

**MOUNT COLUMBUS SCHOOL  
DAKSHINPURI, NEW DELHI-62**

**SUMMER VACATION HOLIDAY HOMEWORK (2020-21)**

**CLASS IX**

Dear Parents,

In Mt. Columbus School children are sharpened and enhanced to become competent and adaptable. As it is evident that the current pandemic has proved to be a hindrance into normal schooling experience, yet this has proven to be a blessing in disguise. Not only the students have mastered self-studying but have explored new avenues of learning. Students have enjoyed studying on the digital platform with distinctive rise of e-learning and now we begin with our Summer Vacation.

This is time to channelize the energy of our learners towards creative endeavours, to work on their weak links (subjects) and to polish themselves. Where the outside world seems to build a standstill, it is a rare opportunity to strengthen familial bond and utilise the time along with.

Possibilities are endless though try to-

- To enhance good reading habit.
- To hone their scientific temperament.
- To participate in household chores (fireless cooking), practice gardening, spend quality time with elders of family.
- **Control Screen Time:** Do not let kids spend too much time with mobile or PC. Inspire , encourage because within each one lives a dancer, singer, artist or a chef. Let them explore their inner qualities...Columbians are special!

Please find attached some engaging holiday activities which the children are suppose to do during the break.

Please guide your children to do their work neatly and on time.

**STAY HOME. STAY SAFE. WISHING EVERYONE GOOD HEALTH AND HAPPINESS.**

- ✓ Holiday Homework is provided in two parts Worksheet and Art Integrated Learning. Both the parts are **mandatory**.
- ✓ **CBSE has mandated class IX and X students to take up art integrated project work( integrating Arts as primary pathways of learning).**
- ✓ Present your work neatly and precisely.
- ✓ Work shall be **handwritten** both Worksheet and Projects.
- ✓ Use waste and left out material preferably to decorate your project work and activity files.
- ✓ Read the Art Integrated activities carefully, your content should be on point, creative and presentable.

## ART INTEGRATED LEARNING

### INTERDISCIPLINARY PROJECT

#### TOPIC – EK BHARAT SHRESHTHA BHARAT

The diversity in India is unique. Being a large country with large population. India presents endless varieties of physical features and cultural patterns. In short, India is “the epitome of the world”. The vast population is composed of people having diverse creeds, customs and colours and it is imperative to maintain and strengthen the bond between the people of our country. It is only through the initiatives like EK BHARAT SHRESHTHA BHARAT that the people can understand and appreciate this glorious manifestation of diverse culture.

### ENGLISH

#### Link Lesson –The Lost Child

#### Task- DIY Album

**The Lost Child takes us to a beautiful fair with a child. We want you to take us on such a wonderful, fascinating virtual journey to the fairs/festivals of Delhi and Sikkim.**

**Prepare an album on A4 size sheets depicting at least 15-20 pictures of fairs/festivals organized/celebrated in Delhi and Sikkim.**

### HINDI

**प्रोजेक्ट—‘एवरेस्ट: मेरीशिखर यात्रा’ पाठमें एवरेस्ट शिखर का वर्णन है; सिक्किम प्रदेश में पर्यटन हेतु प्रसिद्ध प्रमुख पहाड़ी क्षेत्रों की जानकारी एकत्र करके हुए एल्बम तैयार करें।**

### MATHEMATICS

- Compare the fight of India against Covid-19 with that of 4 different countries of the world through a graphical representation.
- **THE PYTHAGOREAN SPIRAL PROJECT:** A Pythagorean Spiral is a series of right triangles arranged in a spiral configuration such that the hypotenuse of one right triangle is a leg of the next right triangle. Now construct square root spiral and decorate it in a unique and creative way.
  - i) Count and write the number of right angle triangles in your spiral root.
  - ii) How square and square roots are used in our daily life? Give two examples.
- Compare the temperature between New Delhi and Sikkim of 1 week and represent it on a number line.

### SCIENCE

#### Link lesson – “Matter in Our Surroundings”

#### **Q. How does an Aqua guard work?**

Search the net for UV technology for water purification, search companies making the product and the efficiency details from their websites. Study the water purification method and think of ways to improve the same.

Design two separate advertisements one for each – Delhi & Sikkim. Your advertisement should be representing any water body / tourist attraction of the respective place (so the states are recognisable) and all the information should be understandable to the reader from a single sheet only. Remember it’s an advertisement not a booklet. All the information should be included and organised nicely. It shouldn’t look incomplete. Tickle your creative corners of mind and design a beautiful advertisement keeping in mind the following heads:

- Why water should be purified at home?
- Technology used for water purification by the government.
- Understanding the process of water purification using the UV,RO technology, Aqua guard and others by several manufacturing companies.
- A brief paragraph of the method adopted at home for clean safe water by the family.

### SOCIAL SCIENCE

Prepare a report on the topic '**Disaster Management**' (choose any one-natural disaster).  
The report will be presented in the following order:

1. Cover page showing project title, student information, school and year.
2. List of content with page numbers.
3. Acknowledgements
4. Project overview: Purpose, Aim &Methodology.
5. Conclusion
6. Bibliography

**Note:**

1. Collect relevant information, facts, pictures and figures to prepare the project.
2. The total length of the project report should be not more than 10-15 pages of A4 size sheet.
3. Body of topic should include- (a) the causes and effect do they have on the earth,(b) It affect the people, property and land,(c) Mitigation&(d) 1or 2 case study(linked with Delhi and Sikkim)
4. All the photographs and sketches should be labelled.
5. It should be handwritten and credit will be awarded to use of maps, graphs, articles of newspapers and magazines, good layout, cost effective and creative use of materials.

## WORKSHEET

### ENGLISH

#### **I. Complete the story in 150-200 words which begins as follows:**

There was a joint family of six members including grandparents. It was the 75th birthday of the grandmother and the family planned to celebrate ... ..

#### **II. Answer the following questions:**

1. Where does the traveller find himself? What problem does he face?
2. What did Margie write in her diary?
3. When was her deafness first noticed? When was it confirmed?
4. What was Kezia's father's routine
  - (i) Before going to his office?
  - (ii) After coming back from his office?
  - (iii) On Sundays?
5. Who had these opinions about Einstein?
  - (i) He was boring.
  - (ii) He was stupid and would never succeed in life.
  - (iii) He was a freak.
6. What two "important" and "earth-shaking" decisions did the doctor take while he was looking into the mirror?
7. What should we do to make friends with the wind?
8. "I looked into the mirror and smiled," says the doctor. A little later he says, "I forgot my danger and smiled feebly at myself." What is the doctor's opinion about himself when:
  - (i) he first smiles, and
  - (ii) he smiles again?
  - (iii) In what way do his thoughts change in between, and why?
9. When does he realise that he has lost his way? How have his anxiety and insecurity been described?
10. How does Toto come to grandfather's private zoo?

**(All the questions to be done in English Notebook)**

### HINDI

#### **निर्देश:-**

सम्पूर्ण कार्य हिन्दी उत्तर पुस्तिका में करें।

#### **निम्नलिखित प्रश्नों के उत्तर दें-**

1. 'दुख का अधिकार' शीर्षक की सार्थकता स्पष्ट करें।
2. 'एवरेस्ट: मेरी शिखर यात्रा' पाठ के आधार पर बचेंद्रीपाल के साहस का वर्णन करें।
3. 'प्रभु जी तुम चंदन हम पानी' पंक्ति का आशय स्पष्ट करें।
4. 'जहाँ काम आवे सुई, कहा करे तरवारि' के माध्यम से कवि क्या कहना चाहता है ?
5. 'प्रभुजी, तुम मोती हम धागा, जैसे सोनहिंमिलतसुहागा। निम्न पंक्ति का आशय स्पष्ट कीजिए।
6. रहीमजी ने सागर की अपेक्षापंक जल को धन्य क्यों कहा है?
7. बुढ़िया ने अपने पुत्र को बचाने के लिए क्या उपाय किया?
8. लेखिका की सफलता पर कर्नल खुल्लर ने उन्हें क्या कहा?
9. लेखिका को कब लगा कि गिल्लू का अब अन्त समय है?
10. चढ़ाई के समय एवरेस्ट की चोटी की स्थिति कैसी थी ?

#### **गतिविधि-**

1. 'रैदासके पद' पाठ की व्याख्या करते हुए ऑडियो रिकॉर्ड करें।
2. रहीम के दोहों का गायन करते हुए ऑडियो रिकॉर्ड करें।

## MATHEMATICS

1. Express the following decimal express in the form of  $\frac{p}{q}$ .  
i)  $0.\overline{320}$     ii)  $25.\overline{21}$
2. Examine whether the following numbers are rational or irrational.  
i)  $3+\sqrt{5}$     ii)  $\frac{5\sqrt{5}}{\sqrt{5}}$     iii)  $\sqrt{2}-(4-\sqrt{2})$ .
3. Simplify each of the following and rationalised the denominator:  
i)  $\frac{1}{\sqrt{5}+2}$     ii)  $\frac{3+\sqrt{6}}{3-\sqrt{6}}$
4. Find 5 rational numbers between -5 and -6.
5. Represent  $\sqrt{9.3}$  on the number line.
6. If  $\frac{3+\sqrt{7}}{3-\sqrt{7}}=a+b\sqrt{3}$  and both a and b are rational number than find the value of a and b.
7. Factorize:  $2p(a-b)+3q(5a-5b)+4r(2b-2a)$ .
8. Find  $p(2), p(-1)$  and  $p(1)$  for  $p(x)=(x-1)(x-2)$ .
9. Find the remainder when  $x^4+x^3-2x^2+x+1$  is divided by  $x+1$ .
10. Find the value of k, if  $(x-1)$  is a factor of  $4x^3+5x^2-3x+k$ .
11. Factorise: i)  $2x^2+7x+3$     ii)  $y^2-5y+6$ .
12. Write  $(a+2b-3c)^2$  in expanded form.
13. If  $x+y+z=0$ , show that  $x^3+y^3+z^3=3xyz$ .
14. Verify that:  $x^3+y^3=(x+y)(x^2-xy+y^2)$ .
15. Learn and write all formulas and identities 2 times of Ch-1, Ch-2, Ch-12 and Ch-13

**(Do practice of Ch-1, 2, 3, 4 and Ch- 12 in other rough notebook)**

**(All the questions of worksheet to be done in Math Notebook)**

## SCIENCE

### PHYSICS

1. Differentiate between the following:
  - a. Distance & Displacement
  - b. Speed & Velocity
  - c. Acceleration & Retardation
2. Derive the following using graph:
  - a. Second equation of motion
  - b. Third equation of motion
3. Give two examples of uniform accelerated circular motion.
4. Why is uniform circular motion of uniformly accelerated motion? Draw a diagram to explain it.
5. Draw the graph for the following situations:
  - a. Object at rest (distance – time)
  - b. Object at zero acceleration (velocity - time)
  - c. Object at uniform retardation (velocity - time)

### CHEMISTRY

1. Define the following terms
  - a. Diffusion
  - b. Latent heat of vaporization
  - c. Melting point
  - d. Evaporation
2. The density of solids is mostly higher than that of liquids. Explain.
3. Can a rubber band change its shape? Is it a solid? Explain your answer.
4. What is meant by kinetic energy? How does this energy change when the state of matter is converted from solid to gas?
5. Give reasons for the following:
  - a. Water in earthen pot becomes cool in summer.

- b. A windy day is good for drying.
- c. Smell of hot sizzling food reaches us even if we are several metres away.

### **BIOLOGY**

1. State two function of nucleus of a cell.
2. Answer in one word:
  - a. Living matter of the cell
  - b. An organelle with cisterns
  - c. Suicidal bag of cell
  - d. Storehouse of a cell
3. Why does skin of your finger shrink when you wash clothes for a long time?
4. How is cell wall different from cell membrane?
5. How will a plant cell behave in
  - a. Hypotonic solution
  - b. Hypertonic solution.

**(All the questions answers to be done in notebook)**

### **SOCIAL SCIENCE**

**Answer the following question.**

1. What is the longitudinal and latitudinal extension of India?
2. What is a narrow channel of sea which separates two land masses known as?
3. Which places in India experience sunrise first and last respectively?
4. Which longitude represents the standard meridian of India?
5. How many states and union territories does India consist of?
6. Name the western coastal strip, which is located at south of Goa.
7. Name the highest peak in the Eastern Ghats.
8. What are tectonic plates?
9. Name the major physiographic divisions of India.
10. Distinguish between Bhangar and Khadar.
11. Who was the ruler of France during the revolution?
12. Name the three Estates into which the French society was divided before the revolution.
13. What was tithes and taille?
14. What was feudal system?
15. What was the slogan of the French Revolutionaries?
16. What are the factors of production?
17. Give an example of fixed capital.
18. What do raw materials and money in hand call?
19. How do small farmers obtain capital for farming?
20. What are the modern farming methods used by farmers to increase the production?
21. What is representative democracy?
22. Which is the most common form of democracy in today's world?
23. Why are the quality decisions a possibility in a democracy?
24. Whose decision-making power rest in democracy?
25. In spite of having a vast social diversity, what keeps the people of India together?

**(The question-answers to be done on A4 size sheet)**

### **INFORMATION TECHNOLOGY**

**Short answer questions**

1. Give any two uses of ICT at home.
2. What are the emerging skills in ICT?
3. What is the key skills one should possess to use ICT?
4. Describe the functions of at least 5 types of keys.
5. Describe the functions of a mouse.
6. Write down the seven factors affecting perspectives in communication.

7. Give an example of the following:
  - (a) Clear communication
  - (b) Complete communication
8. Write down the different types of verbal communication. Give an example for each type.
9. Give examples of any four common signs used for visual communication.
10. Which is your favourite festival? Write two paragraphs about your favourite festival. Each paragraph should have a minimum of four sentences. Make sure you follow all the rules about sentences and paragraphs you have learnt.
11. Write the various uses of IT in a banking system.
12. Which are the different areas of healthcare where IT is used?
13. Write any 5 websites of the Indian government which provide IT enabled services to the people.
14. Give examples of use of IT in everyday life.
15. Which are the prominent areas where IT is used in science and engineering?
16. Visit Indian government websites, such as the official web portal of Department of School Education, MHRD, and Government of India. Make a list of all the valuable information and the services you could obtain yourself.

(All the questions to be done in IT Notebook)

## ART

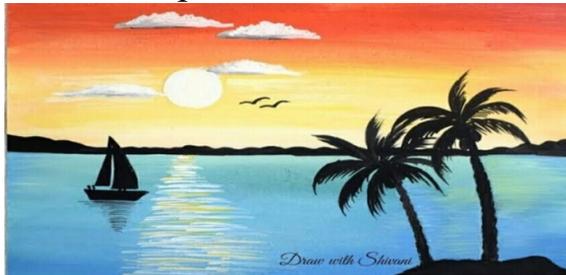
(Do it in ART File)

### ART EDUCATION

#### 1. Still Life



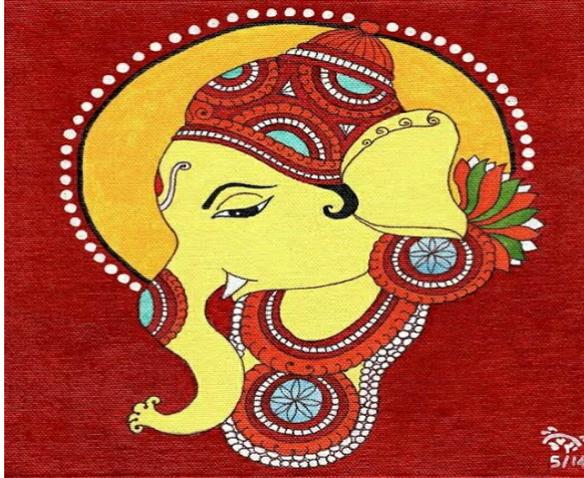
#### 2. Landscape



#### 3. Poster Design



#### 4. Mural Painting



#### 5. Modern Art



### WORK EDUCATION

#### 6. Logo Design



## 7. Add Design



**PHYSICAL EDUCATION** - Complete the HPE File.

**YOGA** - Complete the file work.