\sqrt{2}}$
- Show that $0.142857142857 \dots = \frac{1}{7}$.
- Find 5 irrational number between $\frac{1}{7}$ and $\frac{2}{7}$

Enrichment questions

- If $a = \frac{\sqrt{3}+1}{\sqrt{3}-1}$ and $b = \frac{1}{a}$, find the value of $a^2 - b^2 + ab$
- Simplify: $\frac{4}{3\sqrt{3}-2\sqrt{2}} + \frac{3}{3\sqrt{3}+2\sqrt{2}}$
- Simplify: $128^{-\frac{2}{7}} - (625^{-3})^{-\frac{1}{4}} + 14(2401)^{-\frac{1}{4}}$
- Show that: $\frac{x^a(b-c)}{x^b(a-c)} \div (\frac{x^b}{x^a})^c = 1$
- Find the value of a and b if $\frac{7+3\sqrt{5}}{3+\sqrt{5}} - \frac{7-3\sqrt{5}}{3-\sqrt{5}} = a + \sqrt{5}b$
- If $a = 9 + 4\sqrt{5}$, $b = 9 - 4\sqrt{5}$ find $a^3 - b^3$.

7. Simplify: $\frac{4}{3\sqrt{3}-2\sqrt{2}} + \frac{3}{3\sqrt{3}+2\sqrt{2}}$
8. Evaluate: $\frac{1}{\sqrt{2}+1} + \frac{1}{\sqrt{3}+\sqrt{2}} + \frac{1}{\sqrt{4}+\sqrt{3}} + \dots + \frac{1}{\sqrt{9}+\sqrt{8}}$
9. Find the value of $\frac{1}{\sqrt{3}-\sqrt{2}-1}$ correct to three places of decimal if $\sqrt{2} = 1.414$, $\sqrt{6} = 2.45$.
10. Express $0.6 + 0.\bar{7} + 0.\overline{47}$ in the form $\frac{p}{q}$ where p and q are integer.

ENGLISH

1. Read a book of your choice and write a review of it in 150 to 200 words in your holiday homework copy.
2. Complete the story with the beginning lines given below in about 200 to 250 words. Give a suitable title to your story.
 "It was a freezing cold night. I found a helpless family at my doorstep. I invited the family members to sleep inside but in the morning-----".
3. Write three forms of the verbs given below in your HHW Copy.
 Cut, put, cost, spread, sleep, drink, eat, run, come, walk, write, get, see, buy, bring, burn, pay, lose, blow, get, bite, draw, lay, beg, keep, give, try, earn, wear, break, carry, swim, fly, learn, hit, fall, hide, come, go.

SANSKRIT

1. कवि, नदी, साधु, पितृ, भवत्, राजन्, अस्मद्, युष्मद्, किम् (त्रिषु लिंगेषु) रूपाणि लिखित्वा स्मरतु।
2. कृ, अस्, भू, दृश्, स्था (पंच लकारेषु) सेव्, लभ् (लट्, लृट् लकारयोः) लिखित्वा स्मरतु।
3. क्त्वा, ल्यप्, तुमुन् प्रत्ययैः निर्मितैः पदैः वाक्यानि रचयतु।
4. प्र, परा, सम्, अनु, अव, दुः, वि, अधि, अति, परि, उप एतैः उपसर्गैः पंच-पंच पदानि लिखतु।
5. कानिचित् त्रीणि चित्राणि आश्रित्य पंच-पंच वाक्यानि लिखतु।

Chemistry

- Q1. Learn and write the symbol, formula and valency / charges of different radicals.
- Q2. Write and learn the difference between solids, liquids and gas on the basis of their properties.
- Q3. Explain the activities to explain the characteristics of matter like:
 - (a) Particles of matter have intermolecular space.
 - (b) Particles of matter have some force of attraction.
 - (c) Matter consists of a large number of small particles.

BIOLOGY

- Q1. To prepare temporary mount of a) Onion peel b) Human cheek cells and to record observations and draw their labelled diagram. (To be done in the Laboratory record).
- Q2. Draw a plant cell and label the parts which
 - a) Determines the function and development of cell.
 - b) Packages materials coming from endoplasmic reticulum.

- c) Provides resistance to microbes and to withstand hypotonic external media without bursting.
- d) Is site for many biochemical reactions necessary to sustain life.
- e) Is a fluid contained inside the nucleus

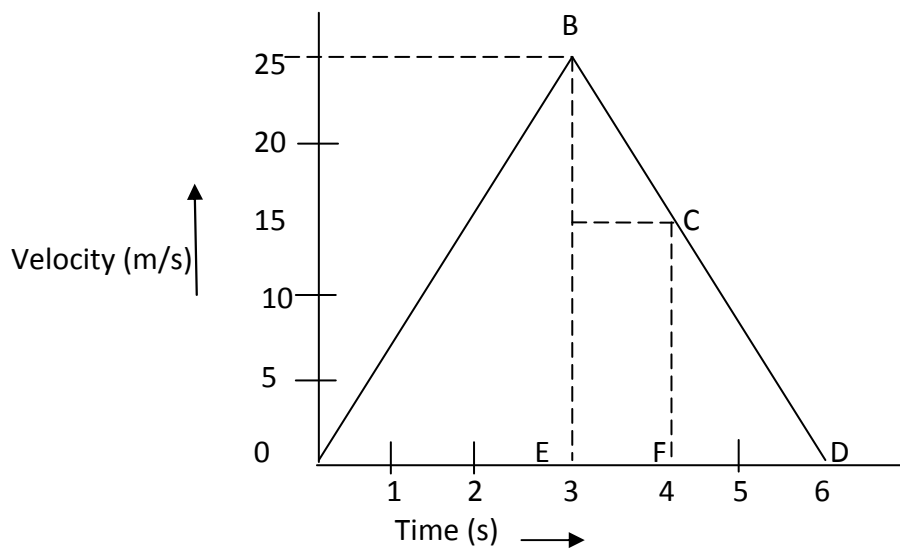
Q3 Why does the skin of your finger shrink when you wash clothes for a long time?

Q4 Do you agree that " A cell is a building unit of an organism " Explain why? .

Q5 How is bacterial cell different from an onion cell?

Physics

1. Two stones are thrown vertically upwards simultaneously with their initial velocities u_1 and u_2 respectively. Prove that the heights reached by them would be in the ratio of $u_1^2 : u_2^2$ (Assume upward acceleration is $-g$ and downward acceleration to be $+g$)
2. Study the velocity time graph and calculate.
 - (i) The acceleration from A to B.
 - (ii) The acceleration from B to C.
 - (iii) The distance covered in the region ABE.
 - (iv) The average velocity from C to D.
 - (v) The distance covered in the region BCFE.



3. The following table gives the data about motion of a car

Time (h)	11:00	11:30	12:00	12:30	1:00
Distance (km)	0	20	30	65	100

Plot the graph and

- (a) Find the speed of the car between 12:00h and 12:30h.
- (b) Find the average speed of the car?
- (c) Is the car's motion an example of uniform motion? Justify.
4. (a) A train 100m long is moving with a constant velocity of 60 kmh^{-1} . Find the time it takes to cross the bridge 1 km long.

- (b) The slope of the line on a position-time graph reveals information about an object's velocity. What conclusion can you draw regarding the motion of an object, if the position-time graph is a:
- (i) Horizontal line parallel to time axis.
 - (ii) Straight line at 45° to time axis.
 - (iii) Curve.
5. A car is travelling at 20m/s along a road. A child runs out into the road 50m ahead and the car driver steps on the brake pedal. What must the car's deceleration if the car is to stop just before it reaches the child?

Social Science

Geography

SUBJECT ENRICHMENT

- 1) Name the union territories where legislative assembly elections were held in 2015?
- 2) What role is played by Indian Ocean in the economic development and prosperity of India?
- 3) How deployment of Chinese forces in Doklam will influence India's relation with china?
- 4) On the political map of India locate and label the following with appropriate symbolization of index :
 - i. Palk strait
 - ii. Bangladesh
 - iii. Maldives
 - iv. Telengana
 - v. Gulf of Mannar

HOLIDAY HOMEWORK

- 1) Why $82^\circ 30'E$ is selected as the standard meridian of India?
- 2) There is time lag of two hours between Gujarat and Arunachal Pradesh but watches show same time. Give reason.
- 3) How opening of Suez Canal was beneficial for the development of trade between India and Europe.

History

1. Prepare a power point presentation on the 'French Revolution'.

Political Science

1. Mention the features of democracy.
2. Why does democracy a better form of government?
3. What are the demerits of democracy?

Economics

1. What are the basic requirements of production?

Hindi

- अर्थ के आधार पर वाक्य के आठ प्रकारों के दस-दस उदाहरण दीजिए।
- निम्नलिखित उपसर्गों से दो-दो शब्दों का निर्माण कीजिए –

क. दुर	ख. नि	ग. प्रति	घ. आ
ड. सु	च. अधि	छ. अति	ज. उत्
झ. परि	ञ. उन	ट. हम	ठ. ला
ड. वे	ढ. वद	ण. कम	
- निम्नलिखित प्रत्ययों की सहायता से दो-दो शब्दों का निर्माण कीजिए –

क. त्व	ख. इत	ग. ईन	घ. ला
ड. इक	च. इक	छ. इया	ज. आलू
झ. पन	ञ. दार	ट. आपा	ठ. आई
ड. ता	ढ. न		
- निम्नलिखित शब्दों से उपसर्ग व मूल शब्द अलग कीजिए –

क. प्रदेश	ख. व्याकरण	ग. न्याय	घ. प्रत्येक
ड. उज्जवल	च. आहार	छ. अनुभव	ज. खुशबू
झ. लाईलाज	ञ. नसमझ		
- समास का परिभाषा देकर उसके भेदों को स्पष्ट करते हुए पाँच-पाँच उदाहरण दें।
- समस्त पदों का विग्रह करते हुए उसके भेद लिखें।

क. द्विगु	ख. परलोकगमन	ग. हरफनमौला	घ. हथकड़ी
ड. चवन्नी	च. पुस्तकालय	छ. दहीबड़ा	ज. यथाशक्ति
झ. हाथोंहाथ	ञ. बड़बोला	ट. मक्खीचूस	ठ. नीलकमल
ड. विद्याधन	ढ. महात्मा	ण. भयभीत	

Subject enrichment

- प्रेमचंद के व्यक्तित्व कृतित्व पर प्रकाश डालें।
- कफन, पूस की रात, बड़े भाई साहब, बड़े घर की बेटी, कहानियों को पढ़कर 100-100 शब्दों में प्रत्येक कहानी में निहित भाव व संदेश को लिखिए।
- माखनलाल चतुर्वेदी द्वारा लिखित किन्ही पाँच देशभक्ति कविताओं का संग्रह करें।
- खादी कपड़ों की विशेषताओं का उल्लेख करते हुए एक विज्ञापन तैयार करें।
- अनुप्रास, यमक, श्लेष तथा उपमा अलंकारों को स्पष्ट करते हुए दो-दो उदाहरण दें।

Computer Science

- Make a project on the topic 'Utility of Computer in contemporary world' in a word processor package.
- Write a note on:
 - Units of storage
 - Characteristics of computer
 - Functional unit of CPU
 - System Software

Drawing: Any two festival (Composition).