



# G.D Goenka Public School

Saderbal, Lal Bazar Srinagar, J&K - 190023 - Affiliated to CBSE Vide No.730090  
Email: info@gdgoenkasrinagar.com, Ph. No. 9070102020, 9070103030 - www.gdgoenkasrinagar.com



"Winter is the time for comfort, for good food and warmth, for the touch of a friendly hand and for a talk beside the fire: it is time for home."

- *Edith Sitwell*

## **Greeting!!!**

### **Dear Students,**

**We hope your holiday preparations are underway and that you are enjoying your time with your family.**

**Cold weather and winter months can be hazardous. Plan ahead to stay safe and healthy.**

### **General Instruction for the Winter Assignment:**

- All the written work of the Winter Assignment is to be done on the loose sheets.
- Handwriting should be clear and legible.
- Project work/ Winter Assignment needs to be neat, creative and is to be done by the student only.
- The attempted work should be kept in safe custody as it is to be submitted to the concerned teacher once the school reopens.

## Winter Assignment 2022

Grade : 8<sup>th</sup>

Subject : Science

### Light

#### Overview:

- Light is a form of energy which travels from one medium to another.
- Refraction is defined as the bending of light when it travels from one transparent medium to another when it strikes the interface at oblique incidence.
- The phenomenon of splitting of white light into its constituent colours is called Dispersion of light.
- The band of constituent colours of white light is called Spectrum. The seven colours are violet, indigo, blue, green, yellow, orange and red (VIBGYOR).
- A curved mirror is a mirror with a curved reflecting surface. The surface may be either convex or concave. Most curved mirrors have surfaces that are shaped like part of a sphere, but other shapes are sometimes used in optical devices.
- Concave mirror is used by dentist, solar furnace, reflector of a torch, etc. Convex mirror is used in rear view mirrors.
- A lens is a transmissive optical device which focuses or disperses a light beam by means of refraction. A simple lens consists of a single piece of transparent material, while a compound lens consists of several simple lenses, usually arranged along a common axis.
- An optical instrument is a device that processes light waves, either to enhance an image for viewing or to analyze and determine their characteristic properties. Common examples include periscopes, microscopes, telescopes, and cameras.
- Accommodation is the process by which the vertebrate eye changes optical power to maintain a clear image or focus on an object as its distance varies.
- There are three typical eye defects and they are Myopia or near-sightedness, Hypermetropia or far-sightedness, and Presbyopia.

#### A. Give reasons for the following statements.

1. We cannot see the image formed in blind spot.
2. Light changes its direction when it falls on a smooth surface.
3. You can see your face clearly on a new steel plate.
4. A band of colours are produced when white light falls on a prism.
5. In old age, sometimes the eye sight becomes foggy.
6. The pupil dilates in bright light.

**B. Construct a 3D model of Human Eye.**

[https://youtu.be/kYIZY\\_BPn4](https://youtu.be/kYIZY_BPn4)

**C. Multiple choice questions. Choose the correct answer.**

1. Focal length of plane mirror is \_\_\_\_\_.
  - a. At infinity
  - b. Zero.
  - c. Negative
  - d. None of these
2. Image formed by plane mirror is \_\_\_\_\_.
  - a. Real and erect.
  - b. Real and inverted
  - c. Virtual and erect.
  - d. Virtual and inverted
3. A concave mirror gives real, inverted and same size image if the object is placed \_\_\_\_\_.
  - a. At F.
  - b. At infinity.
  - c. At C.
  - d. Beyond C
4. A concave mirror gives virtual, refract and enlarged image of the object. Image of smaller size than the size of the object is \_\_\_\_\_.
  - a. At infinity.
  - b. Between F and C
  - c. Between P and F.
  - d. At E
5. In optics an object which has higher refractive index is called \_\_\_\_\_.
  - a. Optically rarer.
  - b. Optically denser
  - c. Optical density.
  - d. Refractive index
6. The optical phenomena, Twinkling of Stars, is due to \_\_\_\_\_.
  - a. Atmospheric reflection.
  - b. Total reflection
  - c. Atmospheric refraction.
  - d. Total refraction
7. If a Convex lens gives a real, point sized image at focus, the object is placed \_\_\_\_\_.
  - a. At focus.
  - b. Between F and 2F
  - c. At infinity.
  - d. At 2F

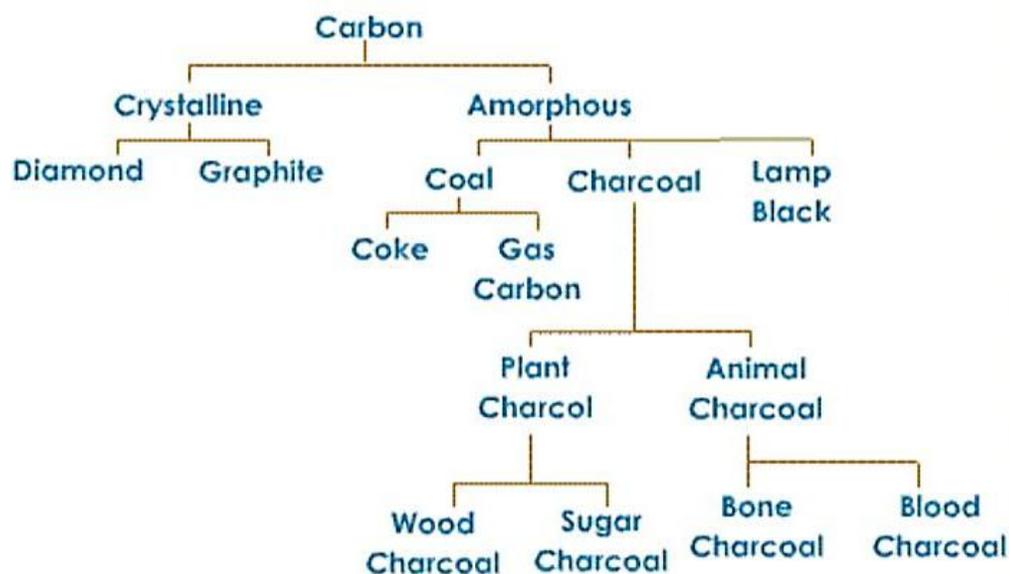




## Carbon and its compounds

### Overview:

- Carbon compounds are defined as chemical substances containing carbon. More compounds of carbon exist than any other chemical element except for hydrogen. Organic carbon compounds are far more numerous than inorganic carbon compounds. The bonds of carbon with other elements are covalent bonds.
- Carbon (from Latin carbo 'coal') is a chemical element with the symbol C and atomic number 6. It is nonmetallic and tetravalent—its atom making four electrons available to form covalent chemical bonds. It belongs to group 14 of the periodic table. Carbon makes up only about 0.025 percent of Earth's crust. Carbon is one of the few elements known since antiquity.
- The various existing forms of an element bonded to each other in a different manner, exhibiting identical chemical properties but different physical properties are called allotropic forms. For example; Diamond and Graphite are the allotropic forms of carbon.



- Combustion is a complex series of chemical reactions, but from a physical standpoint it may be described as the rapid combination of oxygen with a fuel, such as natural gas or wood, resulting in the release of heat. Most fuels contain carbon and hydrogen, and the oxygen usually comes from air.
- A substance made of only hydrogen and carbon is a Hydrocarbon. Examples of hydrocarbons are coal, petroleum, natural gas and tar. They are used as energy sources.
- Methane is gas that is found in small quantities in the atmosphere. Methane is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms. Methane is a powerful greenhouse gas.
- The ignition temperature of a substance is the minimum temperature that is required to start or cause combustion. The ignition temperature is also known as the ignition point. It is the temperature at which any substance may catch fire and start burning.

**A. Collect the specimen of some amorphous forms of carbon.**

**B. Fill in the blanks by choosing the correct option:**

1. An element with atomic number 6 and ability to form large number of compounds\_\_\_\_\_ (boron/carbon)
2. Hydrocarbons are the compounds made up Carbon & \_\_\_\_\_. (hydrogen/nitrogen)
3. Oxides of carbon are\_\_\_\_\_ compounds. (organic / inorganic)
4. In free state carbon occurs in the form of a shiny material called\_\_\_\_\_ (diamond/graphite)
5. In  $\text{CaCO}_3$  carbon occurs in \_\_\_\_\_state. (free/ combined)
6. The ability of an element to exist in more than one physical form is termed as \_\_\_\_\_ (molecularity/allotropy)
7. Allotropes have \_\_\_\_\_ (similar /different) physical properties but \_\_\_\_\_chemical properties. (rare/same)
8. Fullerene is \_\_\_\_\_form of carbon. (crystalline/ amorphous)
9. Coal is \_\_\_\_\_form of carbon. (crystalline/ amorphous)
10. Buckminster fuller ( $\text{C}_{60}$ ) has\_\_\_\_\_ carbon atoms in its sphere. (30/60/90).

**C. Draw a Venn diagrams to show the points of similarities and difference in each case.**

1. Diamond and graphite
2. Primary and Secondary fuels
3. Bituminous and Anthracite coal
4. Spontaneous combustion and Slow combustion.

**D. Answer the following questions.**

1. What is Allotropy? What are the various allotropic forms of carbon?
2. Explain refining of petroleum.
4. How is biogas produced?
5. Why is diamond used for cutting tools and graphite is not?

## Health and Hygiene

### Overview:

- Health refers to a person's physical, emotional and psychological well-being. Hygiene refers to good practices that prevent disease and lead to good health, especially cleanliness, proper disposal of wastewater and drinking water supply.
- Communicable diseases comprise infectious diseases such as tuberculosis and measles, while non-communicable diseases (NCDs) are mostly chronic diseases such as cardiovascular diseases, cancers, and diabetes.
- The act of introducing a vaccine into the body to produce protection from a specific disease is Vaccination.
- Immunization: A process by which a person becomes protected against a disease through vaccination. This term is often used interchangeably with vaccination or inoculation.
- An allergen is a substance that can cause an allergic reaction. In some people, the immune system recognizes allergens as foreign or dangerous. As a result, the immune system reacts by making a type of antibody called IgE to defend against the allergen. This reaction leads to allergy symptoms.

### A. State reasons for the following.

1. Antibiotics are ineffective against viral diseases
2. Anemia leads to a pale complexion and fatigue
3. A tourniquet is tied above the region of a snake bite
4. Having a nutritious diet that includes vegetables and fruits keeps us healthy

### B. In a tabular form differentiate between vaccination and immunization.

### C. Name the vaccines taken to prevent the following diseases.

1. Tuberculosis
2. Diphtheria
3. Polio
4. Measles
5. Hepatitis
6. Chickenpox

**D. Draw a Venn diagram to show the similarities and differences in each case.**

1. Carriers and vectors
2. Antibiotics and vaccines
3. Health and diseases
4. Signs and symptoms of disease
5. Acute and chronic disease

**E. Prepare your own first aid kit. (Include the following articles)**

- |                               |                                       |
|-------------------------------|---------------------------------------|
| 1. Antiseptics and cleaners.  | 5. Adhesive bandages                  |
| 2. First aid tapes and gloves | 6. Different sized sterile gauze pads |
| 3. Antibiotics                | 7. Scissors                           |
| 4. Analgesics                 | 8. Band aids                          |

For more worksheets related to above topics you can visit "[liveworksheets.com](http://liveworksheets.com)"

**Section A: History****Learning Outcome**

- To familiarize students about nationalism
- Develop rational thinking about patriotism.
- To know the sacrifice of our national heroes.
- Understand the sense of collective belonging

**➤ First World War, The Non-Cooperation and The Khilafat Movement**

The desire for independence from colonial rule united people across the country, and Mahatma Gandhi forged the Indian National Congress. From 1919 the movement spread to various sections of the society. The First World War had created a scenario which led to a huge increase in defense expenditure which created hardships for common people. To worsen the conditions there was crop failure and an epidemic of influenza which led to people perishing. The common man thought that their hardships would end after the war but nothing improved.

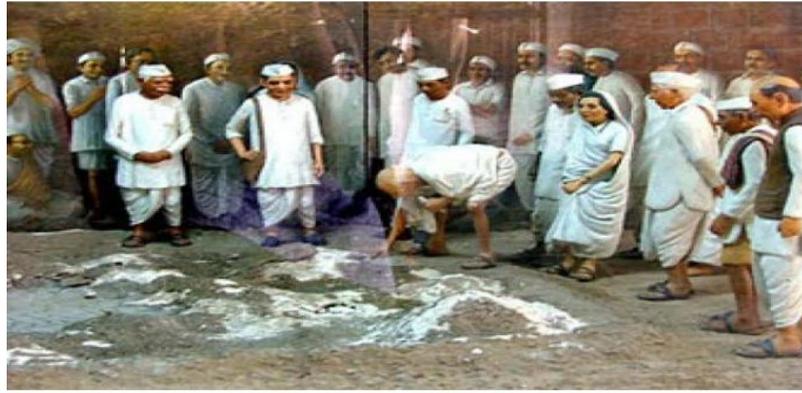
**➤ Why Non-Cooperation?**

As per Gandhiji, British rule was established in India because of the Indians' cooperation. If Indians did not cooperate, then British rule would collapse in a year. The movement was proposed in stages, starting with the renunciation of titles. There was a boycott of civil services, the army, foreign goods, police, courts, and the legislative council. In December 1920, the Non-Cooperation Movement was adopted.

**➤ The Jallianwala Bagh Massacre**

- The British government passed the Rowlett Act in 1919 which gave them the power to repress any political activities and authorized the detention of any political prisoners without trials for up to 2 years.
- On 13<sup>th</sup> April 1919, the villagers attended the Baisakhi fair at the Jallianwala Bagh when there was nationwide martial law.
- General Dyer blocked the only entry/exit of the park and opened fire at the civilians.
- He ordered open fire which killed thousands of men, women, and children.
- This brutal act enraged other Indians. There were nationwide partials, attacks on government buildings, and clashes.





### Assignment

- I. Imagine You Are a Woman Participating in The Civil Disobedience Movement. Explain What The Experience Meant To Your Life.
- II. As a leader of Indian national congress how would you organize non-cooperation movement.

### III. Match the following:

	Movements		Year
1	Dandi March	A	1918
2	Peasant Movement, Kheda	B	1919
3	Non- Co-operation Movement	C	1930
4	Rowlatt Satyagraha	D	1917
5	Indigo Movement, Champaran	E	1921

IV. Which of the following aspects best signifies this image of 'Bharat Mata'?

a. Heroism to justice

b. Readiness to fight

c. Willingness to make peace

d. Power and Authority



**V: Arrange the following in correct serial order:**

1. The new Tory government in Britain constituted a Statutory Commission.
2. Jawaharlal Nehru formalized the demand of 'Purna Swaraj in the Lahore session.
3. C. R. Das and Motilal Nehru formed the Swaraj Party.
4. Viceroy, Lord Irwin, announced an offer of 'Dominion Status' for India.
- 5.

**VI. Answer the following in 100-150 words.**

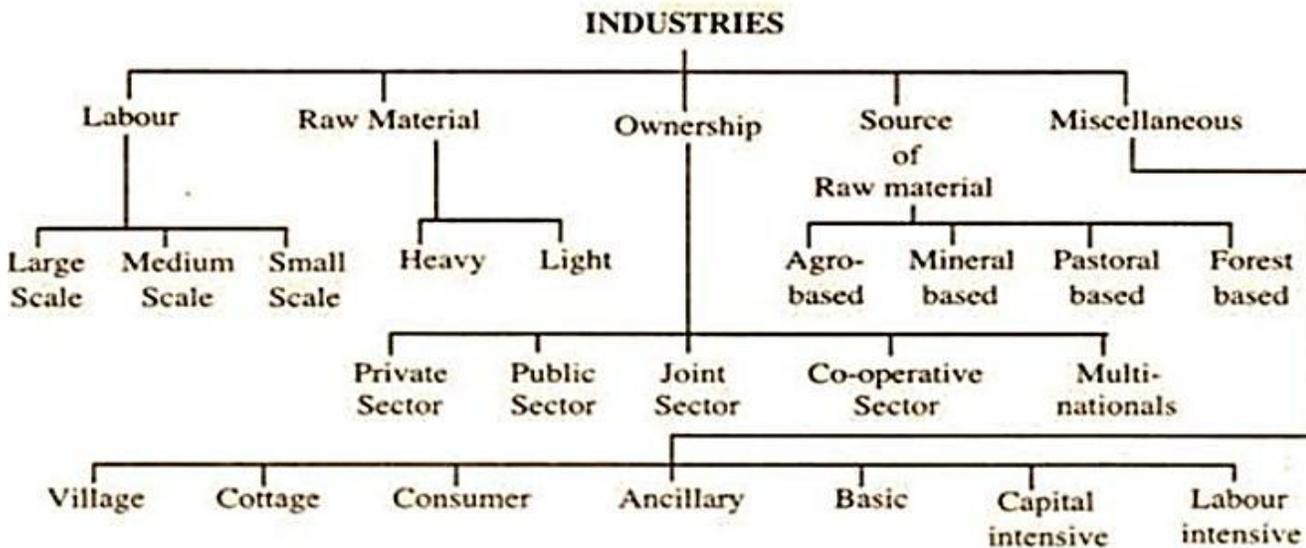
- a. What do you understand by the term Satyagraha?
- b. Impact of the First World War on India.
- c. State three reasons that led to the slowdown of the Non-Co-operation movement.
- d. Role of the peasant and tribal revolt during Non-Co-operation movement.
- e. Gandhi-Irwin Pact?
- f. Analyze the role of Business class in the Civil Disobedience Movement.

**Section B: Geography**

**Learning outcome.**

- To enable the students to appraise the importance of manufacturing industries and their contribution to national economy growth.
- Analyze the factors responsible for environmental degradation
- Sensitize learner about the importance environmental pollution.

**Industries can be classified into several groups based on the labour, raw material, ownership source of raw material etc.**



### On the Basis of Strength of Labour:

#### **Large Scale Industry:**

Industries which employ a large number of labourers in each unit are called large-scale industries. Cotton or jute textile industries are large scale industries.

#### **Medium Scale Industries:**

The industries which employ neither very large nor very small number of labourers are put in the category of medium scale industries. Cycle industry, radio and television industries are some examples of medium scale industries.

#### **Small Scale Industries:**

Industries which are owned and run by individuals and which employ a small number of labourers are called small scale industries.

### On the Basis of Raw-Material and Finished Goods:

Industries classified on the basis of raw materials and finished goods are:

#### **Heavy Industries:**

Industries which use heavy and bulky raw-materials and produce products of the same category are called heavy industries. Iron and steel industry presents a good example of heavy industries.

#### **Light Industries:**

The light industries use light raw-materials and produce light finished products. Electric fans, sewing machines are light industries.

### **On the basis of Ownership:**

Since the start of the planned development of Indian economy in 1951, industries are divided in the following four classes:

#### ***Private Sector Industries:***

Industries owned by individuals or firms such as Bajaj Auto or TISCO situated at Jamshedpur are called private sector industries.

#### ***Public Sector Industries:***

Industries owned by the state and its agencies like Bharat Heavy Electricals Ltd., or Bhilai Steel Plant or Durgapur Steel Plant are public sector industries.

#### ***Joint Sector Industries:***

Industries owned jointly by the private firms and the state or its agencies such as Gujarat Alkalies Ltd., or Oil India Ltd. fall in the group of joint sector industries.

#### ***Co-operative Sector Industries:***

Industries owned and run co-operatively by a group of people who are generally producers of raw materials of the given industry such as a sugar mill owned and run by farmers are called co-operative sector industries.

### **On the Basis of Source of Raw Material:**

On the basis of source of raw materials, industries are classified as under:

#### ***Agro Based Industries:***

Agro based industries are those industries which obtain raw-material from agriculture. Cotton textile, jute textile, sugar and vegetable oil are representative industries of agro-based group of industries.

#### ***Mineral Based Industries:***

The industries that receive raw materials primarily from minerals such as iron and steel, aluminum and cement industries fall in this category.

#### ***Pastoral-Based Industries:***

These industries depend upon animals for their raw material. Hides, skins, bones, horns, shoes, dairy, etc. are some of the pastoral-based industries.

#### ***Forest Based Industries:***

Paper card-board, lac, rayon, resin, tanning of leather, leave- utensils, basket industries are included in this type of industries.

**The Textile industry occupies a unique position in the Indian Economy** because it contributes significantly to industrial production (14%). It employs largest number of people after agriculture, i.e., 35 million persons directly. Its share in the foreign exchange earnings is significant at about 24.6%. It contributes 4% towards GDP and is the only industry in the country which is self-reliant and complete in the value chain.

#### **Factors for concentration/location of cotton textile industry in Maharashtra and-Gujarat:**

- Availability of raw cotton was abundant and cheap.
- Moist climate in these coastal States also helped in the development of cotton textile industry because humid conditions are required for weaving the cloth, else the yam breaks.



- Well-developed transportation system and accessible port facilities in Maharashtra and Gujarat.
- Proximity to the market as cotton clothes are ideal to wear in these warm and humid States.

**Problems faced by the cotton textile industry:**

Power supply is erratic in our country. Machinery needs to be upgraded, especially in weaving and processing sectors. Low output of labor. We still need to import cotton in spite of the fact that the production of cotton in the country has increased. Stiff competition from the synthetic fiber industry.

**Assignment:**

- I. Explain the importance of cotton textile industry in Indian economy.
- II. The cotton textile industries are mostly concentrated in Maharashtra and Gujrat. Give reasons.
- III. Different factors responsible for location of industry.
- IV. What are some problems that the cotton industries are facing in the present challenging scenario?

**V. On the political map of India, locate and label the following:**

- (i) Centers of Cotton textile industry
- (ii) Centers of Woolen textile industry
- (iii) Centers of Silk textile industry
- (iv) Largest producer of Jute textile

**Section C: Political Science**

**Learning outcome**

- To bring awareness about the basic facilities
- Make judicious use of water.
- Methods to control water pollution
- To share responsibility while using common resources

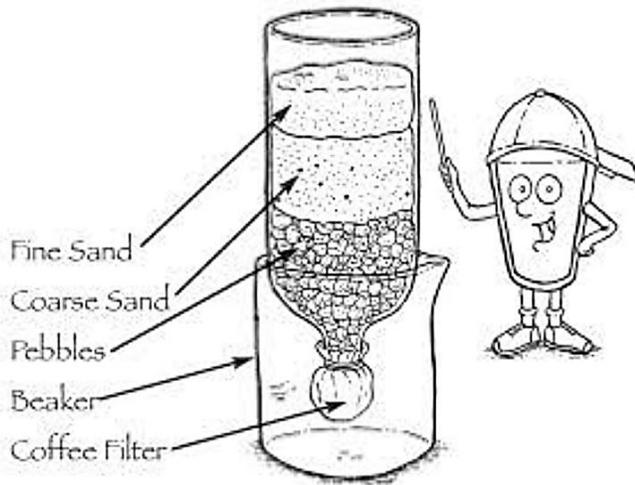
Water is an essential aspect of every individual's life. Not only is it crucial for maintaining our health but also to survive. Safe drinking water plays a fundamental role in lowering your risk of developing water-related diseases. About 1600 Indians suffer from death due to water-related diseases like cholera, dysentery, and even diarrhea. Moreover, a majority of the Indians are children aged below 5. In this section of the chapter, students will learn about how water is a paramount factor for the survival of living creatures. Additionally, you'll also learn more about different examples of Public Facilities and about Article 11, which is about the Right to Life. Under the Right to Life, students will know about how every individual should have universal access to water. This section covers all the laws for the right to water and how it should be available to every human being

## Assignment.

### I. Project work :

Make a working project on the purification of water.

Note: Use eco-friendly material while making project.



### II. Recall the lesson, and fill the table accordingly:

S.No	Act	Year of passing	Implications
1.	Essential commodity Act		
2.	Food safety Act		
3.	Sanitation system		
4.	Public distribution Act		

GDGPS