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MOLE DAY 2020



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It's the journey that's Important

Life, sometimes so wearying
 Is worth its weight in gold
 The experience of traveling
 Lends a wisdom that is old
 Beyond our 'living memory'

A softly spoken prayer:

"It's the journey that's important,
 Not the getting there!"

Ins and outs and ups and downs
 Life's road meanders aimlessly?
 Or so it seems, but somehow
 Leads us where we need to be,
 And being simply human
 We oft question and compare....

"Is the journey so important
 Or the getting there?"

And thus it's always been

That question pondered down the ages

By simple men with simple ways
 To wise and ancient sages....

How sweet then, quietly knowing
 Reaching destination fair:

"It's the journey that's important,
 Not the getting there!"

(John McLeod)

FROM THE PRINCIPAL'S DESK



“I believe that the science of Chemistry alone almost proves the existence of an intelligent creator.”

Thomas Alva Edison

We're surrounded by chemistry in our day to day life. Chemistry is at the heart of everything - be it food, textile, medicine, agriculture, cosmetics, environmental issues to name a few. Chemistry has influenced our life so much that we do not even realize that we come across chemicals at every moment; that we ourselves are beautiful chemical creations and all our activities are controlled by chemicals. To celebrate the amazing world of chemicals and reactions, Quarks, the Chemistry Club of BBPS Rohini organized a plethora of innovative activities on the MOLE DAY on 23 October 2020. In the current unprecedented and challenging times due to spread of COVID-19, online MOLE DAY activities had been specially designed in an integrated manner to let the students exhibit their expertise in understanding of Mole Concept and other topics related to Chemistry. The activities fostered an advanced understanding and practice of ICT, Mathematics, Research, Problem Solving and Citizenship Skills as well. The Pan-India participation in Mole Day activities proved advantageous in enhancing students' interest in Chemistry and also deepened their understanding of the real world connect of this beautiful subject.

QUIZZARD- A CHEM QUEST

The Virtual Quiz master Google set the ball rolling for the series of events ensuring effective and easy learning of Chemistry with **Quizzard – A Chem Quest**. The participants attempted a competitive arrangement of 15 Objectives and 5 Subjective questions (Case study based) MCQs.

CHECK YOUR CHEM

1. Aspirin has the formula $C_9H_8O_4$. 2 points
How many atoms of oxygen are there in a table weighing 360 mg? *

- a 1.204×10^{23}
- b 1.08×10^{22}
- c 1.204×10^{24}
- d 4.81×10^{21}

2. Which has minimum number of atoms of oxygen? * 2 points

- a 10 mL $H_2O(l)$
- b 0.1 mole of V_2O_5
- c 12 gm $O_3(g)$
- d 12.044×10^{22} molecules of CO_2

3. The mass of carbon atom in 92 g of anhydrous potassium hexacyanoferrate (II) will be: 2 points

- a 36g
- b 18 g
- c 54 g
- d 72 g

4. Which of the following has smallest mass? 2 points

- a 6.022×10^{23} molecules of sucrose
- b 1 mol of naphthalene
- c 3.011×10^{23} atoms of iron
- d 11200 ml of CO_2

5. A silver ornament of mass M gram is polished with gold equivalent to 2% of the mass of the silver. What will be the ratio of number of atoms of gold to silver in the ornament. * 2 points

- a 80:1
- b 40:1
- c 90:1
- d 60:1

6. Which of the following is correct option for the statement " 1 mole of NH_3 contains..." (i) 6.022×10^{23} molecules (ii) 4 mol of atoms (iii) 1 mol of nitrogen atoms (iv) $3 \times 6.022 \times 10^{23}$ atoms of H. * 2 points

- a (i), (ii) and (iii)
- b (ii) and (iii)
- c (i) and (iv)
- d (i), (ii), (iii) and (iv)

7. Determine how much is the volume of 10 moles of water, Can you drink it in one go? * 2 points

- a 224 L, No
- b 180 L, No
- c 180 ml, yes
- d 180 ml, No

8. How many subatomic particles are present in 2.5 moles of oxygen ? * 2 points

- a $2.5 \times 48 \times 6.022 \times 10^{23}$
- b $2.5 \times 24 \times 6.022 \times 10^{23}$
- c $2.5 \times 16 \times 6.022 \times 10^{23}$
- d $2.5 \times 2 \times 6.022 \times 10^{23}$

Answer Key

- 1. d
- 2. a
- 3. b
- 4. d
- 5. c
- 6. d
- 7. c
- 8. a

CHEMAGINATION

The event aimed at extending the Project Based Learning module to a wider section of students leading to another wave of newer learning.

Each team worked upon a real world problem that involved chemistry from everyday life. A driving question was framed on the chosen problem and the teams further researched, collected and analyzed the data connected to the problem to, finally, arrive at or suggest a plausible practical solution to the problem. The teams presented their scientific perspectives through elaborate Power Point presentations created using SWAY.7.

1. There is no long-term storage solution

2. The future is unpredictable

3. It contaminates the environment

4. Persistent health effects

5. Hazardous waste cleanup

6. Reprocessing nuclear waste is harmful

7. Nuclear proliferation (Nuclear proliferation is the spread...

Why Don't We Send Nuclear Waste to the Sun?

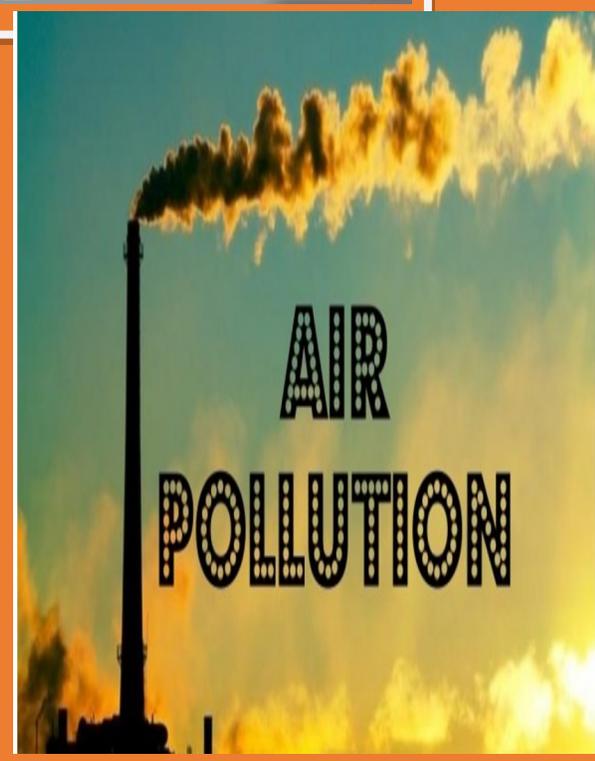
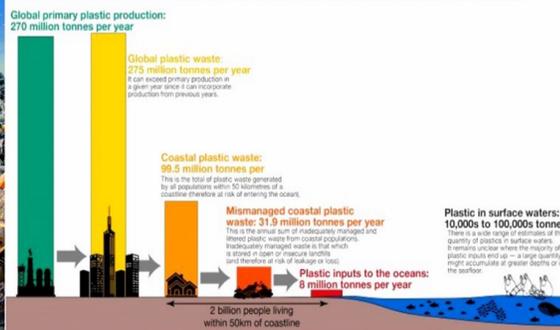
TIME FOR HIGH ALERT!

- Heavy metals are natural constituents of Earth's crust. But, Indiscriminate human activities have drastically altered their balance in nature.
- The average safety levels of the heavy metals as constituents of food also as part of our diet have increased.
- These increased levels pose a great threat to not only humans but all living organisms.



The pathway by which plastic enters the world's oceans

Estimates of global plastics entering the oceans from land-based sources in 2010 based on the pathway from primary production through to marine plastic inputs



CHEM-IN-AN-APP

The participants were to design an Interactive App for a mobile platform, IOS or android, on any one of the themes provided. The app, thus designed, provided a platform for basic understanding and applications of the chosen topic. The online submission of the app came along with a video presentation elaborating the functioning of the App, Software used and the screen recording of the App.

YouTube link of the participants' videos are available on the School's Official Facebook page.

FB link: <https://www.facebook.com/officialbbpsrohini>



CHEM TALKS

The competition focused at the journey of a chemist (chosen by a participant) displayed through a structured TED TALK. With a special stress on more ideas and less facts, inspiring words were delivered by the participants of various teams.



CHEM-O-FLYER

Each participating team designed an E-flyer to spread community awareness on harmful chemical products /practices using Microsoft Publisher. The 2 page E-Flyer focused on chemistry and biochemical aspects of the reported issues and their possible alternatives and suggested strategies.

SCENTS BEAUTIFUL OR HARMFUL

SO ELIMINATE THAT PHTHALATE!

In place of getting chemicals with the aroma, get the aroma directly using essential oils!

WHAT! I can't do that! What about mosquitoes?

Use Citronella oil

What about Vicks? Is that bad too?

Yep, use Eucalyptus oil

Cockroaches and lizards?

Peppermint oil to the rescue

Well, maybe I can do it after all!

COULD YOU IMAGINE!?

Most scented objects contain phthalates, a family of chemicals used to mix the aroma with the mixture, which are harmful

Prolonged exposure can cause endocrine disruption, asthma, ADHD, breast cancer, obesity, type II diabetes, autism, and fertility issues

DON'T LET A SILLY PHTHALATE MESS WITH YOUR FATE!!

Domicile Imperil

Latex paint. Water-soluble one's are not highly toxic. However, some latex paints emit formaldehyde when drying. High levels of formaldehyde can give you a headache and irritate your eyes, nose and throat.

Instead of latex paints natural earth pigments like ochre, oxide pigments, natural mica etc. can be used.

IMPERIL REJOINDER

BAL BHARATI PUBLIC SCHOOL, DWARKA CHEM-O-FLYER

Instead of synthetic, artificial toilet cleaners; non-toxic materials like baking soda, vinegar, borax, lemon juice can be used to whip up a natural toilet-bowl cleaner. Even your favorite cola can clean the toilet just as fine!

Instead of poisonous antifeeze, compounds like propylene glycol and glycerol can be used as a brilliant alternative. These compounds also satisfy environmental laws

Toilet cleaners contain the chemicals sodium hypochlorite or hydrochloric acid, or bleach. Most disinfectant cleaners are very irritating to your eyes and skin and will burn your throat. Never mix a toilet bowl cleaner with any other household or cleaning products. Doing so can result in poisonous gases being released and can cause very serious breathing problems.

Antifeeze. Ethylene glycol, the main hazardous ingredient of antifeeze, is extremely poisonous. Though inhibition of the fumes can cause dizziness, swallowing antifeeze will cause severe damage to the heart, kidneys and brain. Antifeeze can be fatal if swallowed.

WAYS TO PREVENT drug abuse

STAND AGAINST drug abuse

what is drug abuse?

CLINICALLY KNOWN AS SUBSTANCE USE DISORDER DRUG ABUSE OR ADDICTION IS CAUSED BY THE HABITUAL TAKING OF ADDICTIVE SUBSTANCES

how does it affect us?

IT CAN ACTUALLY CHANGE HOW THE BRAIN PERFORMS AND INTERFERE WITH A PERSON'S ABILITY TO MAKE CHOICES. OVER TIME, THIS BEHAVIOR CAN TURN INTO A SUBSTANCE DEPENDENCY OR DRUG AND ALCOHOL ADDICTION.

Effectively deal with peer pressure

One should prepare a good excuse or plan ahead of time, to keep from giving into tempting situations.

Deaf with life pressure

Take up exercising, read a good book, create something. Anything positive and relaxing helps take the mind off using drugs to relieve stress.

Seek help for mental illness

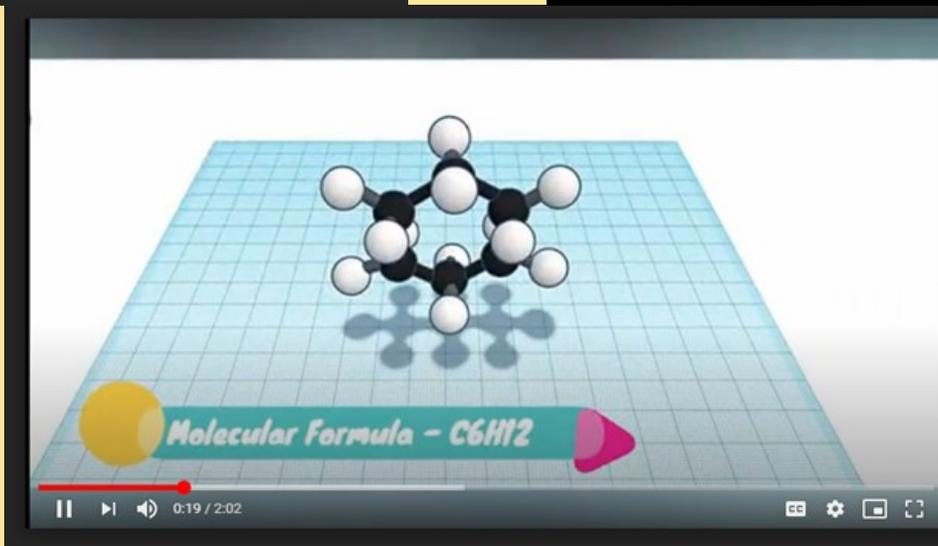
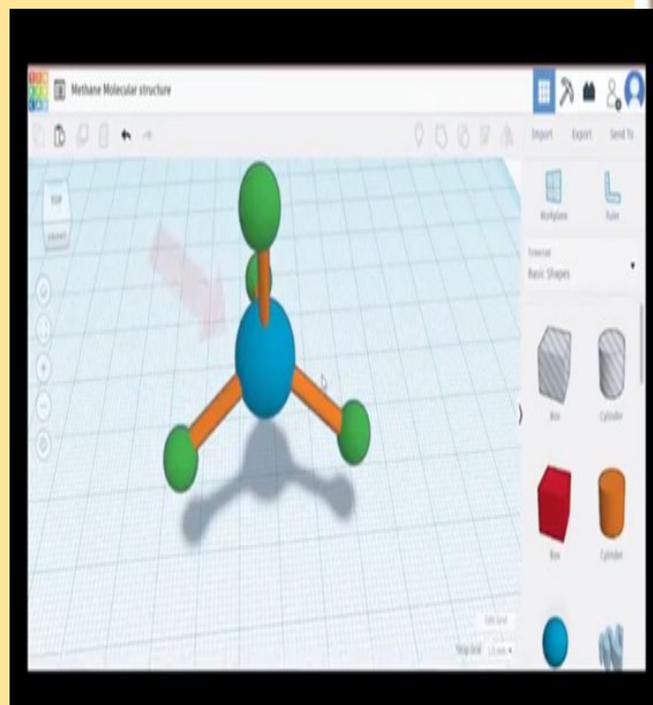
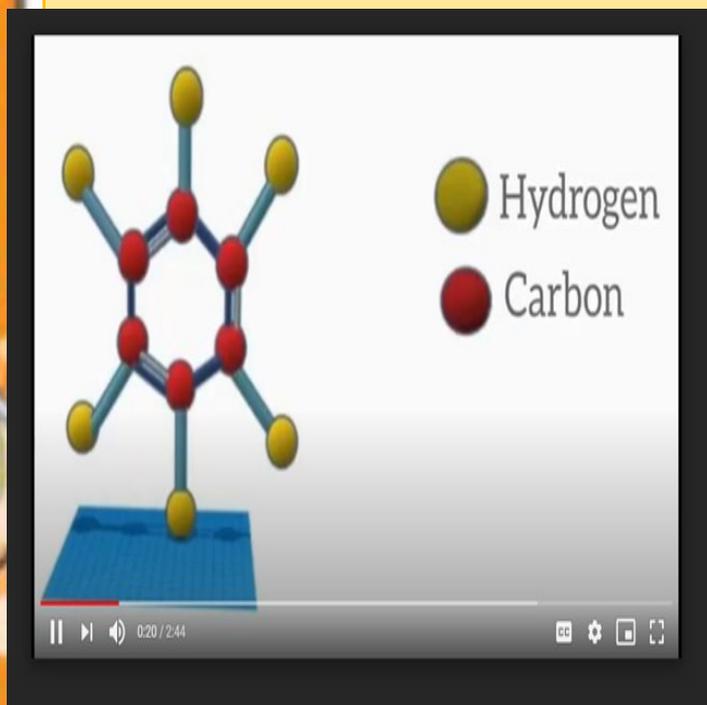
Those suffering from some form of mental health illness should seek the help of a trained professional for treatment before it leads to substance use.

Examine every risk factor

A history of substance abuse in the family, living in a social setting that glorifies drug abuse, and/or family life that models drug abuse can be risk factors.

THE CHEM TECHIE

Each team created a 3-Dimensional structure of an organic molecule using the TINKERCAD software. The Techie team also created a 2-3 minute video presentation describing and explaining the structural features of the chosen molecule with emphasis on bond angles, bond lengths and nature of chemical reactions exhibited by the molecule besides any other relevant information about the selected molecule.



HERITAGE WEEK

'A Nation's culture resides in the hearts and in the soul of its people'

- Mahatma Gandhi

Heritage is not only about the monuments but an entire identity of a civilization that has been transmitted and manifested in many ways. Archaeological Survey of India celebrates World Heritage Week in India from 19th to 25th of November every year. The objective of world HERITAGE WEEK is to create awareness among the general public about the importance of preservation of natural heritage sites in the country. The theme for 2020 was 'Shared Cultures, Thread Heritage, Shared Responsibility', it's aim of was to raise awareness about values and conservation of our heritage sites. Members of the school Heritage Club, **SANSKRITI**, actively participated in various activities. Organizations such as ITIHAAS, INTACH, RAMAKRISHNA MISSION, HISTORY DIARIES AND AGA KHAN TRUST also help in mentoring, guiding and organizing various activities, workshops and webinars for the children.



Manisha Mathur

Heritage Club In charge

The activities planned for students during the heritage week were

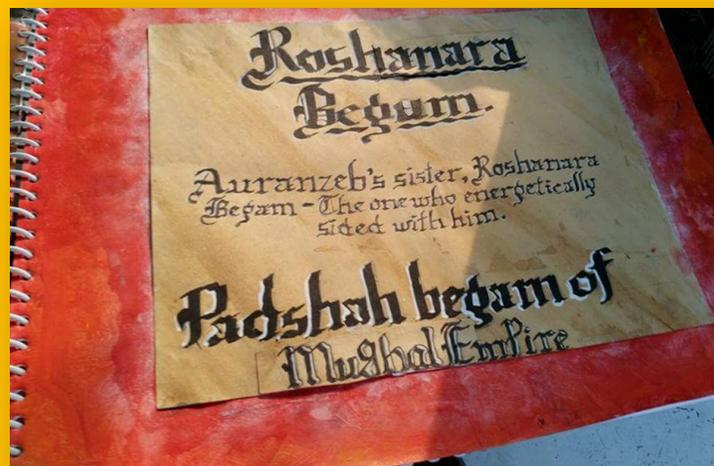
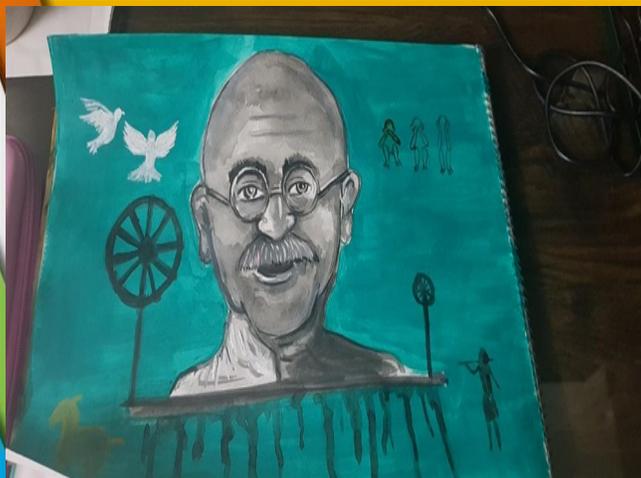
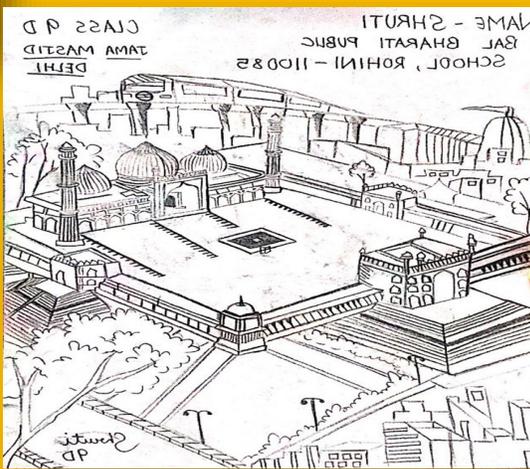
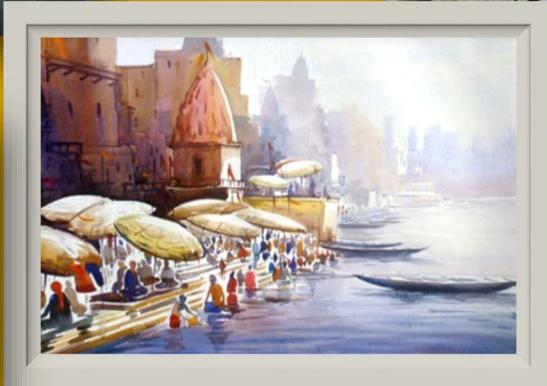
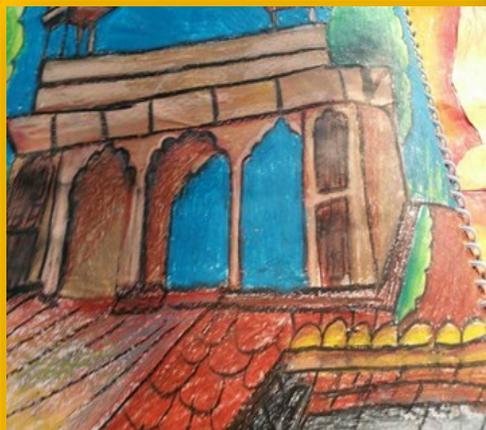
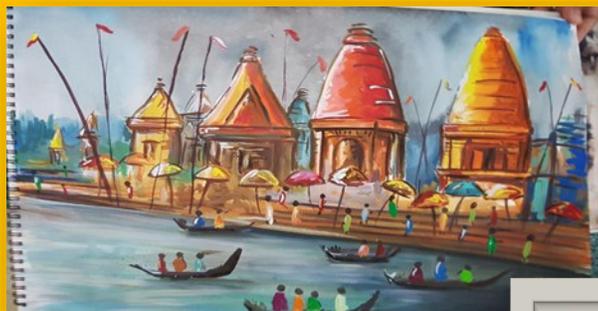
Poster making on any aspect of heritage

Pictures through my camera.

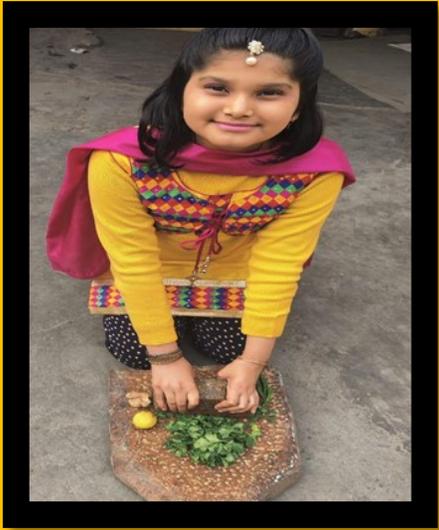
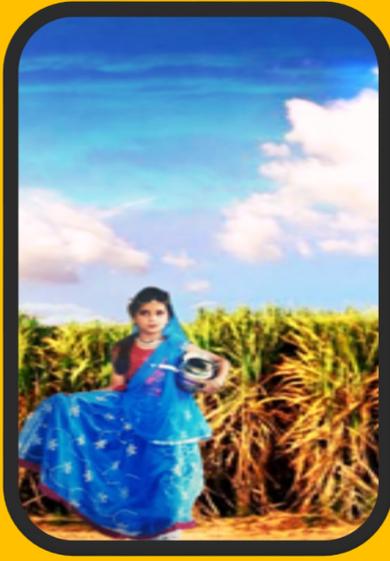
Your monument visit experience



Poster Making On Any Aspect Of Heritage

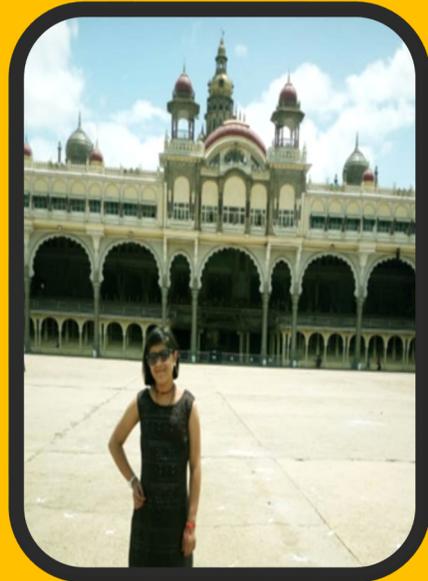


Pictures Through My Camera



It is not the honour that you take with you, but the heritage you leave behind.
- Branch Rickey

Your Monument Visit Experience



HERITAGE

Heritage is precious.

Created by our ancestors one should not neglect it but care for it.

Monuments are the architectural wonders that have been made in absence of mechanical expertise. They symbolize rich culture of a place and must be conserved .

**HERITAGE
IS
PRECIOUS**

We must all take it as our responsibility to preserve the same so that our future generations also get to see and experience the same.



They give rise to many questions,

Within them hides their answers too;

Mesmerizes us and makes us believe

That legendary stories are true.

We need to preserve them

For our next generation,

Let's start restoring them and reform their reputation.



**ISHITA
SINGHAL**

6-D

**BBPS,
ROHINI**

We Indians are proud of the heritage sites in our country. There is Taj Mahal, Qutab Miner, Red Fort, and so much more, and we are fortunate enough to know about them because the government takes good care of these sites. But there are numerous monuments and sculptures in India and it is not possible for the government alone to protect all of them. Imagine how great it would be if all of us could take the responsibility of preserving at least one monument or sculpture around us.

Divyanshi VIII

India has a rich and unique cultural heritage, and has managed to preserve its established traditions throughout history. By absorbing customs, traditions and ideas from both invaders and immigrants, Indian culture, evolved with confluence of several regional cultures, which witnessed cultural influences from other countries and consequently, also influenced the culture of several other regions.

Tishhya Sharma X

Kho Kho is an immensely popular sport in India. In some parts of India it is even played on a professional level. Kho kho is very popular with children and is often part of the games class in schools.

Shatranj is perhaps India's oldest and most loved board indoor game. Chess was born in India and has been played in India through centuries. It is revered as an indication of a man's intelligence and strategic capabilities. A chess set can be found in almost every Indian home. Many of India's folktales are littered with stories of kings and emperors and their chess games. In fact, even the Mahabharata has a crucial episode which involves chess. Ancient games are thus part of our culture and tradition.

Pranav Aggarwal- VII