NEW STANDARD ACADEMY

PHYSICS

1. What is weightlessness?.
2. Is value of "g" same at all places on the Earth?. Give reason for your answer.
3. Why the value of 'g' decreases when we move from the poles to the equator?.
4. A certain particle has a weight of $30N$ at a place where the acceleration due to gravity is $9.8 \ m/s^2$
   (a) What are its mass and weight at a place where acceleration due to gravity is $3.5 \ m/s$ square
   (b) What are its mass and weight at a place where acceleration due to gravity is 0?.
5. Match the column:

	Cloumn I		Column II
(A)	Attraction between two planets	(1)	gravity
(B)	Attraction between a body and a planet	(2)	weightlessness
(C)	Free fall	(3)	gravitational force
(D)	Weight	(4)	gravitation

6. The gravitational force between two objects is 49 N. How much distance between these objects be decreased so that the force between them becomes double?.
7. What is the force of gravitation between two point masses of 1 kg and 2 kg kept $1 \ m$ apart?.
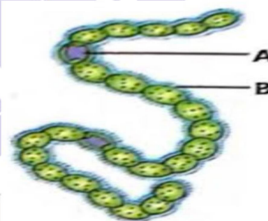
CHEMISTRY

1. Identify the constituent elements of the following compound.
   a. Baking Soda   b. Ammonia
   c. Silver Chloride   d. Calcium Carbonate
2. Classify the following substance into elements, compounds and mixture.
   a. Mercury   b. Steam
   c. Dry Ice   d. Brass
3. Classify each of the following as a homogenous or heterogeneous mixture.
   a. Soda water   b. Soil
   c. wood   d. Vinegar
4. What is the different between compound and mixture.
5. Why do we see water droplets on the outer surface of a glass containing Ice cold water?
6. A. Explain why temperature remain constant during interconversion of state of matter.
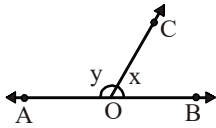   B. Sublimation does not require heating. Is this statement is True or False

BIOLOGY

1. Fill in the blanks:
   a-Third largest unit of classification......
   b-Paramecium is a protista because of its.........
   c-bacteria cell wall is made up of........
   d............ has smallest number of organism with maximum number of similar characters.
2. What is taxonomy category,define the smallest category of classification.
3. Monera and protista are mostly unicellular but why they belonging to different Kingdom give the reason with two example.
4. What is a mega diversity give the two region, where show maximum diversity on earth
5. Why are the protozoans placed in Kingdom protista and not in Kingdom animalia.
6. Give the name of four organism which belonging to Monera.
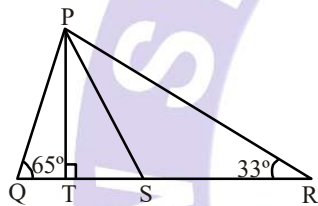7. Labell the A and B part of diagram ,give the function of A part

MATHS

1. The lengths of the sides of triangle ABC are in the ratio 4 : 3 : 5, and its perimeter is 144 cm. Find the height corresponding to the longest side.
2. Two parallel sides of a trapezium are 60 cm and 77 cm and other sides are 25 cm and 26 cm. Find the area of the trapezium.

3. The lengths of three sides of a triangle are 20 cm, 16 cm and 12 cm. Then find the area of the triangle.

4. If each of the equal sides of an isosceles triangle measures 2 cm more than its height and the base of the triangle measures 12 cm, then find the area of the triangle.

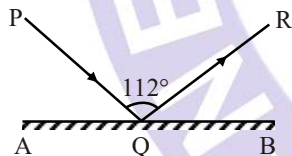5. In figure, OA and OB are the opposite rays:

    (i) If y = 110º, what is the value of x ?
    (ii) If x = 75º, what is the value of y ?

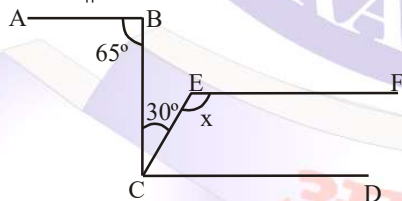6. In figure, PT ⊥ QR and PS bisects ∠QPR.
   If ∠Q = 65º and ∠R = 33º, find ∠TPS.

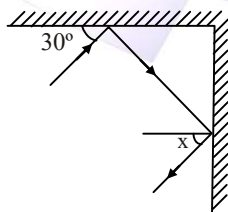7. In the given figure, AB is a mirror, PQ is the incident ray and QR, the reflected ray. If ∠PQR = 112°, find ∠PQA.

8. What value of x will make CD ∥ EF,

   if AB ∥ CD?

9. Find the value of x in the given figure.

10. Find the measure of an angle, if six times its complement is 12° less than twice its supplement.