GRADE 6

Britannica EDUCATION

Biodiversity Register: Young Guardians of Nature

Theme: Environment

PBL Explorer's Guide

PROJECT NAME: BIODIVERSITY REGISTER: YOUNG GUARDIANS OF NATURE

Grade **6** | Duration **6 Weeks** | Subject **Science**

Learning Outcome

To develop a creative and interactive digital solution that documents local biodiversity, informs the users about the importance of species and ecosystems, and raises awareness about conservation among peers and the community.

Alignment to Standards

Interdisciplinary Focus

- **Language and Communication:** Research, write species descriptions, create interesting facts, and present findings clearly to others.
- **Art and Design:** Design visually appealing flipbook pages, organize layouts, choose colors, and create illustrations or digital visuals.
- **ICT:** Use digital tools to create flipbook pages, sync audio, generate QR codes, and design interactive elements.
- **Social Studies:** Explore human impact on biodiversity, understand conservation practices, and develop awareness campaigns.

21st-Century Skills

- Critical Thinking
- Creativity
- Collaboration
- Communication
- Research
- Problem-solving
- Technology Literacy
- Leadership

Attributes

- Knowledgeable
- Thinkers
- Communicators
- Reflective
- Caring
- Risk-takers

Sustainable Development Goals

Quality Education

Climate Action

Life on land

Partnership for the Goals

Key Responsibilities and Expectations

Collaborative Participation: Every learner will engage in all activities, while designated teams will take responsibility for specific tasks.

- ☑ **Team Leader:** Oversees the planning and execution of the entire project, directs teamwork and coordination, ensures timely progress, and facilitates collaboration across teams.
- ☑ **Research Team:** Collects information on local species, their roles in the ecosystem, and the threats these local flora face.
- ☑ **Design and Technology Team:** Creates visually appealing flipbook pages, integrates QR codes in the flipbook, synchronizes audio, and ensures that all digital elements work smoothly.
- ☑ **Audio Team:** Records and edits various ambient sounds in nature (birdcall, rustling of leaves, etc.) and embeds them in the flipbook pages.
- ☑ **Media and Communications Team:** Makes presentations, conducts surveys or interviews, promotes the team objective and the prototype on various platforms, and shares the project with peers and the broader community.
- ☑ **Documentation Team:** Maintains records of research, observations, user feedback, and project progress.

Nagaland's Forest Protectors

In the state of Nagaland in India, many communities have lived closely connected to forests, rivers, and farms for generations. Forests were not just places with trees, they were sources of food, clean water, building materials, medicines, and cultural traditions. Because their lives depended on nature, people developed ways to use the forest resources carefully and respectfully. Elders taught the younger generation how to recognize plants, track animals, understand seasonal patterns, and limit the use of lumber so that forest and its wildlife remained pristine.

However, over time, villagers began to notice that the balance between people and nature was changing. Trees were being cut faster than they could grow back. Hunting increased and some animals became rare to find. Overfishing led to a decrease in the number of fish in the river, negatively affecting the riverine ecosystem. Forest areas became smaller, wildlife numbers dropped, and the air was less clean. Communities realised that if these trends continued, both nature and their own future well-being would be at risk. They were also concerned that traditional ecological

knowledge might disappear if younger generations did not learn and practice it.

To restore this balance, three villages—Sukhai, Kivikhu, and Ghukhuyi—decided to create Community-Conserved Areas (CCAs). These were forest areas that the whole community agreed to protect and manage together. Creating CCAs required cooperation, discussion, and shared responsibility. People had to rethink how they used forest resources and agree on new practices that would allow nature to recover.

So, what did these village communities do to revive and protect their forests?

They set clear rules for hunting and resource use, such as limiting when and where animals could be hunted and preventing cutting of certain trees.

They recorded species found in their forests, including birds, butterflies, mammals, and useful plants, so they could track changes over time.

They protected breeding seasons and habitats, ensuring animals could reproduce safely and ecosystems could regenerate.

They passed ecological knowledge to younger generations by involving youth in forest walks, monitoring, and conservation activities.These actions were not easy. People had to change long-standing habits, learn new ways of observing and recording biodiversity, and stay committed even when results were slow. But persistence brought change. Gradually, the forests were regenerated, the wildlife returned, and the riverine ecosystem became healthier. The communities also developed nature-friendly livelihoods, such as guiding visitors, that supported conservation instead of harming it.

What problem are we trying to solve, and why is it important?

Discuss these questions to understand the relevance from the scenario:

a. Why did the villages in Nagaland decide to create Community-Conserved Areas?

b. How did setting rules for hunting and protecting breeding seasons help the forests and the animals to recover?

c. Why is it important for communities to record species and pass ecological knowledge to younger generations?

d. What signs showed the communities that the balance between people and nature was disturbed?

e. What can your school or neighbourhood learn from the Nagaland communities to help protect biodiversity locally?

02 Explore the Problem

2.1 Research

- Study about biodiversity and its importance for the environment and human beings.
- As you explore, research what the presence and absence of certain animals or plants can tell us about the health of an ecosystem. For example, the presence or absence of frogs often in ponds or lakes bees, and birds are markers of the health of forest ecosystems.
- Use Britannica resources, such as articles, videos, images, as well as books from the library, and the observations of your locality to gather correct and reliable information.
- Read about bioacoustics—how scientists use sounds from animals and nature to understand the environment. Think about how listening to these sounds can help identify problems in your local ecosystem.
- Research the main challenges and threats to biodiversity such as habitat loss, pollution, climate change, or invasive species.
- Think about what it might mean for an ecosystem if an indicator species (like frogs, butterflies, or birds) disappears.
- Explore how everyday human choices, such as waste disposal, noise, and appliance use negatively affect plants and animals.
- Study about interdependence of every type.
- Find out which plants, animals, and insects are local to your area and what is their state now: are they still thriving, do they struggle to survive, or have they died out? Support your research with examples and case studies.

2.2 Data Collection and Analysis

Observation

- Conduct field observations in your selected area and record the type of flora and fauna.
- Segregate the types of flora and fauna into categories such as local, indigenous, foreign, and invasive.
- Take clear photographs of species, their habitats, and any visible environmental factors, such as landforms, water bodies, and tree cover.

- Conduct simple interviews and surveys of educators, gardeners, local residents, or forest officials (if permitted) to understand the types of species present, any changes over time, and local environmental concerns.
- Identify visible threats to biodiversity in the area, such as pollution, habitat loss, or climate-related changes.
- Analyze the role of each observed species in the ecosystem (pollination, pest control, food chain support, oxygen production, etc.).
- Summarize your findings in the *Design Thinker's Journal* by listing species observed, their ecological importance, threats identified, and possible conservation actions.

Questionnaire

a. Have you noticed any plants, birds, or insects in the school that were common before but are rare now?

b. Are there any species in our school area that you think are important for nature? Why?

c. Have you observed any environmental changes in or around the school over the years?

d. What activities in school might affect local plants or animals (for example, waste, noise, construction)?

e. What actions can schools take to protect biodiversity on campus?

f. Do you think keeping a school biodiversity register or record of plants and animals would be useful? How could it help learners or the environment?

Gardeners and School Maintenance Staff

a. What plants, birds, or insects do you commonly see in the school garden or grounds?

b. Have you noticed any changes in the number of butterflies, birds, or other animals over time?

c. What problems do plants or soil in this area face (for example, pests, dryness, pollution)?

d. Have any plants or species disappeared or reduced in recent years?

e. What practices help keep the garden healthy for plants and animals?

f. Would keeping a regular record of the plants, birds, and insects seen in the garden help in caring for it better? Why?

Local Residents

a. What kinds of plants, birds, or animals do you usually see in this area?

b. Have you noticed any species becoming fewer or disappearing over the years?

c. What environmental changes have you observed in this locality (trees cut, water bodies changed, more buildings, etc.)?

d. What human activities here might affect biodiversity (waste, traffic, noise, land use)?

e. Are there any local efforts or traditions that help protect nature?

Forest Officials and Environmental Workers (if available)

a. What important plant or animal species are found in this area?

b. Have any species become rare, threatened, or disappeared in recent years?

c. What are the main threats to biodiversity in this region? How do human activities affect forests and wildlife here?

d. What conservation actions are being taken to protect local species?

e. How do you use sounds from animals or nature to find out if there are problems in the forest?

f. How can learners or communities help in biodiversity conservation?

g. How important is documenting or maintaining records of species in conservation work? How does it help protect biodiversity?

2.3 Observation Report

Threats to Biodiversity

Location	Threat Observed	Area/Species Affected	Evidence (Photo/Notes)	Suggested Action

Species Role in the Ecosystem—Analysis Table

Species Name	Type (Plant/ Animal/Bird/ Insect)	Observed Habitat	Ecological Role	Why It Is Important

Interview Notes

2.4 Report Creation

In the *Design Thinker's Journal*, systematically summarize your research findings. Highlight the most significant insights gained from your outdoor field observations, community interviews, and scientific investigations to provide a clear foundation for your digital register.

03 Ideation and Plan Solutions

3.1 Research and Brainstorming

- Review your findings from observations, interviews, surveys, and data analysis to clearly understand the biodiversity issues identified.
- Research different types of solutions that have been used to protect biodiversity, such as awareness campaigns, Biodiversity Registers (digital or printed), plantation drives, eco-clubs, citizen science projects, or community workshops.
- Explore how government boards and initiatives in India and globally support People's Biodiversity Registers (PBRs). Look at what they do, how they help communities record biodiversity, and why these registers are important for protecting nature.
- Brainstorm multiple possible solutions that your team could implement to address the identified issues. Think creatively and list all ideas without judging them at first.
- Discuss the strengths, impact, and practicality of each idea—which solution will raise awareness, encourage conservation actions, and be sustainable over time?
- Select one strong and realistic solution (for example, a Digital Biodiversity Register) that your team believes can create meaningful impact in your community.

3.2 Planning Solution

- Check if your solution (e.g., Digital Biodiversity Register) can be completed with the available time, tools, and resources.
- Confirm availability of devices and digital platforms for design, audio synchronization, and QR code integration.
- Ensure the selected content and species are manageable within your timeline.
- Identify any challenges or complex features and simplify them if needed.
- Decide which ideas are realistic and achievable for your final implementation.

3.3 Risk Analysis

- Define the structure of your solution (e.g., cover page, ecosystem sections, species pages, conservation section, feedback page).
- Finalize what each species page will include: image, description, ecological role, threats, conservation tips, QR code, and synced audio.

- Decide on layout, color themes, font styles, and interactive elements to ensure consistency.
- Plan how users will interact with the solution (flip pages, scan QR codes, click audio icons).
- Create a rough layout or sample page to visualize the final outcome before full development.

3.4 Action Plan

- Divide responsibilities among team members (content writing, design, audio integration, QR code creation, documentation, testing).
- Set clear deadlines for each stage of development.
- Prepare a task checklist to monitor progress regularly.
- Allocate time for testing audio, QR codes, usability, and technical corrections.
- Plan the final presentation or sharing method (school exhibition, website upload, classroom display, etc.).

3.5 Report Creation

In the *Design Thinker's Journal*, consolidate your key research findings by outlining the specific local species your team has selected and highlighting the critical ecological insights that will inform your digital solution.

04 Prototype Development

4.1 Creating a Model

Before you start creating your prototype, think about your audience—parents, gardeners, or younger learners. Your design should be clear, engaging, and easy for them to understand. Use visuals, sound, and digital storytelling to share your conservation message and inspire people to take action.

Step 1: Create Your Flipbook Pages

- Open your digital flipbook tool like Book Creator, Canva, Flipsnack, or Google Slides.
- For each species, create a page with:
  - Image or illustration of the species (clear and colorful)
  - Name and short description (common name, scientific name, habitat)
  - Significance in the ecosystem (example: “Bees help flowers grow by pollination,” or “Frogs control insect populations”)
  - QR code linking to extra information, interesting facts, or conservation tips
  - Audio button/icon for the natural sound of the species (e.g., chirping, rustling, croaking)
- Arrange the page so it is neat, readable, and visually attractive.
- Optional: Use ecosystem-themed backgrounds (green for forest, blue for pond, yellow for garden) to make the pages look lively.

Step 2: Sync Audio Clips and Create Soundscapes

- Add your audio clips to the correct species page.
- Make sure the audio matches the species (e.g., bird chirping for a bird, rustling leaves for a tree).
- Test the audio to make sure it plays smoothly when the page is flipped or the button is clicked.
- For realism, combine multiple sounds on a page to create a mini soundscape (e.g., forest with birds, insects, and wind).

Step 3: Add QR Codes

- Insert your QR code image clearly on each page.
- Scan each code to make sure it links to:
  - Extra facts about the species
  - Conservation tips (e.g., “Plant native flowers to help bees” or “Keep ponds clean for frogs”).
  - Fun videos or interactive content
- Make sure QR codes don’t cover important images or text and are easy to scan.

Step 4: Include Significance and Fun Facts

- On each page, clearly write:
  - Why the species is important for the ecosystem (e.g., “Trees provide oxygen and homes for birds,” or “Butterflies help pollinate flowers”).
  - One interesting fact to engage readers (e.g., “Some frogs can jump 20 times their body length!”).
- Optional: Add a “Did You Know?” box or icon for extra fun facts.

Step 5: Add Creative Touches

- Make the fun-filled and interactive by adding features such as:
  - Animations (falling leaves, flying butterflies, rippling water, etc.)
  - Color-coded ecosystems to show which habitat the species belongs to
  - A title page with the project name “Biodiversity Register” and your team name
- Keep it simple and clear, so that anyone can read and understand the pages easily.

Step 6: Test Your Flipbook Prototype

- Flip through all pages and check:
  - Audio plays correctly for each species
  - QR codes are scannable and link to the right content
  - Text is easy to read and images are clear
  - Significance of each species is clearly mentioned
- Ask a friend, classmate, or educator to test it and give feedback.

Step 7: Share and Refine

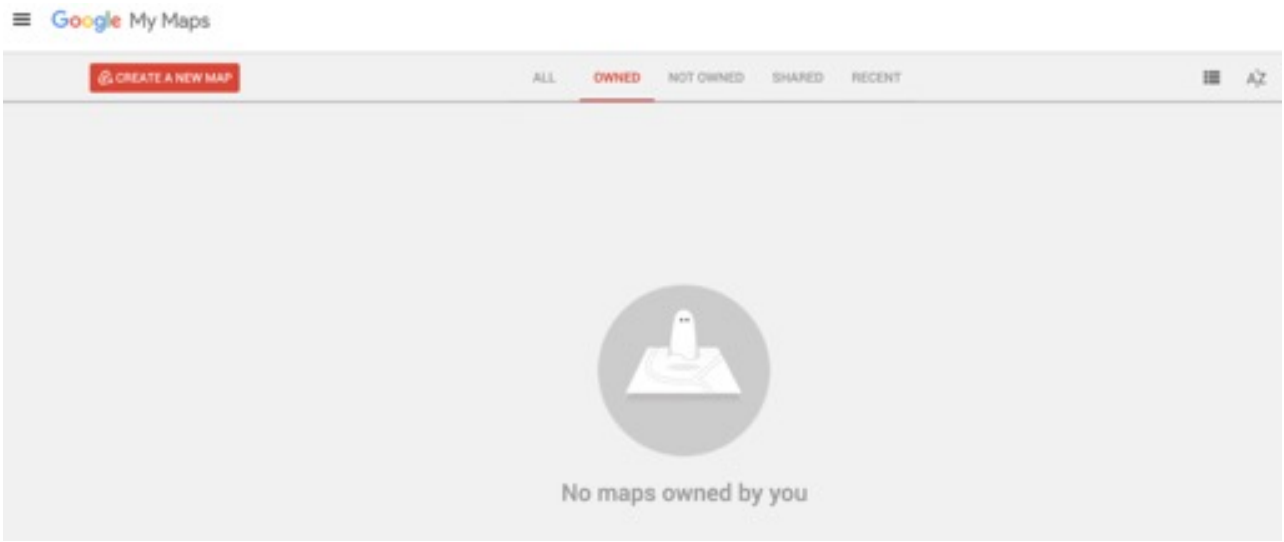
- Present your prototype to classmates, educators, or community members.
- Let them flip pages, listen to sounds, and scan QR codes.

4.2 Optional Enhancement: Create an Interactive Biodiversity Map

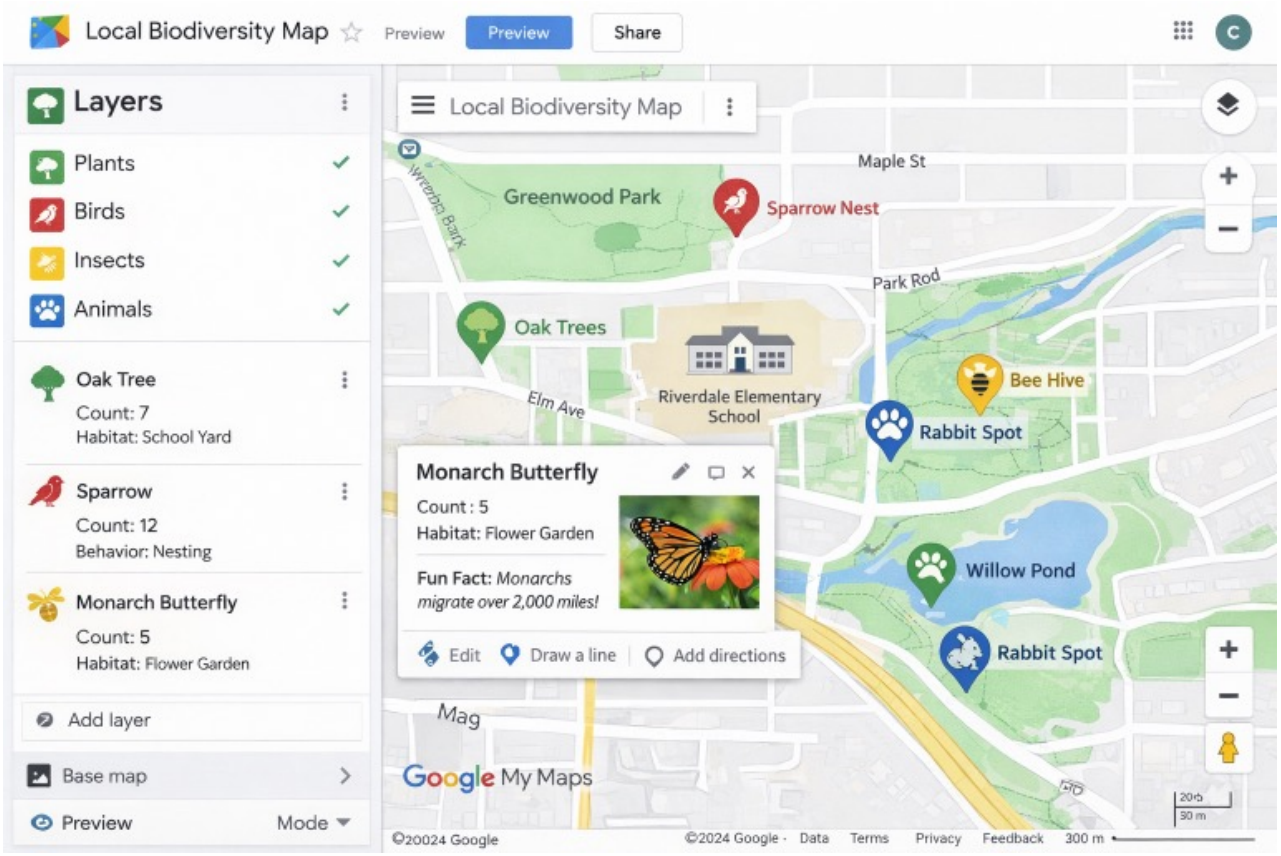
You can create an interactive biodiversity map where viewers can click markers to explore species observations across the local ecosystem.

Steps:

1. Open Google My Maps.



2. Click Create New Map



** The map image shown above is only a representative example to help you understand how a biodiversity map might look. Your map does not need to look exactly the same. You should create your own map based on the species you observe and the locations you explore in your school or local area.*

3. Search for and zoom in to your school or local area.
4. Click Add Marker at locations where species were observed.
5. Name the marker with the species or local name.
6. Add observation notes such as:
    - Count of species seen
    - Habitat type
    - Behaviour observed
7. Change the marker icon (tree, bird, insect, animal, etc.).
8. Create different layers to organize observations:plants, birds, insects, animals.

Task	Status
All species pages are created with images and clear descriptions	❑
Ecological role of each species is included	❑
Threats to species and conservation tips are listed	❑
QR codes are added and link to extra information	❑
Audio clips for each species are synced correctly	❑
Pages are visually organized and easy to read	❑
Ecosystem-themed backgrounds or layouts are applied	❑
Prototype has been tested by classmates or educators	❑
Feedback from users has been noted and improvements made	❑
Prototype is ready for presentation or sharing	❑

4.3 Photo Journal

Document prototype development stages with images, videos, and notes.

4.4 Report Creation

In the *Design Thinker's Journal*, reflect on your journey:

- How has your view of local species changed since we started?
- What did you learn while syncing nature sounds (bioacoustics) and building digital pages?
- What worked, what didn't, and how did your prototype get better?"

05 Implementation and Awareness Campaign

5.1 Putting the Plan into Action

- Launch your completed solution (e.g., Digital Biodiversity Register) in the selected setting such as your classroom, school exhibition, or community space.
- Create and organize all species pages with images, ecological roles, identified threats, conservation tips, QR codes, and properly synced audio clips.
- Regularly test all technical features—page flipping, audio playback, QR code scanning, and layout consistency.
- Invite selected users (classmates, educators, parents, or school staff) to experience the prototype by flipping through pages, scanning QR codes, and listening to the ecosystem sounds.
- Observe how users interact with the prototype—note whether audio works smoothly, QR codes are easy to scan, and content is easy to understand.

5.2 Awareness Campaign

- Design simple awareness materials such as posters, digital invitations, short videos, or announcements to introduce your project.
- Prepare a short explanation about why biodiversity is important and how your solution helps protect it.
- Organize a presentation session, exhibition stall, or classroom demonstration where others can explore your Biodiversity Register.
- Encourage viewers to interact by flipping pages, scanning QR codes, and listening to ecosystem sounds.
- Encourage the audience to take simple conservation actions and take a pledge to adopt and care for a local plant, animal, or natural space.

06 Project Culmination

6.1 Project Deliverables

- Present the completed Digital Biodiversity Register with fully functional pages, QR codes, and synced audio.
- Provide a well-documented *Design Thinker's Journal* with evidence of research, field observations, interviews, surveys, and data analysis.
- Collect constructive feedback and create a comprehensive report or portfolio to document the process and results.

6.2 Reflection

- Participate in a group discussion to reflect on what worked well and what was challenging during the project.
- Complete the reflection worksheet honestly, focusing on your contributions, learnings, challenges, and problem-solving experiences.

6.3 Reflection Worksheet

Analyze successes and lessons. Fill in the worksheet.

a. What was the main purpose of creating the Biodiversity Register, and do you think your project achieved this goal?

_____

_____

b. Which part of the Biodiversity Register project did you contribute to the most, and how did you help your team?

_____

_____

c. What challenges did you encounter while researching species, creating pages, or syncing audio, and how did you overcome them?

_____

_____

d. What is one important thing you learned about biodiversity, conservation, or using digital tools from this project?

e. If you were to improve the Biodiversity Register or do a similar project in the future, what would you do differently?

Feedback Form

Use Google Forms/SurveyMonkey for audience feedback during presentations.

1. How effective was the Biodiversity Register in communicating the importance of local species and ecosystem conservation?

   (Scale: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5)

2. What did you like most about the Biodiversity Register project (interactive pages, audio sounds, QR codes, or the information shared)?

3. How likely are you to use or share the Biodiversity Register or take part in protecting local biodiversity?

   ☐ Very Likely ☐ Somewhat Likely ☐ Not Likely

4. What improvements would you suggest to make the Biodiversity Register or future biodiversity projects even better?

Digital Tools: Google Docs for collaborative blogging.

What Did I Learn?

- ❒ Observed local plants, animals, birds, and insects and record their behaviors and habitats.
- ❒ Analyzed the ecological role of different species and understand their importance in the ecosystem.
- ❒ Identified threats to biodiversity and consider ways to protect species and habitats.
- ❒ Collected and organize data using field observations, interviews, surveys, photographs, and digital tools.
- ❒ Designed interactive digital pages with images, sounds, and QR codes to communicate information effectively.
- ❒ Collaborated with team members to plan, implement, and improve a real-world conservation project.
- ❒ Reflected on the impact of human actions on biodiversity and propose practical solutions to raise awareness and protect the environment.

Evaluation of Sustainable Development Goals (SDGs)

Sustainable Development Goals				
How were we able to fulfill Sustainable Development Goals through this project?				

Career Pathway Exploration

Explore and identify careers related to your project:

Career Role	Job Responsibilities	Required Skills and Qualifications	Connection to the Project	Sources and References

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Grade 6

Social Science

Holiday homework

Locating Places on Earth

(Worksheet – 40 Questions)

A. Multiple Choice Questions (1–15)

1. What helps us locate places on Earth?
   a) Rivers
   b) Directions
   c) Mountains
   d) Crops
2. The four major directions are:
   a) East, West, Up, Down
   b) North, South, East, West
   c) Left, Right, North, South
   d) North-East, South-East, Up, Down
3. The instrument used to find directions is called:
   a) Telescope
   b) Thermometer
   c) Compass
   d) Globe
4. The Sun rises in the:
   a) North
   b) South

c) East
d) West

5. The imaginary line dividing Earth into two equal halves is:
   a) Tropic of Cancer
   b) Equator
   c) Prime Meridian
   d) Arctic Circle
6. The shape of Earth is closest to:
   a) Square
   b) Circle
   c) Sphere
   d) Triangle
7. A globe is a:
   a) Flat drawing
   b) Model of Earth
   c) Compass
   d) Satellite
8. Maps are useful because they:
   a) Are heavy
   b) Show only countries
   c) Help us understand locations
   d) Cannot be carried
9. The Prime Meridian passes through:
   a) India
   b) Japan
   c) Greenwich
   d) Nepal
10. Latitudes are drawn:
   a) Vertically
   b) Horizontally

c) Diagonally
d) Randomly

11. Longitudes are drawn from:
    a) East to West
    b) North to South
    c) Up to Down
    d) Sea to Land
12. Which direction is opposite to North?
    a) East
    b) West
    c) South
    d) North-East
13. The Earth rotates from:
    a) West to East
    b) East to West
    c) North to South
    d) South to North
14. Which device is commonly used today for navigation?
    a) GPS
    b) Blackboard
    c) Microscope
    d) Clock
15. Maps use symbols because:
    a) Drawing everything is difficult
    b) Symbols are colorful
    c) Maps are stories
    d) Symbols waste space

B. Fill in the Blanks (16–25)

16. The Sun sets in the _____.
17. A _____ is a model of the Earth.

18. The Equator is an imaginary _____.
19. North, South, East, and West are called _____ directions.
20. _____ help us locate places accurately.
21. The Prime Meridian is at _____ degree longitude.
22. Maps are usually drawn on a _____ surface.
23. The needle of a compass points towards the _____.
24. Latitude and longitude together form a _____.
25. GPS stands for Global Positioning _____.

C. True or False (26–33)

26. The Earth is flat.
27. A globe shows the Earth exactly as it is.
28. East and West are opposite directions.
29. Longitudes are also called meridians.
30. Maps are less useful than globes.
31. The Equator divides Earth into Northern and Southern Hemispheres.
32. Directions are useful while travelling.
33. GPS is used in mobile phones for navigation.

D. Short Answer Questions (34–40)

34. What is a compass?
35. Define latitude.
36. Define longitude.
37. Why are maps important?
38. What is the Equator?
39. Name any two intermediate directions.

40. Write any two differences between a globe and a map.

Activity – Chapter 1

“Direction Hunt Activity”

Instructions:

1. Stand in your school playground or home terrace in the morning.
2. Observe where the Sun rises and identify East.
3. Mark all four directions using chalk or paper labels.
4. Draw a simple map of your classroom/home showing directions.
5. Mention which objects are in North, South, East, and West.

BRITANNICA PROJECT BASED LEARNING

LOG IN PROCESS

www.library.ebonline.in/levels

Or,

- **Search Britannica Library in Google**
- **Click on Log in tab**

Provide School Access ID – bbvs

Password- 1234@1234

- **Choose option Teens**
- **Click on My Britannica on top right corner**
- **Individual participant log in**

USER ID - BBVPST520…… (put last 5 digit of student number or scholar number in blanks ……)

Password- 87654321

MAKE A JOURNAL

Students may include:

1. **Pop-up pages**
2. **Handmade bookmarks**
3. **Mini newspaper cuttings**
4. **QR codes**
5. **Charts and infographics**
6. **Creative cover page with title**

Important Note:

Decorate the projects as creatively as possible.

Best projects will be uploaded and selected for further rewards and appreciation.

PLEASE FIND ATTACHED PDF GUIDELINES FOR PROJECT WORK.

FOR ANY HELP CAN GIVE ME A CALL ON (Mrs. Ruchi Mani– 8809892874)

BIRLA BALIKA VIDYAPEETH, PILLANI
COUNSELLING CELL
CAREER AND SOCIO-EMOTIONAL HOMEWORK

Class V & VI (to be done in the Scarp book)

A) Interview a Professional: Encourage students to c They can prepare a set of questions and write a short report on what they learned about that career.

B) Do One Act of kindness – every day and write about it , and how did you feel , how did the other person felt . You may explain the emotion with emoji

Class VII – VIII

A) **Career Exploration Project**: Ask students to pick a career they find interesting and create a mini-project about it. They can include information like what the job involves, skills needed, and why they chose it

B) Strength Feedback Activity – write 2 of your strengths and 1 area that needs to improve . then Ask 3 people , can be parents , family and friends for your 2 strengths and 1area to improve in your, compare it with what you have written . Write in about 100 words in your scrap book about your reflection – and what you will work on

PART 1
COMPUTATIONAL THINKING

Chapter 1: Patterns in Mathematics

1. **The following series follows a fixed pattern:**
   2, 3, 3, 4, 4, 4, 5, 5, 5, 5, 6, …
   If the pattern continues, determine how many times the number 9 appears in the NEXT 20 terms.

   a) 3 b) 4 c) 7 d) 8

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2. **The following number series is based on a pattern. One term is incorrect. Identify the incorrect term.**
   2, 3, 6, 11, 18, 25, 38, 51, 66, 83

   a) 11 b) 25 c) 51 d) 66

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3. **What will come in place of "?" in the given series?**
   1@3, #5#, 7@9, #11#, 13@15, ?, 19@21

   a) @17@ b) #15# c) 16#18 d) #17#

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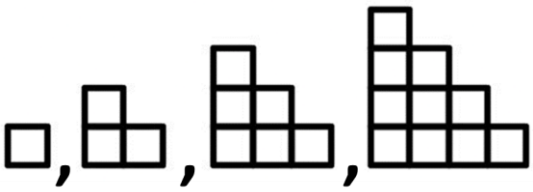
4. **The first four terms of a block series are shown below.**
   If the pattern continues in the same manner, which term of the series will be the first to contain more than 20 blocks?



   a) 5th term b) 6th term c) 7th term d) 8th term

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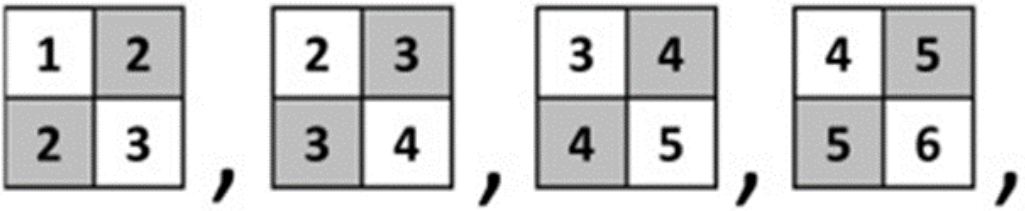
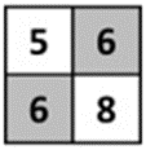
5. **What will come in place of "?" in the given series?**



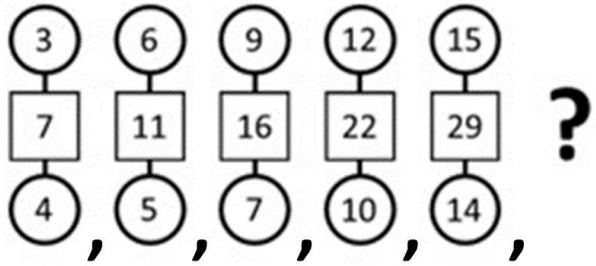
   a) 

   b) 

   c) 

   d) 

6. What will come in place of "?" in the given series?



a) 

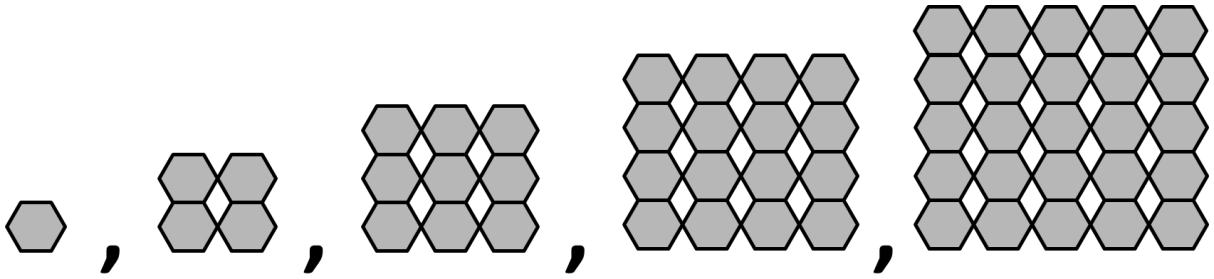
b) 

c) 

d) 

---

7. The first five terms of a series formed using grey hexagons and white diamonds are given below. If the same pattern continues, how many diamonds will be present in the term where the number of hexagons is 144?



a) 100 b) 135 c) 121 d) 169

---

8. Given below are two sets of numbers, P and Q. Which number from Set P can be interchanged with a number from Set Q such that both new sets follow a particular series or pattern?

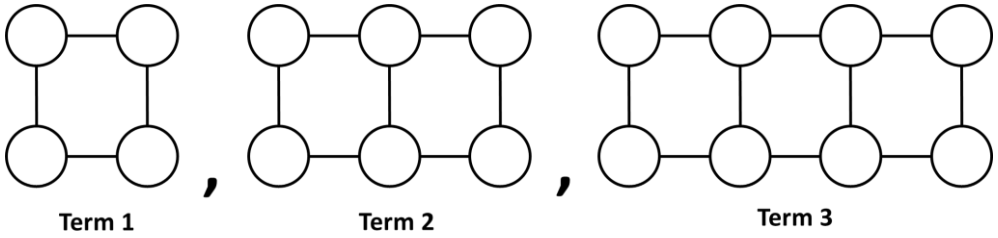
Set P: (18, 22, 24, 27, 30)

Set Q: (21, 24, 27, 31, 36)

a) 18 b) 27 c) 22 d) 30

---

9. The first three terms of a series of circles are shown below. If the pattern continues in the same manner, how many circles will be there in term 91?



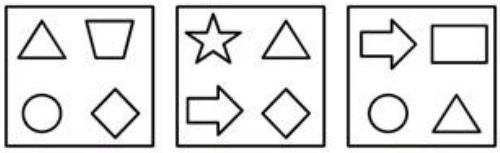
a) 184 b) 180 c) 194 d) 204

10. A pyramid has to be formed by combining cubes. Every level will have two fewer cubes than the level below it. If a pyramid is formed using at most 30 cubes, what is the maximum number of levels it can have?

a) 3 b) 4 c) 5 d) 6

The Thinking Spot

You must shoot exactly one item from each box, to eliminate it from its box. When an item is shot, the same item in the adjacent box is also eliminated. What is the MAXIMUM number of items that can be eliminated, after all 3 shots?



(a) 4 (b) 5 (c) 6 (d) 7

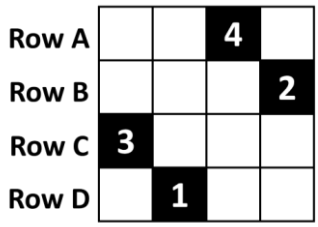
Chapter 3: Number Play

1. **Sachin plays a game using a standard die numbered 1 to 6. At each roll he scores points equal to the number shown. He may roll the die any number of times.**
   The game ends when the number 6 appears three times (the three 6's need not be consecutive).
   If the total score at the end of the game is 29, what is the minimum number of rolls Sachin could have made?

   a) 4 b) 5 c) 6 d) 7

---

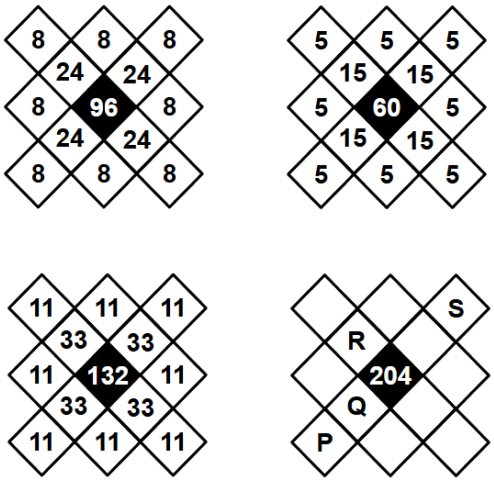
2. **In the given grid, each white square contains 1, 2, 3, or 4 hidden coins.**
   Each black square shows the maximum number of coins present in any of its adjacent white squares.
   If every row has the same total number of coins, what is the MAXIMUM possible number of white squares that contain exactly one coin?
   Note: *Two squares are adjacent only if they share a common side. Squares that share a common corner alone, are NOT considered as adjacent*



   a) 5 b) 6 c) 7 d) 8

---

3. **If each of the given terms follows the same theme, what will be the value of P + Q + R + S?**



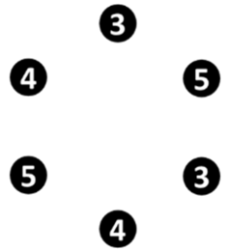
   a) 134 b) 136 c) 119 d) 142

4. **An arrow between any two squares, always points towards the square having a larger number. A and B are two DIFFERENT numbers. If the largest 5-digit number is formed using all five squares, what will be the difference between the final number and 10000?**

a) 44332 b) 54545 c) 54432 d) 44432

---

5. **How many different triangles can be formed by connecting the black dots in the image below, where the sum of the numbers at their corners is 12?**



a) 7 b) 6 c) 8 d) 5

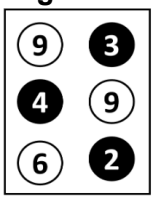
---

6. **Amat and Ankit each picked three numbers from the set {1, 2, 3, 4, 5, 6}.**
   - 3 different numbers picked by Amat add up to give the highest possible sum
   - 3 different numbers picked by Ankit add up to the second highest possible sum
   Which pair of numbers were picked by both Amat and Ankit?

   a) 3 and 4 b) 4 and 5 c) 5 and 6 d) 2 and 5

---

7. **A box contains six numbered circles coloured black and white.**
   A 6-digit number must be formed using all six circles, and the colours must alternate throughout the number. The first circle may be either black or white.
   Among all such numbers that can be formed, take the second smallest number and the second largest number. What is the difference between these two numbers?



Box

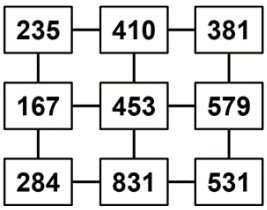
a) 683233 b) 684324 c) 685314 d) 583297

---

8. **I am a 5-digit number made up of both even and odd digits. I read the same backwards and forwards (palindrome). The greatest difference between at least two of my digits is 9. What is the smallest possible sum of my digits?**

   a) 9 b) 10 c) 11 d) 13

9. Count the number of blocks that are connected to at least one block containing a smaller number and one block containing a larger number than the number in it.



a) 2 b) 3 c) 4 d) 5

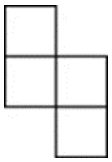
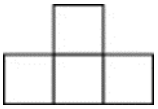
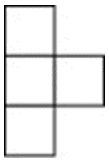
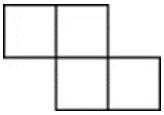
---

10. A 3 × 3 grid of digits is given below. Avi, Sam, Riya, and Maya each select a different digit from the grid such that:

- **The sum of the digits chosen by Avi and Sam is equal to the digit chosen by Maya**
- **The digit chosen by Riya is the largest among the four chosen digits**

Which of the following options shows a possible set of cells chosen by all four friends?
Note: *You cannot rotate the question or option images*

2	5	8
7	4	6
0	9	3

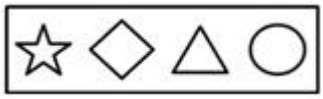
a)  b)  c)  d) 

The Thinking Spot

Four friends A, B, C, and D each selected a different shape from the shapes shown below, such that:

- **A selected a shape that is neither beside B's shape nor D's shape**
- **C and D did not select the triangle**

Who among them chose the circle?



(a) A (b) B (c) C (d) D

BIRLA BALIKA VIDYAPEETH, PILANI

SUMMER HOLIDAY HOMEWORK

CLASS – 6

ENGLISH

- Design a creative and colourful bookmark for your English notebook. Decorate it neatly and write an inspiring quotation by a famous poet or author.
- Memorize a poem of your choice for the Pentangular Competition. Focus on proper pronunciation, expression, and confidence while reciting.
- Revise all the syllabus completed till 16 May 2026 from *Extra Marks* and complete the assignments given in it.
- Read an English storybook of your choice during the holidays and write a short synopsis of the story in your English notebook.

हिंदी

* अपना स्व परिचय लिखिए

(नाम, कक्षा, परिवार परिचय, और परिवार फोटो)

1. हिंदी वर्णमाला के सभी वर्णों का प्रयोग करते हुए प्रतिदिन 5 नए शब्द लिखे व उनका अर्थ लिखते हुए वाक्य में प्रयोग भी करें ।

2. आपकी पाठ्यपुस्तक मल्हार में मेजर ध्यानचंद की आत्मकथा गोल पाठ के माध्यम से दी गई है| अगर आपको मेजर ध्यानचंद का साक्षात्कार लेने का अवसर मिलता तो आप उनसे कौन-कौन से प्रश्न पूछते व मेजर ध्यानचंद उनके क्या उत्तर देते | कल्पना करके लिखें|

3. आप सभी ने रामायण पढ़ी व सुनी होगी | आपको उसकी कौन-सी घटना सबसे अच्छी लगी| उस घटना का अपनी भाषा में संवाद लेखन करे या एक लघु नाटिका तैयार करें |

4. कोई एक उच्च स्तर की कविता व कहानी उचित भाव भंगिमा के साथ याद करें व लिखे |

5. 1 से 50 तक हिंदी में गिनती लिखें व याद भी करें।

SANSKRIT

1) आपकी संस्कृत पुस्तक में पृष्ठ संख्या 75 पर दिए गए राष्ट्रनायकों में से किन्हीं तीन महापुरुषों के विषय में जानकारी एकत्र करके AI की मदद से उनके चित्र सहित पाँच संस्कृत वाक्य बनाकर लिखें। (Use A3 or A4 size coloured sheets for the same)

2)आपकी संस्कृत पुस्तक में पेज पृष्ठ संख्या 156 पर दिए मधुराष्टकम् का प्रतिदिन नियम से पाठ कीजिए।

4) AI की मदद से एक संस्कृत फोटो एलबम बनाइए, जिसमें अपने परिवार के सदस्यों के फोटो लगाकर उनके संस्कृत में अपने साथ संबंध को लिखिए। एलबम को संस्कृत में एक सुंदर नाम दीजिए जैसे (कुटुम्ब - चित्रावलिः), मम परिवारः इत्यादि:।

3)अपनी गृहवाटिका में तुलसी का पौधा यदि नहीं है तो लगाए और एक A4 size sheet पर तुलसी वृक्ष का चित्र बनाकर उसके हर एक भाग का नाम संस्कृत में लिखिए और तुलसी वृक्ष के दो लाभ संस्कृत में या 2 तुलसी से निर्मित प्रोडक्ट्स के नाम भी चित्र सहित उसमें लगाइए, आप AI की मदद ले सकते है ।

MATHS

A) “Patterns are the language of Mathematics, and Art brings them to life.”

Take circular boards with marking up to 100 and create different string art by connecting the numbers in different patterns.

You may start your string art with the help of following number patterns:

Multiples of 2, Multiples of 3 , Multiples of 5, Square numbers, Triangular numbers, Even and odd number patterns, Skip counting patterns

Reference picture -

You may watch the given video for creating your own string art
https://www.youtube.com/watch?v=L_PqVp8Ro2g

B) Practice the module on Computational Thinking for chapter 1 and 3 in your Practice Notebook. Modules will be shared with you by the class teacher.

C) Practice the assigned questions on Extra marks on weekly basis.

SCIENCE

1) Identify various components in the balanced diet and make a chart on various food items that provide carbohydrates, proteins, fibre, fat, vitamins and minerals.

2) Cook a meal **(under adult supervision)**. Include these components *(carbohydrates, proteins, fibre, fat, vitamins and minerals)* in your food for your breakfast. Click a photo, print it out and paste it into a scrapbook.

3) Observe the culinary practices of your state *(for breakfast, lunch, and dinner)* for at least 2 days. Then, write about it in a scrapbook, if possible, paste some pictures of the food.

4) Prepare a toy that has a scientific principle. *(You may refer to **Arvind Gupta**'s YouTube channel)*.

5) Plant a tree or a sapling on **World Environment Day** *(it is on 5 June 2026)* as your effort to reduce climate change and global warming. Then, print it out and paste it onto your scrapbook.

S.ST (Given separate worksheet)

CAREER AND SOCIO-EMOTIONAL HOMEWORK

Class V & VI (to be done in the Scarp book)

A) Interview a Professional: Encourage students to c They can prepare a set of questions and write a short report on what they learned about that career.

B) Do One Act of kindness – every day and write about it , and how did you feel , how did the other person felt . You may explain the emotion with emoji

KAUSHALBODH WORK

Kaushalbodh Cooking without fire

1. Oreo Cake in a Mug

- Ingredients: 4 Oreo biscuits, 3 tbsp milk, 1/4 tsp baking powder

- Steps: Crush Oreos in a mug, add milk + baking powder, mix. Rest 5 min and eat. Tastes like cake.

2. Chocolate Balls

- Ingredients: Biscuits, cocoa powder, condensed milk, desiccated coconut

- Steps: Crush biscuits, mix with cocoa + condensed milk. Roll into balls, coat with coconut. Chill 15 min.

3. Fruit Cream

- Ingredients: Chopped fruits, cream/malai, sugar, nuts

- Steps: Mix everything in a bowl. Chill and serve. Super refreshing for summer.

4. Bread Dahi Chaat

- Ingredients: Bread, curd, salt, chaat masala, sev, pomegranate

- Steps: Cut bread into pieces. Add whisked curd, sprinkle masala, top with sev + anar.

5. Sprouts Bhel

- Ingredients: Moong sprouts, chopped onion/tomato/cucumber, lemon, salt, bhujia

- Steps: Mix all veggies + sprouts. Add lemon + salt. Top with bhujia for crunch.

6. Sandwiches

- Ingredients: Bread, butter, cucumber, tomato, cheese slices, ketchup

- Steps: Butter the bread, add veggie slices + cheese. Cut into fun shapes.

Presentation

- Take photos of each step for your file

- Write the recipe on coloured paper with headings

- Decorate the plate with sauce or veggie cuts before clicking pics

- Mention nutrition: "Sprouts give protein", "Fruits give vitamins"

Make one video from any one of the above recipe and WhatsApp it to the given number 9413150088

COMPUTER

1. AI Smart Home Poster (Art Integration)

Draw a picture of your "Dream Smart Home" on an A4 sheet.

Include at least 3 AI-powered gadgets (e.g., a fridge that tells you to buy milk, a robot that cleans, an AI mirror) and label them.

2. AI Treasure Hunt at Home

Find 5 things in your house that use AI or sensors (e.g., smartphones, smart TVs, voice assistants like Alexa/Google Home, AC, washing machines).

Make a table: Item Name, What it does (Function).

3. My AI Friend (Writing Task)

· Write a small paragraph (50 words) on: "If I could build a robot to help me in school, what would it do?".

4. AI Poster Making

Create a poster on the topic "AI in 2030" (How AI will change our lives in the future).

5.Simple AI Game Exploration

Task: Play "Quick, Draw!" or "Teachable Machine" by Google.

Details: Write down your experience: Did the computer guess your drawing correctly? How did it learn?