Grade: XII Science	**Summer Vacation Home Work**	**Session: 2019-20**

Dear Students

The long awaited summer vacation is here, bringing with it the gift of togetherness with your family and friends. Summer Vacation is probably the best time of the year for you all, when you can visit your grandparents, get pampered and even forge close bonds with cousins and relatives. At the same time, it is important to learn a new thing every day. Find time to visit museums and monuments, learn new things, and explore new areas near your house. Keep yourself indoor in the sweltering heat and utilize your time with constructive and creative activities.

To keep you busy we have designed the Holiday Homework which we hope you would love to do during the noon time.

Things to remember:

1. Meditate and do simple yoga exercises.
2. Try to listen English news and read any English newspaper
3. Water the plants and feed the birds.
4. Enjoy early morning cycling, walk or even jogging
5. Don't watch too much of television.
6. Fix sufficient hours for studies daily.

General Instructions:

1. All the work should preferably be hand-written.
2. Original drawings/illustrations and creative use of material will be appreciated.
3. Present your work on A-4 size sheets and put it in an attractive folder (subject wise) with your name and class clearly written at the top (Or as per instructions given)
4. The Homework will be evaluated for all the subjects on the following parameters.

    a. Idea and content
    b. Presentation
    c. Ability to answer the questions
    d. Innovativeness.
    e. Creativity.
5. The homework should be submitted on or before 17th June, Monday.

- Wishing all of you a very enjoyable and fun-packed summer break!

Warm Regards
Anand Niketan
Maninagar Campus

Subject	Homework
Maths	**Select any one topic from the follwing list of projects and prepare a detailed project on it.** 1. Project on history of Mathematicians: It should include history of two Indian mathematicians and history of two Foreign Mathematicians. 2. Collection of statistical data and analyzing it for the betterment of Education. 3. Make a chart of the formulae of applications of Algebra/Arithmetic. 4. Applications of conic sections/vectors/three-dimensional geometry in Mathematics and Physics. 5. Collection of statistical data and analyzing it for the betterment of Environment. 6. Applications of Mathematics in Arts. 7. Observe the various patterns and properties in Pascal's triangle and make a Project. 8. Prepare a project based on the Fibonacci sequence, their properties and similar pattern found in nature. **Your project must contain:** ❖ Title Page ❖ certificate ❖ Acknowledgement ❖ Introduction ❖ Description ❖ Conclusion ❖ Bibliography (It cannot be Wikipedia hyper-link. Go through books, research and news articles, magazines etc.)
Biology	Prepare the detailed investigatory project, selecting the concern topic given in syllabus. **Your project must contain:** ❖ Title Page ❖ certificate ❖ Acknowledgement ❖ Introduction ❖ Materials used ❖ Description ❖ Results and discussion ❖ Conclusion ❖ References (It cannot be Wikipedia hyper-link. Go through books, research and news articles, magazines etc.)
Chemistry	Prepare the detailed investigatory project, selecting the concern topic given in syllabus. **Your project must contain:** ❖ Title Page ❖ certificate ❖ Acknowledgement ❖ Introduction ❖ Apparatus ❖ Chemicals used and their reactions ❖ Results and discussion ❖ Conclusion ❖ References (It cannot be Wikipedia hyper-link. Go through books, research and news articles, magazines etc.)

Physics	**Select a topic from the follwing list of projects and prepare a detailed project on it.**
	1. Construct a burglar alarm using a proximity sensor.
	2. Construct a laser-based communication system (li-fi).
	3. Construct an alcohol sensor.
	4. Construct a fire alarm using a smoke sensor.
	5. Construct a street light sensor using a proximity sensor.
	6. Construct a clap LED sensor.
	7. Construct an anti-sleep alarm using an ultrasonic sensor.
	8. Construct a white line following robot.
	9. Construct a timer circuit using IC555.
	10. Construct a water level indicator.
	Your project must contain:
	1. Title Page
	2. certificate
	3. Acknowledgement
	4. Introduction
	5. Components
	6. Circuit diagram
	7. Results and discussion
	8. Conclusion
	9. References (It cannot be Wikipedia hyper-link. Go through books, research and news articles, magazines etc.)