

# VASISHTHA GENESIS SCHOOL, BABEN, BARDOLI

## SUMMER ASSIGNMENT

**CLASS : 11 SCIENCE**

SUBJECT	CONTENT																						
ENGLISH	<p>Select a topic from the given subjects and prepare a PPT. There will be a presentation of the PPTs as well after the vacations. The project is to be prepared and sent as a PDF file to <a href="mailto:preetidhawan8191@gmail.com">preetidhawan8191@gmail.com</a> (11A) and <a href="mailto:singhanju741@gmail.com">singhanju741@gmail.com</a> (11B) with proper <b>Class-RollNo-Name-Subject</b> as file name. <b>Submit the file on/before 12 June 2024.</b></p> <p><b>PPT Content:</b></p> <ol style="list-style-type: none"> <li>Cover page with title, school details, details of the student</li> <li>Index</li> <li>Introduction to topic</li> <li>Content (Supporting material, transcript, flow charts, diagrams, images) <b>5-6 Pgs</b></li> </ol> <p><b>Parameters of Assessment:</b></p> <table> <tr> <td>1) Quality of content</td><td>2) Accuracy of information</td></tr> <tr> <td>3) Adherence to the specified timeline</td><td>4) Content in terms of Expression</td></tr> <tr> <td>5) Clarity of thoughts and ideas</td><td>6) Creativity</td></tr> <tr> <td>7) Knowledge gained</td><td></td></tr> </table> <p><b>List of topics/ Themes</b></p> <table> <tr> <td>1) Future of virtual reality</td><td>2) Psychology of decision making</td></tr> <tr> <td>3) Crypto-currency</td><td>4) Art of story telling</td></tr> <tr> <td>5) Importance of sports</td><td>6) Rise of new start ups</td></tr> <tr> <td>7) Print media against digital media</td><td>8) Team spirit- root of success</td></tr> <tr> <td>9) SDG Goals</td><td>10) Impact of social media on mental health</td></tr> <tr> <td>11) Humor and sarcasm</td><td>12) Building a personal brand of communication</td></tr> <tr> <td>13) Rise of Augmented reality</td><td>14) Reforms in Education: A Necessity</td></tr> </table>	1) Quality of content	2) Accuracy of information	3) Adherence to the specified timeline	4) Content in terms of Expression	5) Clarity of thoughts and ideas	6) Creativity	7) Knowledge gained		1) Future of virtual reality	2) Psychology of decision making	3) Crypto-currency	4) Art of story telling	5) Importance of sports	6) Rise of new start ups	7) Print media against digital media	8) Team spirit- root of success	9) SDG Goals	10) Impact of social media on mental health	11) Humor and sarcasm	12) Building a personal brand of communication	13) Rise of Augmented reality	14) Reforms in Education: A Necessity
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MATHEMATICS	<p>Prepare a brief overview of the <b>CHAPTER 1: SETS</b>.</p> <p>The Overview should include:</p> <ul style="list-style-type: none"> <li>Relevant formulas that are essential for understanding and solving problems.</li> <li>Identify key concepts, definitions or principles related to the topic.</li> <li>Include examples / diagrams / mind maps to clarify concepts.</li> </ul> <p>Present your homework in a clear and organized manner using headings, bullet points and numbered lists to structure your content.</p>																						
CHEMISTRY	<p>Students are to Perform any one of the following activities given below:</p> <p>(i) Open any used dry cell of any brand like (Duracell, Eveready, Energizer, Panasonic etc.) using reference link shared herewith. Separate out its components and make a report on working. Also attach relevant photograph of your observation, click with cell phone.</p> <p>(ii) Perform Dancing Grapes activity using reference link shared herewith. Students need to find out logic of chemical reaction behind it and make a short report with relevant photograph of your activity.</p> <p>(iii) Student are to Prepare True solution, Colloidal solution and Suspension using (SUGAR, SALT, SAND, WHEAT FLOUR) by using reference link shared herewith. Perform light effect experiment on your sample using cell phone flash light only make a short report with relevant photograph of your activity.</p> <p><b>Please note:</b> Reports are to be submitted online in pdf format only and emailed to the given email address: <a href="mailto:prabhatvgs01@gmail.com">prabhatvgs01@gmail.com</a> on or before <b>12 June 2024</b>.</p>																						



**PHYSICS**

Prepare a model/perform an experiment to determine some concepts of Physics using the list given below. Also prepare a relevant PPT for the topic selected to support your model/experiment. **PowerPoint presentation slides must contain:**

- 1) Cover slide with title topic      2) Theory      3) Apparatus used  
4) Application      5) Conclusion      6) Precautions      7) Bibliography

**The PPT is to be prepared and sent as a PDF file to [hirendrasir@gmail.com](mailto:hirendrasir@gmail.com) with proper Class-RollNo-Name-Subject as file name on/before 12 June 2024. USE QR CODES FOR REFERENCE.**

**1****Blackburn pendulum:**

The Blackburn pendulum is a device used in physics experiments to demonstrate conservation of energy and simple harmonic motion.

**2****Capillaries action:**

Capillary action is the ability of a liquid to flow in narrow spaces without the assistance of, or even in opposition to, external forces like gravity. It occurs because of adhesive forces between the liquid and the surface of the container or tube it's in. This phenomenon is responsible for things like water rising in a narrow tube, such as a straw or the fibers of a paper towel.

**3****Homo polar motor:**

A homo polar motor is a simple electric motor that uses direct current (DC) to generate motion. It consists of a conducting wire, typically copper, that is free to rotate between the poles of a permanent magnet. When a current is passed through the wire, it experiences a force due to the interaction between the magnetic field and the current, causing it to rotate. The direction of rotation depends on the direction of the current and the orientation of the magnetic field.

**4****Resonating pendulums:**

A resonating pendulum, also known as a parametric oscillator, is a pendulum system where the length of the pendulum changes periodically due to an external force. This force is typically applied at a frequency that matches or is a multiple of the natural frequency of the pendulum. As a result, the amplitude of the pendulum's motion can increase dramatically, a phenomenon known as resonance. Resonating pendulums are used in various applications, including mechanical engineering, physics demonstrations, and even in some musical instruments.

**6****Surface tension:**

Surface tension is the tendency of the surface of a liquid to minimize its surface area. It's caused by the cohesive forces between molecules in the liquid, which pull the molecules at the surface inward. This creates a sort of "skin" on the surface of the liquid. Surface tension is what allows some insects, like water striders, to walk on water, and it's also responsible for the formation of droplets and the shape of menisci in liquid-filled containers.

**6****Water Lens**

A water lens is a natural phenomenon where a concentration of water droplets in the atmosphere acts as a lens, refracting and focusing sunlight. This can sometimes create optical illusions, such as a "fata morgana" or mirage, where distant objects appear distorted or elevated due to the bending of light.



	<b>7</b>	<b>Eddy Current</b> Eddy currents are loops of current induced in a conductor by a changing magnetic field. They're responsible for generating drag in metal objects moving through magnetic fields, like in induction cooktops or magnetic braking systems.	
	<b>8</b>	<b>Total Internal Reflection:</b> Total internal reflection occurs when a wave, such as a light wave, traveling through a medium encounters a boundary with another medium where the angle of incidence is greater than the critical angle. Instead of refracting (bending) into the second medium, the wave is entirely reflected back into the first medium. This phenomenon only happens under specific conditions, such as when light travels from a medium with a higher refractive index to one with a lower refractive index. Total internal reflection is the principle behind optical fibers, mirages, and some optical devices like prisms and diamond gemstones.	
<b>BIOLOGY</b>	<b>PROJECT WORK</b> Based on the topic assigned to you during class by your subject teacher, create a project using the instruction(s) given below. >The project is to be prepared and sent as a <b>PDF file to dhavalkher891@gmail.com with proper Class-RollNo-Name-Subject as file name.</b> >Font style Cambria and Size 14 pt.(Pages: 6-8) >A project should cover following criteria: <ul style="list-style-type: none"> <li>• Introductory details about topic</li> <li>• Applications to human welfare</li> <li>• Data and statistics in case of any diseases</li> <li>• Methodology of production/ Techniques involved</li> <li>• References</li> </ul> <b>Topics:</b> <ul style="list-style-type: none"> <li>➤ Industrial production of insulin (Roll no – 01)</li> <li>➤ Probiotics in medicine and food(Roll no – 02)</li> <li>➤ Analysis of rare blood groups in India(Roll no – 05)</li> <li>➤ Cervical cancer in female: Threats, causes and treatment(Roll no – 06,26)</li> <li>➤ Growing Yeast by sugar fermentation(Roll no – 07,27)</li> <li>➤ Causes, Diagnosis, symptoms and treatment and of Diabetes mellitus.( Roll no – 09,25)</li> <li>➤ Investigatory study on karyotyping and chromosomal abnormality(Roll no – 11,12)</li> <li>➤ Working of vaccine in human body.( Roll no – 13,16)</li> <li>➤ Use of microorganisms in production of antibiotics.( Roll no – 17,19)</li> <li>➤ A note on recently discovered species of plants and animals in India. (3 ex. of each)( Roll no –22,23)</li> </ul>		
<b>PHYSICAL EDUCATION</b>	Activity – I: Prepare a Record file for the practical work of Physical Education. <b>Practical 1:</b> Write about the fitness test. (SAI KHELO INDIA TEST)  Activity – II: Prepare a chart (A3 size) of any one individual game from the following list: (i) Chess                      (ii) Taekwondo                      (iii) Badminton                      (iv) Judo This chart should include relevant markings and measurements. Also include the latest rules and regulations of the game chosen.		

<b>INFORMATICS PRACTICES</b>	<b>PRACTICAL FILE:</b> Students are to prepare a Practical File consisting of a <b>minimum of 14 programs in PYTHON Software</b> performed during their lab activities in the school computer lab. Students may use samples given in the Google Classroom (Classroom Code: <b>lcf5aus</b> ) for more support.
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**Please Note:**

- 1) Submission of all Assignments/journal/projects will be from 13-06-2024 to 15-06-2024.**
- 2) Internal Marks will be given based up on the completion and timely submission of all assignments/ journal/projects.**