	ST. THOMAS SCHOOL, SAHIBABD **MATHEMATICS HOLIDAY HOME WORK(2021-2022)** **CLASS 9**
(I)	**Do the following activities in your Maths lab file**
(a)	Construct a square root spiral using thread
(b)	Verify algebraic identity $a^2 - b^2 = $ (a+b)(a-b) using paper cutting and pasting method
(II)	**Make a PPT based on one of the following topic(5- 8 slides)**
(a)	The importance of Mathematics in covid-19 pandemic.
(b)	What is Mathematical modeling and how can it help control the covid-19 pandemic.
(c)	What is the Mathematical analysis of ongoing outbreak covid-19 in India.
(d)	'The Maths behind why need social distancing'.
(III)	**Solve the following questions in separate note book.**
1.	Write a rational number between $\sqrt{11}$ and $\sqrt{5}$
2.	Express $2.\overline{93}$ in $\frac{p}{q}$ form
3.	Simplify: $\dfrac{(25)^{\frac{3}{2}} \times (343)^{\frac{3}{5}}}{(16)^{\frac{5}{4}} \times (8)^{\frac{4}{3}} \times 7^{\frac{3}{5}}}$
4.	Rationalise the denominator: $\dfrac{\sqrt{6}+\sqrt{3}}{\sqrt{6}-\sqrt{3}}$
5.	What is the degree of constant polynomial?
6.	Simplify: $(\sqrt{11} - \sqrt{5}\ )^2$
7.	Simplify: $(\frac{216}{343})^{\frac{-2}{3}}$
8.	If P(x)= x^2-2$\sqrt{2}$ x +1, the find P(2$\sqrt{2}$)
9.	Find the zero of polynomial p(x)= 2x +5
10.	Write a binomial of degree 101 and monomial of degree 50
11.	Find the degree of polynomial $x^3(2$-$x^3)$
12.	If x^{31}+31 is divided by x+1, then what will be the remainder?
13.	Find the coefficient of x in the product (x-1)(1-2x)

14.	Find the value of the polynomial $5x-4x^3+3$ at (a) x =0 (b) x=2
15.	Which of the following is not a polynomial? Justify your answer X+1 , $2x^2$ +5 , $x+\frac{1}{x}$, $(\sqrt{x})^3$ +3
16.	Check x = 5 is zero of the polynomial p(x) = $\frac{x}{5}-1$ or not ?
17.	Locate $\sqrt{17}$ on number line.
18.	Examine whether $\frac{6}{2\sqrt{3}}$ is rational or irrational
19.	Show that $(5+\sqrt{2})$ $(5 -\sqrt{2})$ is a rational number
20.	If $x^{\frac{1}{12}}$ = $(49)^{\frac{1}{24}}$, find the value of x
21.	Find a and b when a + b$\sqrt{15}$ = $\frac{\sqrt{5}+\sqrt{3}}{\sqrt{5}-\sqrt{3}}$
22.	Locate 2.3444... on number line up to 3 decimal places by using visualizing magnification method.
23.	Find the value of $5\sqrt{3}$ -$3\sqrt{12}$ +$2\sqrt{75}$
24.	Find two irrational numbers between 2 and 3.
25.	Express 0.6 + 0.$\overline{7}$+ 0.4$\overline{7}$ in $\frac{p}{q}$ form.
26.	If f(x) = x^2-5x+7, evaluate f(2) - f(-1) + f($\frac{1}{3}$)
27.	If a = 1 +$\sqrt{7}$, find the value of $\frac{-6}{a}$
28.	If x = 9 +4$\sqrt{5}$, find the value of $x^2+\frac{1}{x^2}$
29.	Prove that $\frac{2^{30}+2^{29}+2^{28}}{2^{31}+2^{30}-2^{29}}=\frac{7}{10}$
30.	Simplify $\frac{7\sqrt{3}}{\sqrt{10}+\sqrt{3}}$ - $\frac{2\sqrt{5}}{\sqrt{6}+\sqrt{5}}$- $\frac{3\sqrt{2}}{\sqrt{15}+3\sqrt{2}}$

English Holiday Home-work
Class IX

- Read the story mentioned against your Roll Number
- Draw one illustration for the story. Your drawing should contain the main idea of the story.
- Take any one part of the story and convert it into a conversation between the characters.
- Elaborate the character of the person you liked the most in the story giving reasons.

Roll numbers 1 to 10 – **Kabuliwallah** by Rabindranath Tagore
Roll numbers 11 to 20 – **Grandfather's Private zoo** by Ruskin Bond
Roll numbers 21 to 30 – **The Story Teller** by Saki (HH Munro)
Roll numbers 31 till end – **How much land does a man require?**
by Leo Tolstoy

All these stories are available on the net. You can download PDF and read.

- Do the work in your language copy
- Complete your copies and go through the lessons done in the class.

Stay home, Stay safe.

ST Thomas School
Subject: Science
Holiday Homework – Class IX

BIOLOGY

Answer the following questions in a separate notebook.

1. Draw a plant cell and label seven important organelles found in it.
2. What is the difference between self-isolation, self-quarantine and social distancing?
3. How can you protect yourself from the infection of COVID-19?
4. Make a chart on alternative sources of energy.

CHEMISTRY

1) ACTIVITY 1.
   - Open a tap, try breaking the stream of water with your figures.
   - Were you able to cut the stream of water?
   - What could be the reason behind the stream of water remaining together?
   - Record your observations.
   - **Note:** Observations to be noted in Chemistry Home Work Copy.
2) ACTIVITY 2.
   - Put an unlit incense stick in a corner of your room. How close do you have to go near it so as to get its smell?
   - Now light the incense stick? What happens and do you get the smell sitting at a distance?
   - Record your observations?
   - **Note**: Observations should be recorded in Chemistry Home Work Copy.
3) Make a Power Point Presentation on "**Characteristics of particles of matter**". The PPT should contain 10-15 slides. Submit the hard copy as well on MST. Presentation of PPT will be given in class after holidays.

PHYSICS

Answer the following questions in your Physics notebook.

1. The displacement of a body can never be greater than the distance covered by a body. Is the statement true or false?
2. Give two examples of vector quantities.
3. What is the nature of distance time graph for uniform motion of an object?
4. What is the acceleration of a freely falling body?
5. What is the acceleration of a body moving with uniform velocity?
6. What does the slope of a distance-time graph gives?
7. What does the area of a velocity-time graph gives?
8. An object is moving up an inclined plane. Its velocity changes from 15m/s to 10m/s in two seconds. What is its acceleration?
9. A body covered a distance of x metre along a semicircular path. Calculate the magnitude of displacement of the body, and the ratio of distance to displacement?
10. A particle moving with an initial velocity of 5m/s is subjected to a uniform acceleration of - 2.5m/s2. Find the displacement in the next 4 sec.
11. A car covers 30km at a uniform speed of 30km/hr. what should be its speed for the next 90km if the average speed for the entire journey is 60km/h?
12. Give one example of a uniformly accelerated motion.

Activity – 1) Draw Distance-Time graph for the following situations: -
a) Body at rest
b) Uniform motion
c) Non-uniform motion
2) Draw Velocity-Time graph for the following situations: -
a) Constant Velocity
b) Uniform Acceleration
c) Non-uniform acceleration
d) Uniform retardation

Social Science Holiday Homework
Class 9

The class is divided into 5 groups with the following topics.

Group 1 –   Roll Numbers – 1 to 8   Cyclone
Group 2 –   Roll Numbers – 9 to 16   Flood
Group 3 –   Roll Numbers – 17 to 24   Earthquake
Group 4 -   Roll Numbers – 25 to 32   Land-slide
Group 6 -   Roll numbers -   33 till end   Human disaster

- Collect information on:
    - Define the disaster
    - Causes for the disaster
    - Damage caused (measuring gauge)
    - How to be prepared for the disaster
    - Steps to be taken to minimize the damage
    - After effects of the disaster
- Organize everything in a PPT.
- Write a small paragraph under each heading
- Collect pictures and paste appropriate to the heading.
- Draw at least one graph giving data of the disaster and extent of damage in India.

St. Thomas School, Sahibabad
Information Technology Class IX
Holiday Homework
PRACTICAL FILE

1. **Designing the front page in Ms Word**

ST.THOMAS SCHOOL, SAHIBABAD

PRACTICAL FILE

INFORMATION TECHNOLOGY

CODE : 402

SESSION : 2021-22

CLASS - IX

SUBMITTED BY: SUBMITTED TO:

STUDENT NAME   :   TEACHER'S NAME

ROLL NO.   :

CLASS & SECTION :

2. Prepare the below certificate in Ms Word.

St. Thomas School Sahibabad

CERTIFICATE

This is to certify that_ _____,a student of class IX
has successfully completed this practical work in
Information Technology(Subject Code-402) under the
guidance of Anupam Chaturvedi/Poli Mandal during
the session 2021-22 in Information Technology [402] practical
examination .

Teacher In charge   **PRINCIPAL**

3. PRACTICAL -1
DESIGNING A CARD/POSTER

Students , you all are supposed to design a CARD/POSTER on the topic given below in Ms Word according to the ROLL NO.

a) Birthday Invitation Card   (Roll No 1 - 20)

b) Poster on Earth Day. (Roll No 21 – last roll no.)

4. PRACTICAL -2
Prepare your online class timetable in MS Word by inserting table .

ग्रीष्म अवकाश - गृह कार्य

विषय -हिन्दी (२०२१-२२)

कक्षा- 9

प्रश्न -1 'अर्थ की दृष्टि से वाक्य भेद' पाठ से वाक्य भेद विषय पर वॉल हैंगिंग तैयार कीजिए|

प्रश्न -2   शब्दालंकार और अर्थालंकार के प्रत्येक भेद की परिभाषा व एक उदाहरण लिखते हुए एक परियोजना तैयार कीजिए |(फ़ाइल में ए-4 शीट लगाकर)

प्रश्न -3 मिट्टी से विभिन्न आकृतियों का निर्माण कीजिए |

प्रश्न -4 व्याकरण कॉपी में सुंदर लेख में निम्नलिखित लघु कथाएं लिखिए-

1 -जैसे को तैसा

2 - बिना विचारे जो करे सो पाछे पछताए

3 - लालच बुरी बला है|

ST. THOMAS SCHOOL, SAHIBABAD (2021-2022)

HOLIDAY HOMEWORK

Physical Education

Class IX

A healthy lifestyle can be attained by maintaining a balanced diet and keeping into consideration to meet all the essential nutrients required by the body. A proper meal plan helps to attain ideal body weight and reduce the risk of chronic diseases like diabetes, cardiovascular and other types of cancer.

Creating Your Diet Meal Plan or Diet Chart.

Art Education Holiday Homework

Make a poster on

1. Save Trees

2. Corona Second Wave