



**N. M. HIGHER SECONDARY SCHOOL**  
(RECOGNISED)

RAJEEV GARDEN, LONI GHAZIABAD U.P.-201102

**Summer Holiday**  
**Home Work**

**2024-25**

**GRADE X**

Name: - \_\_\_\_\_

F. Name: - \_\_\_\_\_

Roll No.: - \_\_\_\_\_ Sec.: - \_\_\_\_\_





## MESSAGE

Dear Parents,

Vacations are not only meant to explore the world outside but also is an opportunity to rediscover ourselves while we stay at home. So, embark on a journey of fun and adventure by reading books, exercising, meditating, dancing and channelizing your energy in a positive manner. The Summer Vacation has begun.

To keep our students engaged in fun-based learning activities we have compiled a set of activities for the \Summer Vacation. You may have to help your child to complete the home-work. Kindly make sure that your child submits the home work to their respective class teacher/subject teachers as per the submission dates suggested.

**Principal**

**Er. Naeem Ahamad,**

*B. Tech. (IT), PG-DAC(Puna), M.Sc. (Maths), B. Ed., UPTET, CTET*

**N. M. Higher Secondary School,**

*Rajeev Garden, Loni, GZB. 201102*

## ENGLISH

1. Do Reading at least 15 minutes daily.
2. Make an invitation card on birthday.
3. Write a paragraph on "Mahatma Gandhi" in 70-80 words in A – 4 sheets.
4. Write 20 new words & frame it in sentence of your own. Daily for 10 days.
5. Revise syllabus covered so far in the class.
6. Write about 5 famous foods of Lakshadweep, Andaman and Nicobar Island and paste their pictures.
7. Using picture that is given below prepare a story.



8. Make chart on tense and part of speech.
9. Do active passive/passive sentences on A-4 sheets. (All type, at least 100)
10. Read the passage and answer the following questions.

Bob spends most of his day reading books. These books could be of any kind, ranging from fiction novels to books about nature. But his favourite books are mystery novels such as Nancy Drew, A to Z and The Famous Five.

Bob's friends call him a bookworm and tease him about his habit. He is often laughed at because instead of playing video games he spends his free time reading books. While his friends tease him, his parents and teachers are proud of him. They think that reading improves a person's vocabulary and expression.

One day Bob was reading a book about Dinosaurs which really interested him. He read about the T-Rex, Raptors, Dracorex, Troodon and many more. The next week, in a "Just a Minute" competition Bob had to pick up a chit and speak about that topic for a minute. This competition was amongst various schools in his town. To his surprise, his topic was 'T-Rex'. This made Bob very excited because he knew a lot about dinosaurs. Bob spoke very well and focused on the details.

Even though he did well, he was not expecting to win. As the results were being announced, Bob became very nervous. But he got excited when his name was announced for first place. Bob didn't only make his parents proud, but his entire school.

This was the first "Just a Minute" competition the school had ever won. Soon everybody wanted to become Bob's friend. No one laughed or teased him anymore. Bob was happy that his hobby got him success.

**Answer the following questions:**

1. **What do Bob's teachers and parents think about his habit?**

---

2. **What do Bob's friends call him and why?**

---

3. **What surprising event took place during "Just a Minute"?**

---

4. **What made Bob happy in the end?**

---

5. **What are Bob's favourite books?**

---

### ACTIVITY

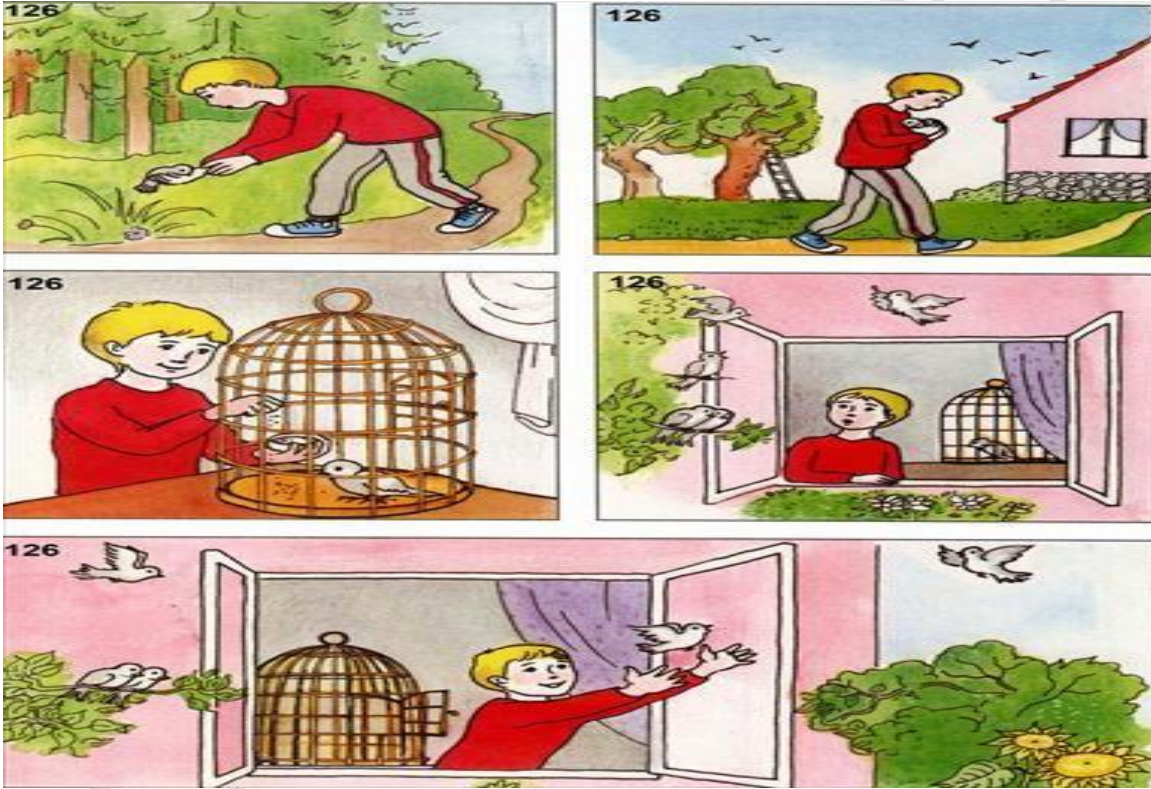
Prepare a Bio-sketch of the PHYSICIST, COSMOLIGIST STEPHEN HAWKING which includes the following:

- A. Portfolio/Picture of STEPHEN HAWKING
- B. Year of birth and death
- C. Personal life
- D. Educational background

E. Notable works and Achievements

हिंदी

1. ताज महल पर 70-80 शब्दों का लेख लिखिए।
2. भारत-विभिन्नता में एकता पर अपने विचार व्यक्त कीजिए।
3. मुंशी प्रेमचंद की जीवनी अपने शब्दों में लिखिए एवं याद कीजिए।
4. अलंकार,संन्धि,समास तथा उसके प्रकार उदाहरण सहित लिखिए एव याद कीजिए।
5. 30-30 पर्यायवाची शब्द लिखिए(तीन-तीन) मुहावरे भी लिखिए और याद भी कीजिए (कोई भी 30)
5. नीचे दी गई पिकचर को देखकर कहानी लिखिए।



SCIENCE

1. Make a poster for saving water.
2. Draw WATER-CYCLE and write down whole process with its explanation.
3. Make a chart on photo synthesis.
4. Revise the syllabus covered so far.
5. Write five do's and don'ts in case of fire.

## WORKSHEET 1

CLASS X

### CHEMICAL REACTIONS AND EQUATIONS

(I) BALANCE THE CHEMICAL EQUATIONS:

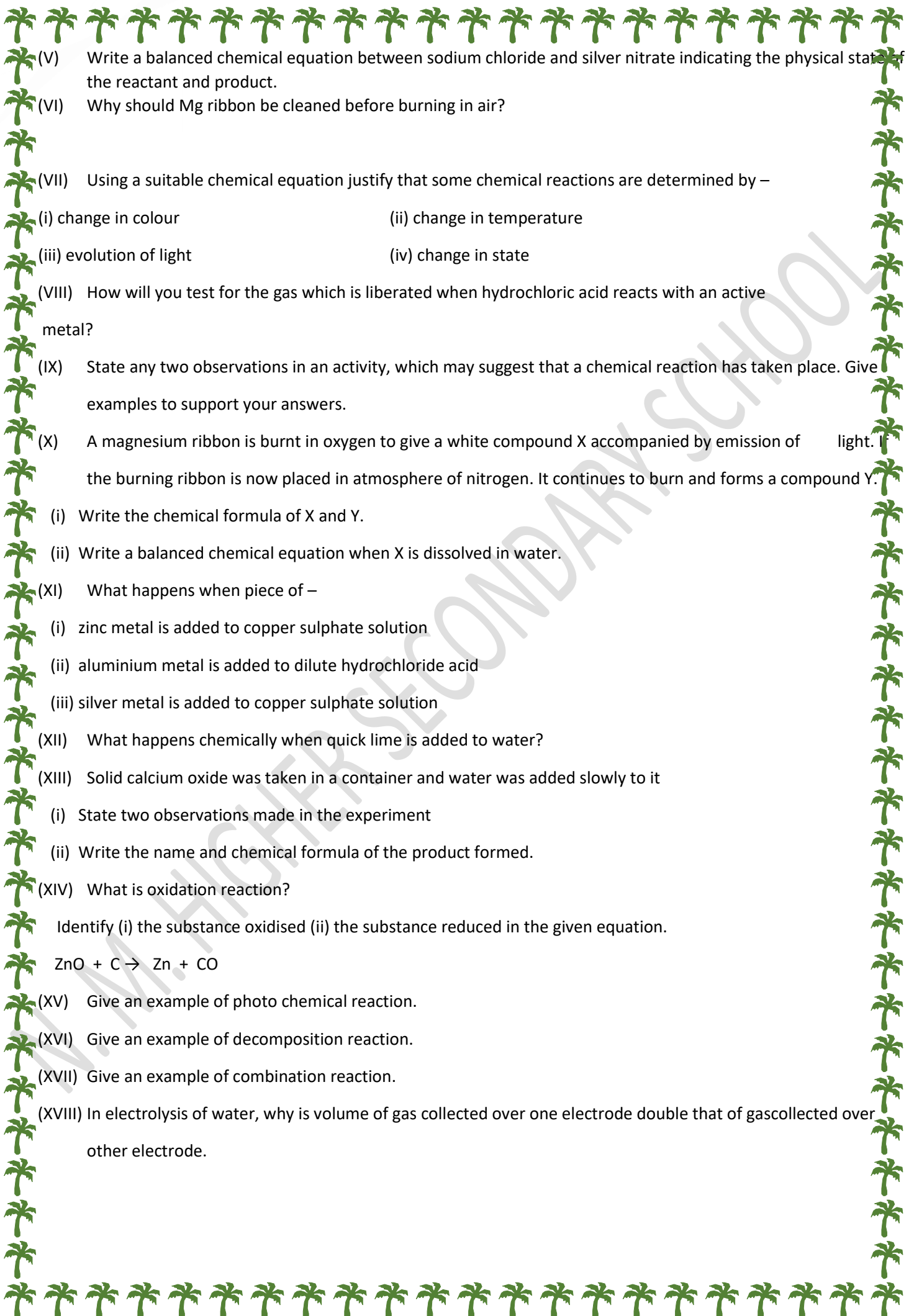
1.  $\text{Al} + \text{CuCl}_2 \rightarrow \text{AlCl}_3 + \text{Cu}$
2.  $\text{FeSO}_4 \rightarrow \text{Fe}_2\text{O}_3 + \text{SO}_2 + \text{SO}_3$
3.  $\text{Fe} + \text{H}_2\text{O} \rightarrow \text{Fe}_3\text{O}_4 + \text{H}_2$
4.  $\text{BaCl}_2 + \text{H}_2\text{SO}_4 \rightarrow \text{BaSO}_4 + \text{HCl}$
5.  $\text{Ca}(\text{OH})_2 + \text{HNO}_3 \rightarrow \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$
6.  $\text{Pb}(\text{NO}_3)_2 \rightarrow \text{PbO} + \text{NO}_2 + \text{O}_2$
7.  $\text{MnO}_2 + \text{HCl} \rightarrow \text{MnCl}_2 + \text{H}_2\text{O} + \text{Cl}_2$
8.  $\text{C}_6\text{H}_{12}\text{O}_6 + \text{O}_2 \rightarrow \text{CO}_2 + \text{H}_2\text{O} + \text{energy}$
9.  $\text{HNO}_3 + \text{Ca}(\text{OH})_2 \rightarrow \text{Ca}(\text{NO}_3)_2 + \text{H}_2\text{O}$

(II) WRITE CHEMICAL EQUATIONS FOR THE FOLLOWING REACTIONS AND BALANCE THEM:

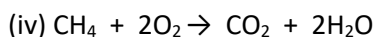
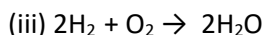
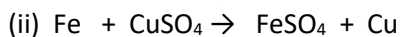
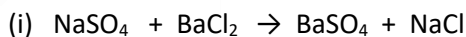
1. Silver bromide on exposure to sunlight decomposes into silver and bromine.
2. Sodium metal reacts with water to form sodium hydroxide and hydrogen gas.
3. Solution of barium chloride and sodium sulphate in water reacts to give insoluble barium sulphate and solution of sodium chloride.
4. Hydrogen gas combines with nitrogen to form ammonia.
5. Hydrogen sulphide gas burns in air to give water and sulphur dioxide.
6. Barium chloride reacts with ammonium sulphate to give ammonium chloride and precipitate of barium sulphate.
7. Potassium metal reacts with water give potassium hydroxide and hydrogen gas.
8. Calcium hydroxide + carbon dioxide  $\rightarrow$  calcium carbonate + water
9. zinc + silver nitrate  $\rightarrow$  zinc nitrate + silver
10. Potassium bromide + barium iodide  $\rightarrow$  potassium iodide + barium bromide
11. Sodium carbonate on reaction with hydrochloric acid gives sodium chloride and sodium hydrogen carbonate.
12. Copper sulphate on treatment with potassium iodide precipitates cuprous iodide ( $\text{Cu}_2\text{I}_2$ ), liberates iodine gas and also forms potassium sulphate.

(III) State one basic difference between a physical change and chemical change.

(IV) On what basis a chemical reaction is balanced?

- 
- (V) Write a balanced chemical equation between sodium chloride and silver nitrate indicating the physical state of the reactant and product.
- (VI) Why should Mg ribbon be cleaned before burning in air?
- (VII) Using a suitable chemical equation justify that some chemical reactions are determined by –
- (i) change in colour (ii) change in temperature
- (iii) evolution of light (iv) change in state
- (VIII) How will you test for the gas which is liberated when hydrochloric acid reacts with an active metal?
- (IX) State any two observations in an activity, which may suggest that a chemical reaction has taken place. Give examples to support your answers.
- (X) A magnesium ribbon is burnt in oxygen to give a white compound X accompanied by emission of light. If the burning ribbon is now placed in atmosphere of nitrogen. It continues to burn and forms a compound Y.
- (i) Write the chemical formula of X and Y.
- (ii) Write a balanced chemical equation when X is dissolved in water.
- (XI) What happens when piece of –
- (i) zinc metal is added to copper sulphate solution
- (ii) aluminium metal is added to dilute hydrochloric acid
- (iii) silver metal is added to copper sulphate solution
- (XII) What happens chemically when quick lime is added to water?
- (XIII) Solid calcium oxide was taken in a container and water was added slowly to it
- (i) State two observations made in the experiment
- (ii) Write the name and chemical formula of the product formed.
- (XIV) What is oxidation reaction?
- Identify (i) the substance oxidised (ii) the substance reduced in the given equation.
- $$\text{ZnO} + \text{C} \rightarrow \text{Zn} + \text{CO}$$
- (XV) Give an example of photo chemical reaction.
- (XVI) Give an example of decomposition reaction.
- (XVII) Give an example of combination reaction.
- (XVIII) In electrolysis of water, why is volume of gas collected over one electrode double that of gas collected over other electrode.

(XIX) What type of reaction is this?



(XX) What happens when hydrogen combines with oxygen in the presence of electric current?

(XXI) Why do gold and air do not corrode in moist air?

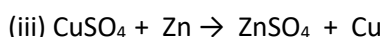
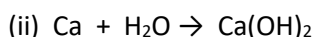
(XXII) What happens when dilute hydrochloric acid is added to iron filings?

(XXIII) Distinguish between displacement reaction and double displacement reaction.

(XXIV) What change in colour is observed when white silver chloride is left exposed to sunlight?

(XXV) Why do potato chips manufacturers fill the packet of chips with nitrogen gas?

(XXVI) Identify the type of reaction—



(XXVII) Write balance equation for the reaction between magnesium and hydrochloric acid. Name the product obtained, identify the type of reaction.

(XXVIII) (a) What is the colour of ferrous sulphate crystals? How does this colour change after heating?

(b) Name the products formed on strongly heating ferrous crystals. What type of chemical reaction occurs in this change?

## WORKSHEET 2

CLASS X

### CHEMICAL REACTIONS AND EQUATIONS

VERY SHORT ANSWER QUESTIONS: (1 Mark)

1. What happens when the milk is left at room temperature during summer?
2. Write a chemical equation when magnesium is burnt in air to give magnesium oxide.
3. A substance undergoes chemical reactions to produce simple products, what type of reaction is this?
4. Why do copper vessels lose their shine when exposed to air?
5. Which gas is produced by the action of dilute hydrochloric acid on zinc granules?
6.  $\text{Fe}_2\text{O}_3 + \text{Al} \rightarrow \text{Al}_2\text{O}_3 + \text{Fe}$



The above reaction is an example of which type of reaction?

7. Name the type of reaction in which energy is absorbed.
8. Why does the colour of copper sulphate solution change when an iron nail is dipped into it?
9. Give an example of decomposition reaction which proceeds by absorbing electric energy.
10. Why do we balance the chemical equation?

SHORT ANSWER QUESTIONS: (2 Marks)

1. Write down the observations which indicate the occurrence of a chemical reaction.
2. Why is respiration considered as an exothermic reaction?
3. Transfer the following statements into chemical equations and then balance them:
  - (a) Hydrogen gas combines with nitrogen to form ammonia.
  - (b) Potassium metal reacts with water to give potassium hydroxide and hydrogen gas.
4. Identify the substances that are oxidised and the substances reduced in the following reactions:
  - (a)  $\text{Na} + \text{O}_2 \rightarrow \text{Na}_2\text{O}$
  - (b)  $\text{CuO} + \text{H}_2 \rightarrow \text{Cu} + \text{H}_2\text{O}$
5. What happens when silver chloride is exposed to sunlight? Give one practical application of this reaction.  
Write the equation also.
6. Why is the bag used for potato chips flushed with nitrogen gas?

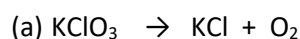
SHORT ANSWER QUESTIONS: (3 Marks)

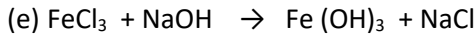
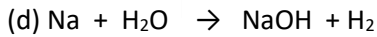
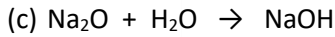
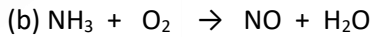
1. Write down the balanced chemical equations for the following reactions:
  - (a) Zinc carbonate  $\rightarrow$  Zinc oxide + Carbon dioxide
  - (b) Aluminium + Chlorine  $\rightarrow$  Aluminium chloride
  - (c) Magnesium + water  $\rightarrow$  magnesium hydroxide + hydrogen
2. Choose combination, displacement and double displacement reactions out of the given reactions:
  - (a)  $\text{MnO}_2 + 4\text{HCl} \rightarrow \text{MnCl}_2 + \text{Cl}_2 + 2\text{H}_2\text{O}$
  - (b)  $\text{CaO} + \text{CO}_2 \rightarrow \text{CaCO}_3$  (c)  $2\text{AgCl} \rightarrow 2\text{Ag} + \text{Cl}_2$
3. What happens when  $\text{CO}_2$  is passed through slaked lime? Write the balanced chemical equation.

Write the type of reaction that has occurred.

LONG ANSWER QUESTIONS: (5 Marks)

1. Balance the following chemical equations and identify the type of reaction they represent.





2. Define various types of chemical reactions. Write one chemical equation for each type.

## ART

Make leaves and flower of rose, lotus, sunflower in square, circle, triangle.

Decorate with colour.

Make a Poster to encourage to people to vote.

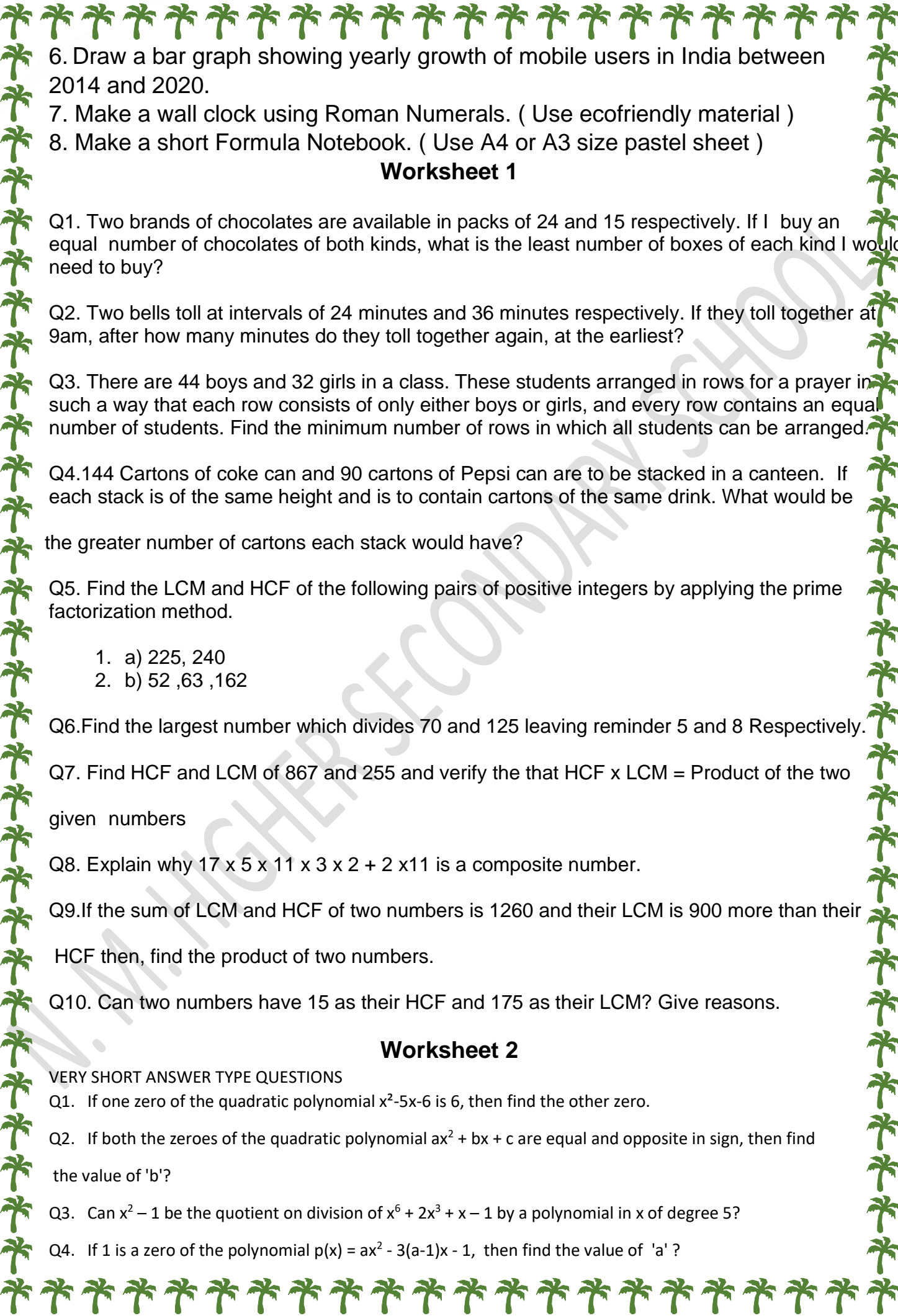
Draw a bat, ball, umbrella, hockey, lotus do colour also.

## HOME SCIENCE

- 4 दक्षिण भारतीय प्रसिद्ध खाने की बनाने की विधि लिखिए एवं चित्र भी बनाइए।(ए-4 पेपर)
- अपनी माता जी का एक दिन का घर का काम आप खुद कीजिए तथा अपना अनुभव साझा कीजिए।
- अपनी माता की सहायता से गृह-बजट तैयार कीजिए।
- मक्खी और मच्छर से होने वाले रोगों को लिखिए एवं इनके उपचार एवं बचाव भी लिखिए।
- अपने घर की रसाई की विभिन्न दिक्कतों को समझकर एक आदर्श रसाई की मुख्य विशेषता लिखिए।
- बेबी फ्राक बनाने की विधि लिखिए एवं चित्र सहित समझाइए।

## MATHEMATICS

- Learn and write tables 2 to 35, square 1-30, square root 1-20, cube roots 1-15.
- Complete your notebook.
- Practice Chapter 1 (Real Numbers), Chapter 2 (Polynomials) in practice notebook.
- Collect information on two of the famous mathematicians with pictures?
- Take any 3 gadgets say 3 different mobiles. Find their length and width (Breadth) and height. Find the surface area of the gadget.

- 
6. Draw a bar graph showing yearly growth of mobile users in India between 2014 and 2020.
7. Make a wall clock using Roman Numerals. ( Use ecofriendly material )
8. Make a short Formula Notebook. ( Use A4 or A3 size pastel sheet )

### Worksheet 1

- Q1. Two brands of chocolates are available in packs of 24 and 15 respectively. If I buy an equal number of chocolates of both kinds, what is the least number of boxes of each kind I would need to buy?
- Q2. Two bells toll at intervals of 24 minutes and 36 minutes respectively. If they toll together at 9am, after how many minutes do they toll together again, at the earliest?
- Q3. There are 44 boys and 32 girls in a class. These students arranged in rows for a prayer in such a way that each row consists of only either boys or girls, and every row contains an equal number of students. Find the minimum number of rows in which all students can be arranged.
- Q4. 144 Cartons of coke can and 90 cartons of Pepsi can are to be stacked in a canteen. If each stack is of the same height and is to contain cartons of the same drink. What would be the greater number of cartons each stack would have?
- Q5. Find the LCM and HCF of the following pairs of positive integers by applying the prime factorization method.
- a) 225, 240
  - b) 52, 63, 162
- Q6. Find the largest number which divides 70 and 125 leaving remainder 5 and 8 Respectively.
- Q7. Find HCF and LCM of 867 and 255 and verify that  $HCF \times LCM = \text{Product of the two given numbers}$
- Q8. Explain why  $17 \times 5 \times 11 \times 3 \times 2 + 2 \times 11$  is a composite number.
- Q9. If the sum of LCM and HCF of two numbers is 1260 and their LCM is 900 more than their HCF then, find the product of two numbers.
- Q10. Can two numbers have 15 as their HCF and 175 as their LCM? Give reasons.

### Worksheet 2

#### VERY SHORT ANSWER TYPE QUESTIONS

- Q1. If one zero of the quadratic polynomial  $x^2 - 5x - 6$  is 6, then find the other zero.
- Q2. If both the zeroes of the quadratic polynomial  $ax^2 + bx + c$  are equal and opposite in sign, then find the value of 'b'?
- Q3. Can  $x^2 - 1$  be the quotient on division of  $x^6 + 2x^3 + x - 1$  by a polynomial in  $x$  of degree 5?
- Q4. If 1 is a zero of the polynomial  $p(x) = ax^2 - 3(a-1)x - 1$ , then find the value of 'a' ?

Q5. If on division of a polynomial  $p(x)$  by a polynomial  $g(x)$  the quotient is zero, what is the relation between degree of  $p(x)$  and  $g(x)$ ?

Q6. If one root of the polynomial  $p(y) = 5y^2 + 13y + m$  is reciprocal of other, then find the value of 'm'?

Q7. If the graph of a polynomial intersects the  $x$  - axis at only one point, can it be a quadratic polynomial?

#### SHORT ANSWER TYPE QUESTIONS

Q8. What number should be added to the polynomial  $x^2 - 5x + 4$ , so that 3 is the zero of the polynomial?

Q9. If  $\alpha$  and  $\beta$  are zeros of  $p(x) = x^2 + x - 1$ , then find  $1/\alpha + 1/\beta$ ?

Q10. If  $\alpha$  and  $\beta$  are the zeros of the quadratic polynomial  $f(x) = 2x^2 - 5x + 7$ , find a polynomial whose zeros are  $2\alpha + 3\beta$  and  $3\alpha + 2\beta$ ?

Q11. If one of the zeros of the cubic polynomial  $x^3 + ax^2 + bx + c$  is  $-1$ , then what will be the product of the other two zeros?

Q12. What must be subtracted from  $p(x) = 8x^4 + 14x^3 - 2x^2 + 7x - 8$ , so that the resulting polynomial is exactly divisible by  $g(x) = 4x^2 + 3x - 2$ ?

Q13. What must be added to  $f(x) = 4x^4 + 2x^3 - 2x^2 + x - 1$ , so that the resulting polynomial is divisible by  $g(x) = x^2 + 2x - 3$ ?

Q14. If the polynomial  $x^4 + 2x^3 + 8x^2 + 12x + 18$  is divided by another polynomial  $x^2 + 5$ , the remainder comes to be  $px + q$ . Find the values of 'p' and 'q'?

Q15. If  $\alpha$ ,  $\beta$ ,  $\gamma$  be zeros of the polynomial  $6x^3 + 3x^2 - 5x + 1$ , then find the value of  $\alpha^{-1} + \beta^{-1} + \gamma^{-1}$ ?

Q16. If  $\alpha$ ,  $\beta$  are the two zeros of the polynomial  $f(y) = y^2 - 8y + a$  and  $\alpha^2 + \beta^2 = 40$ , find the value of 'a'?

#### LONG ANSWER TYPE QUESTIONS

Q17. Obtain all other zeros of the polynomial  $2x^4 - 9x^3 + 5x^2 + 3x - 1$ , if two of its zeros are  $2 - \sqrt{3}$  and  $2 + \sqrt{3}$ ?

(CBSE 2018)

Q18. Find the zeros of the polynomial  $f(x) = x^3 - 5x^2 - 2x + 24$ , if it is given that the product of its two zeros is 12?

Q19. If  $\alpha$ ,  $\beta$  are zeros of the quadratic polynomial  $f(x) = 2x^2 + 11x + 5$ , find

a)  $\alpha^4 + \beta^4$                       b)  $1/\alpha + 1/\beta - 2\alpha\beta$

Q20. If the zeros of the polynomial  $f(x) = x^3 - 3x^2 - 6x + 8$  are of the form  $a - b$ ,  $a$ ,  $a + b$ , then find all the zeros.

## SOCIAL STUDY

1. मुगलकाल के बारे में पढ़िए एवं मुगल काल के मुख्य शासकों के बारे में मुख्य तथ्य स्पष्ट कीजिए।
2. भारत के संविधान का अध्ययन कीजिए एवं अपने विचार प्रकट कीजिए।( 100-150 शब्द)
3. विभिन्न राज्यों के प्रमुख त्यौहारों की पिक्चर्स चिपकाइए एवं मुख्य तथ्य लिखिए
4. मात्र भाषा के अलावा देश में बोली जाने वाली भाषा के नाम की सूची तैयार कीजिए।
5. कक्षा में पढ़ाए गए सभी पाठों का अध्ययन कीजिए।
6. मध्य प्रदेश के बारे में महत्वपूर्ण सूचना एकत्रित करके साफ-सुथरें लेख में A-4 पेज पर लिखिए। (इतिहास, क्षेत्रफल, राजधानी, प्रमुख नदियाँ, प्रमुख त्यौहार, वर्तमान मुख्यमंत्री, इत्यादि)

नोट:- हाईलइटर एवं स्केच पेन का भी प्रयोग कीजिए।

7. महात्मा गाँधी जी के बारे में अध्ययन कीजिए तथा जीवन, मुख्य घटना, मुख्य आंदोलन, देश की स्वतंत्रता में योगदान, दक्षिण अफ्रीका दौरा पर अपने संक्षिप्त टिप्पणी लिखिए।

### Let's be a Helping Hand

1: -This summer let's help the birds/animals by giving them food and water. Place two bowls, one for water and the other for food. Mark your observations. After few days you will notice that the birds and animals eagerly waiting for you and you too will feel very happy.

### 2: -Value Based

- 1) Greet the person who visits your house by saying Namaste/Assalamwalekum, Hello, etc.
- 2) Help your parents by doing small things like watering the plants, cleaning your bookshelf, keeping the things in proper places, etc.
- 3) Listen to your elders and obey them.
- 4) Spend quality time with your parents, grandparents, etc.
- 5) Be polite while talking to someone or while talking to someone over the phone.

