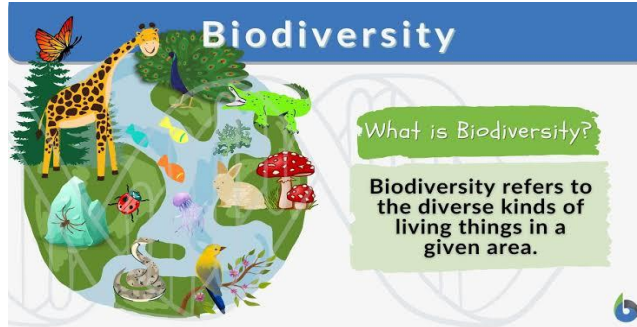


**ARMY PUBLIC SCHOOL, NOIDA**  
**HOLIDAY HOMEWORK**  
**CLASS: VII (2023-24)**  
**SUBJECT INTEGRATED PROJECT**

***THEME: Biodiversity in India***

*“We don't own the planet earth, we belong to it. And we must share it with our wildlife.” – Steve Irwin*



*Biodiversity describes the richness and variety of life on earth. It is the most complex and important feature of our planet. Without biodiversity, life would not sustain. It holds ecological and economic significance. It provides us with nourishment, housing, fuel, clothing and several other resources. It also extracts monetary benefits through tourism. Therefore, it is very important to have a good knowledge of biodiversity for a sustainable livelihood. India is one of the most diverse nations in the world. It ranks ninth in terms of plant species richness. Two of the world's 25 biodiversity hotspots are found in India. It is the origin of important crop species such as pigeon pea, eggplant, cucumber, cotton and sesame. India is also a center of various domesticated species such as millets, cereals, legumes, vegetables, medicinal and aromatic crops, etc. India is equally diverse in its faunal wealth. There are about 91000 animal species found here. However, diversity is depleting at a drastic rate and various programs on biodiversity conservation are being launched to conserve nature.*

**GENERAL INSTRUCTIONS:**

- It is an individual activity.
- The project is to be submitted in the form of a scrapbook containing all the work related to the project.
- Credit will be awarded to original drawing, illustrations and creative use of materials.
- It needs to be presented in the following order:  
Cover page, index, Science, Social Science, English, Mathematics, Hindi, Sanskrit, Computer, Bibliography.
- Date for submission is 5 July 2023.

## SCIENCE

*They Say, "Biodiversity starts in the distant past and it points towards the future."*

*Biodiversity is the variety and variability of life on Earth. It is a measure of variation at the genetic, species, and ecosystem level. To understand Biodiversity of India, let's first understand The Biodiversity of Local regions by visiting the nearest national park/bird sanctuary/wildlife sanctuary/eco park/biodiversity park.*

**ACTIVITY:** Catalog the plants (min.5) and animals (min. 5) to represent Biodiversity. Project it in the form of a handmade drawing/painting/on the spot photography.

### METHODOLOGY:

- Visit any national park/bird sanctuary/wildlife sanctuary/eco park/biodiversity park during summer vacation with your parents.
- Observe the plants and animals.
- Identify their common as well as scientific names.
- Catalog them to represent Biodiversity.
- Project your observations in the form of a handmade drawing/painting/self-clicked photographs.

**Note:** The photographs should not be copied and pasted from Google. They should be clicked by the student.

### ASSESSMENT CRITERIA:

|                           |         |
|---------------------------|---------|
| Content                   | 2 Marks |
| Observations.             | 1 Mark  |
| Creativity                | 1 Mark  |
| Originality/Visual Appeal | 1 Mark  |

**Total 5 marks**

### **Note:**

- Originality mark is for students who will project using photographs.
- Visual Appeal is for students who will project through handmade painting/drawing.

## SOCIAL SCIENCE

India is known for its rich biodiversity and has around 24.46% of the geographical area covered by forests and trees. Biodiversity is referred to as the variation of plant and animal species in a particular habitat. Species evenness and species richness form the major components of biodiversity.

Coined by Norman Myers, the term "**Biodiversity hotspots**" are defined as the regions which are known for their high species richness and endemism.

There are four major biodiversity hotspots in India

1. The Himalayas
2. Indo-Burma Region
3. The Western Ghats
4. Sundaland

**ACTIVITY:** Protecting and promoting major biodiversity hotspot in India

### **METHODOLOGY:**

- On a political map of India locate all four major biodiversity hotspots in India.
- Research on any **one** major biodiversity hotspot in India and write about it including the variety of **flora & fauna** found there.
- Paste **five** pictures of the extinct and endangered species of your hotspot.
- Make a **tourist map** including a brief description of key attractions and sites, as well as activities tourists can do at these locations.
- Write a **catchy slogan** to promote your biodiversity hotspots.

### **ASSESSMENT CRITERIA:**

|             |    |
|-------------|----|
| Research-   | 1m |
| Relevance-  | 1m |
| Content -   | 1m |
| Creativity- | 1m |
| Map skills- | 1m |

**Total 5 marks**

## ENGLISH

**ACTIVITY:** Welcome to Biodiversity Hospital! Be a doctor and create patient charts for 4 species of animals on A4 size sheets.

### **METHODOLOGY:**

- Examine any four animals as patients.
- On A4 sized sheets, create patient charts for each animal species.
- In the chart, mention the name of the species and location, where they are found.
- Find out the symptoms, how they feel and what difficulties they are facing.
- Based on the symptoms, determine if they are threatened, vulnerable, endangered, or almost extinct.
- Paste pictures of these animal species.

### **ASSESSMENT CRITERIA:**

Research- 1m  
Content- 1m  
Creativity- 1m  
Pictures- 1m  
Presentation- 1m



**Total 5 marks**

## MATHS

In geometry, symmetry is defined as a balanced and proportionate similarity that is found in two halves of an object. It means one-half is the mirror image of the other half. The imaginary line or axis along which you can fold a figure to obtain the symmetrical halves is called the line of symmetry.

Symmetry, in biology, refers to a correspondence of body parts, in size, shape, and relative position, on opposite sides of a dividing line or distributed around a central point or axis.

Symmetry is an inherent trait of several organs of flowering plants, such as leaves, roots, shoots, flowers, and fruits.

**ACTIVITY:** Check for symmetry in plants by studying the structure of different types of leaves.

### **METHODOLOGY:**

- Collect at least three types of leaves.
- Draw or imagine a line from the stem of one of your leaves, all the way along the leaf to its tip. Check if the two sides of the leaf are balanced.

- Use your scissors to cut along the central line of a leaf: from stem to tip.
- Then stick your half-leaf down on your sheet of paper.
- Complete the other half using pencil or coloured pens.
- Try and get your drawn-half as close to the real thing as possible.
- You can add veins too, if you like.
- Check how accurate you have been by placing your cut leaf half over the top of your drawing and see how they match up.
- Repeat the above steps for at least 4 more types of leaves.

### ASSESSMENT CRITERIA:

- Collecting leaves - 1 mark  
 Cutting and pasting – 1 mark  
 Drawing - 2 marks  
 Overall presentation - 1 mark

**Total 5 marks**

## HINDI

ACTIVITY - विलुप्त होने वाले किन्हीं पाँच पशु या पक्षियों का सचित्र वर्णन कीजिए।

### METHODOLOGY

- जैव विविधता किसी एक क्षेत्र में मौजूद विभिन्न प्रजातियों और इन प्रजातियों के पारिस्थितिक तंत्र की विविधता है।
- अगर पारिस्थितिकी तंत्र के अंदर अधिक से अधिक प्रजातियाँ विलुप्त होने लगती हैं, तो पूरा पारिस्थितिकी तंत्र एक खतरे के क्षेत्र में प्रवेश करता है।
- इस मामले में, कुछ प्रजातियों की आबादी शून्य तक कम हो जाती है, जबकि अन्य प्रजातियों की आबादी आसमान छूती है।
- इस प्रकार आप भी विलुप्त होने वाले किन्हीं पाँच पशु या पक्षियों का सचित्र वर्णन कीजिए।
- क्रियाकलाप क्रियान्वित करने हेतु मूल्यांकन बिंदुओं को ध्यान में रखना आवश्यक है।

### ASSESSMENT CRITERIA -

|                       | अंक |
|-----------------------|-----|
| 1. विषयवस्तु          | 1   |
| 2. भाषिक शुद्धता      | 1   |
| 3. सटीक वाक्य रचना    | 1   |
| 4. सृजनात्मकता        | 1   |
| 5. समग्र प्रस्तुतीकरण | 1   |

**Total 5 marks**

## SANSKRIT

प्रदत्त कार्य- जैव विविधता के (Biodiversity) महत्त्व को बताते हुए A 4 साइज पृष्ठ पर एक पोस्टर बनाकर संस्कृत भाषा में स्लोगन लिखें।

उद्देश्य

1. छात्रों में संस्कृत भाषा के प्रति जिज्ञासा उत्पन्न करना ।
2. जैव विविधता के प्रति छात्रों को जागृत करना ।
3. कला समेकित क्रियाकलापों का छात्रों में समावेश करना ।

क्रियाकलाप की प्रक्रिया

छात्र अंतरजाल की सहायता से जैव विविधता के बहुत से पोस्टर्स बना सकते हैं । हिंदी भाषा में दिए गए स्लोगन को संस्कृत भाषा में परिवर्तित कर सकते हैं । कक्षा में अध्यापिका पहले क्रियाकलाप का पूर्वपरिचय देगी ! क्रियाकलाप का मूल्यांकन निम्न बिंदुओं के आधार पर होगा ।

मूल्यांकन के आधार

1. चित्र चित्रण- १ अंक
2. विषयानुकूलता- १ अंक
3. शुद्ध वर्तनी- १ अंक
4. समयावधि- १ अंक
5. समय प्रस्तुति। १ अंक

Total 5 marks

## COMPUTER SCIENCE

**ACTIVITY:** Students will create an animation/story of 2 to 3 minutes on the topic “Biodiversity of Indian Forests” using any of the 2D animation software. It may include themes such as endangered species, medicinal plants in forests etc.

**METHODOLOGY:**

- Activity can be done individually.
- Study about the Biodiversity of Indian forest.
- Prepare an animation of 2 to 3 minutes using any of the animation software.
- Software to be used: Any 2D animation software such as Animate, pencil 2D, Synfig Studio etc.
- Present your animation in class, once school reopens.

**ASSESSMENT CRITERIA:**

|                                |        |
|--------------------------------|--------|
| Relevance to the theme         | 1 mark |
| Originality                    | 1 mark |
| Creativity                     | 1 mark |
| Tools Used for special effects | 1 mark |
| Message from the animation     | 1 mark |

