

# **SDG INTEGRATION IN TEACHING & LEARNING REPORT**

## **CULTIVATING THE CLASSROOM FOR A SUSTAINABLE FUTURE: INTEGRATING SDG IN TEACHING AND LEARNING**

**SCHOOL OF EDUCATION, CHRIST UNIVERSITY, BANGALORE**

### **Abstract**

This best practice highlights how the School of Education, Christ University, integrates the United Nations' Sustainable Development Goals (SDGs) into lesson planning and teaching practice. The initiative aims to empower future educators to embed sustainability principles within classroom instruction, thereby nurturing globally responsible learners. The structured approach includes curriculum integration, faculty-led orientation sessions, mentor-reviewed lesson planning, and real-world classroom implementation. The initiative culminated in the creation of 194 SDG-based lesson plans developed by 97 student-teachers, representing a significant step toward making education a transformative tool for sustainable development.

### **Objective of the Practice**

The primary objective of this practice is to equip student-teachers with the knowledge and skills to meaningfully incorporate SDG concepts into their teaching methodology. It encourages them to view education as a means of fostering sustainable thinking and socially responsible action among students.

The initiative seeks to:

- Build awareness of global challenges and the importance of sustainable development among student-teachers.
- Encourage critical reflection on how teaching practices can contribute to achieving the SDGs.
- Promote innovative and active-learning pedagogies for impactful classroom engagement.

- Prepare educators who embody and promote the values of sustainability, empathy, and global citizenship.

## **Context**

Education plays a vital role in addressing global challenges such as poverty, inequality, climate change, and environmental degradation. The 17 Sustainable Development Goals, adopted by the United Nations in 2015, offer a shared vision for achieving peace, prosperity, and sustainability.

Recognising this global need, the School of Education, Christ University, has integrated SDG-based lesson planning within the Bachelor of Education (B.Ed.) curriculum. This initiative aligns with international educational standards and reflects the University's commitment to preparing educators who teach with a sense of purpose, responsibility, and vision.

By incorporating SDG principles into lesson planning, student-teachers are guided to design lessons that connect classroom learning to real-world issues, helping students become active, aware, and responsible global citizens.

## **The Practice**

### **1. Curriculum Integration**

SDG principles are embedded throughout the B.Ed. curriculum, particularly in pedagogy, curriculum development, and educational psychology courses. This integration enables student-teachers to understand how sustainability can be meaningfully linked to their respective subject areas.

### **2. Faculty-Led Orientation Sessions**

To support the initiative, faculty members conducted interactive sessions introducing the concept of SDGs and their relevance in education. These sessions provided student-teachers with practical guidance on how to connect lesson objectives and activities with the SDG framework.

### **3. Lesson Plan Development**

During the teaching internship, each student-teacher designed two SDG-based lesson plans for their elective subjects such as Physics, Chemistry, Biology, English, Mathematics, Commerce, and Social Science.

With a class strength of 97 students, a total of 194 SDG-integrated lesson plans were developed, covering all Goals 1 to 16. These plans reflected creativity, contextual understanding, and alignment between subject content and sustainable learning outcomes.

#### **4. Active Learning Pedagogies**

To make classroom learning engaging and meaningful, student-teachers adopted creative pedagogical strategies such as Rapid-Fire Quizzes, Role Plays, Innovation Cards, Poster Making, Diary Entries, Wall Charts, Essay Writing, Town Planning, and Sorting Relay activities. These approaches encouraged collaboration, critical thinking, and problem-solving, helping learners connect sustainability with their everyday experiences.

#### **5. Lesson Plan Review by Mentors**

Before classroom implementation, all SDG-integrated lesson plans were reviewed by subject mentors to ensure pedagogical soundness and proper integration of SDG goals. Mentors provided constructive feedback, helping student-teachers refine objectives, learning outcomes, and instructional methods.

#### **6. Field Implementation**

The finalized lesson plans were implemented during the teaching internship in partner schools. This real-world application allowed student-teachers to observe how SDG-based lessons influenced learners' engagement, curiosity, and awareness of global issues.

#### **Evidence of Success**

The success of this initiative is reflected in both the quality and quantity of outcomes achieved:

- A total of 194 SDG-integrated lesson plans were developed and successfully implemented.
- Student-teachers demonstrated a clear understanding of the SDG framework and creatively linked it with curriculum objectives.
- Lesson observations revealed strong student engagement, participation, and curiosity during SDG-oriented sessions.
- Feedback from mentors and students indicated an increased awareness of global issues and sustainable living practices.

The practice effectively bridged theoretical knowledge with real-world application, turning lesson planning into a platform for reflection, creativity, and responsible teaching.

## **Conclusion**

The integration of SDGs in lesson planning at the School of Education, Christ University, stands as an innovative and purposeful educational practice. It demonstrates how future educators can combine subject knowledge with social consciousness to inspire meaningful learning experiences.

By engaging with global goals through teaching, student-teachers are empowered to see themselves not only as instructors but as change makers and individuals who nurture critical thinking, compassion, and a sense of shared responsibility among learners.

This initiative reaffirms Christ University's vision of excellence in education through values, leadership, and service to humanity. It continues to shape educators who teach with intellect, lead with integrity, and inspire through action.

# PEDAGOGY-I

(Physical Science, English and Commerce)

## The Sustainable Development Lesson Plan

### Topic:

Responsible Consumption and Production – Integrated with Chemistry (Atoms and Molecules)

### Aims

- To predict and raise awareness of the Sustainable Development Goals.
- To understand how chemistry (atoms and molecules) connects to responsible use of resources.
- To encourage students to think critically about the impact of molecules/compounds in daily life.

### Learning Outcomes using Action Verbs for Bloom's Revised Cognitive Taxonomy:

*At the end of the lesson, students will be able to:*

- Remember/Understand: Define atoms, molecules, and write simple chemical formulas.
- Apply: Represent daily-life substances using correct chemical formulas.
- Analyze: Differentiate between sustainable and harmful uses of molecules.
- Evaluate: Judge the environmental and social impact of common compounds.
- Create: Prepare a chart showing molecules, their formulas, and sustainability status.

<b>Day &amp; Date: Thursday, 11/09/25</b>	<b>Class &amp; Section: 9 C</b>	<b>Subject: Chemistry</b>
<b>Time: 11:50 AM to 12:40 PM</b>	<b>Chapter: Atoms and Molecules</b>	

### Topic:

Responsible Consumption and Production

## Teaching Resources:

- UN video on SDG 12: Responsible Consumption and Production
- PowerPoint presentation on SDG 12
- List of Useful and Harmful Molecules

## Procedure:

<b>1. Introducing the Topic</b> <b>(5 minutes)</b>	<ul style="list-style-type: none"><li>• Show the UN video on SDG 12.</li><li>• Ask: “What chemical substances do you use daily? Do you think all of them are good for the environment?”</li><li>• Link: Atoms and molecules form everything. The way we use them decides whether we harm or protect the Earth.</li></ul>
<b>2: Develop the topic further</b> <b>Awareness raising and prediction</b> <b>(10–15 minutes)</b>	<ul style="list-style-type: none"><li>• Quick recap: Atoms, molecules, chemical formulas.</li><li>• Show examples: H<sub>2</sub>O, O<sub>2</sub>, CO<sub>2</sub>, NaCl, CH<sub>4</sub>, Plastics (C<sub>2</sub>H<sub>4</sub>)<sub>n</sub>, CFCs.</li><li>• Class discussion:<ul style="list-style-type: none"><li>- Which of these are helpful? Which become harmful in excess?</li><li>- Water (essential but wasted), CO<sub>2</sub> (necessary but causes global warming), Plastics (useful but harmful if unrecycled).</li></ul></li><li>• Highlight SDG 12: Chemistry must be applied responsibly for sustainability.</li></ul>
<b>3. Matching and prioritizing</b>	Activity Title: “Molecules Around Us – Sustainable or Harmful?” <b>Steps:</b>

**(10–15 minutes)**

1. Divide students into groups (4–5 per group).
2. Provide a list of molecules (H<sub>2</sub>O, CO<sub>2</sub>, CH<sub>4</sub>, O<sub>2</sub>, NaCl, O<sub>3</sub>, Plastics, CFCs).
3. Each group:
  - Writes the correct chemical formula.
  - Notes use in daily life.
  - Decides if it is sustainable or harmful (with reason).
4. Record findings in a table:

<b>Molecule</b>	<b>Formul a</b>	<b>Daily Use</b>	<b>Sustainable or Harmful (Reason)</b>
Water	H <sub>2</sub> O	Drinking	Sustainable – must be conserved
Carbon Dioxide	CO <sub>2</sub>	Respiratory / Industry	Harmful in excess – global warming
Plastic	(C <sub>2</sub> H <sub>4</sub> ) <sub>n</sub>	Packaging	Harmful if not recycled

5. Groups prepare posters.

**Teacher Documentation:**

- Collect posters

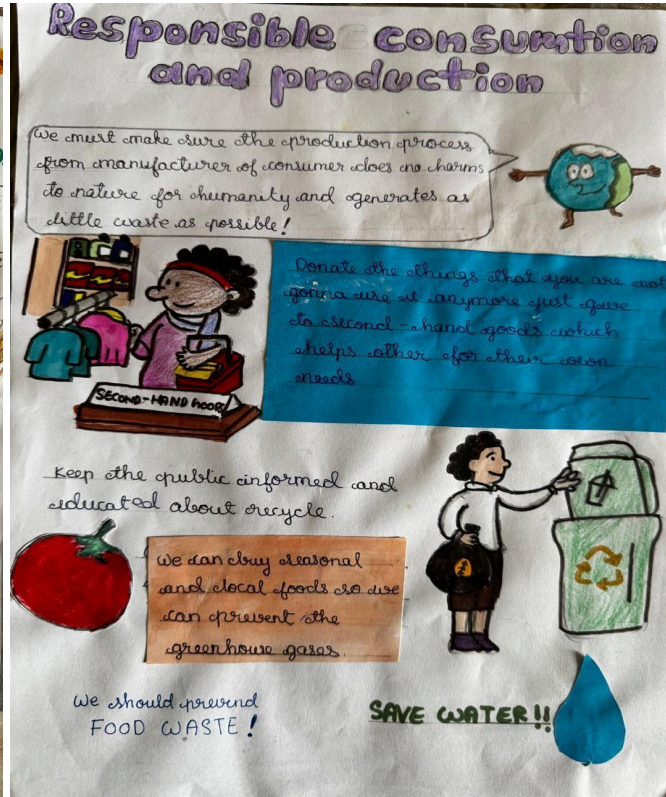
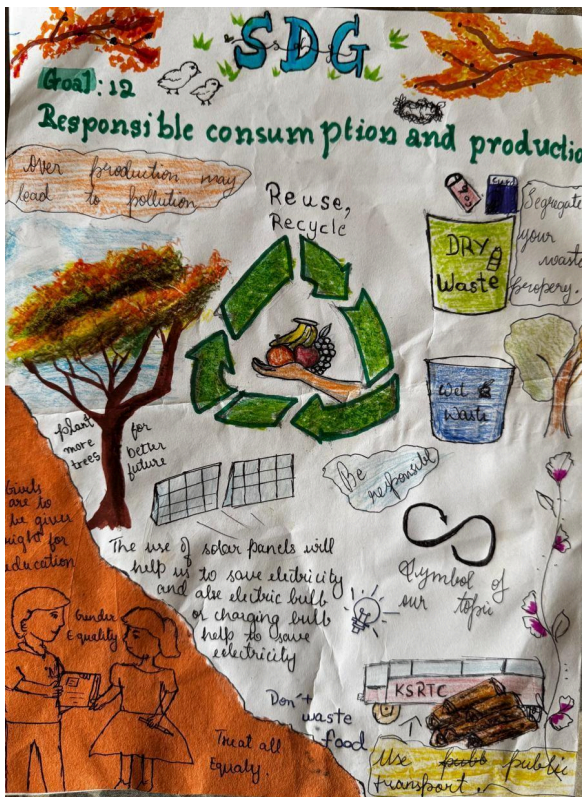
**4. Questions/Assignments**  
**(05 minutes)**

Discuss with class:

- What are the SDGs?
- Why is SDG 12 important for Chemistry?
- Give one molecule that is essential and one that is

	<p>harmful in excess.</p> <ul style="list-style-type: none"><li>• How does understanding molecules help us consume resources responsibly?</li></ul>
<b>5. Homework</b> <b>(5 minutes)</b>	<b>Activity</b> - Students prepare posters on SDG 12.

### Evidences



**SUSTAINABLE DEVELOPMENT GOAL - LESSON PLAN**

**TOPIC: SUSTAINABLE DEVELOPMENT GOAL 15: LIFE ON LAND (LINKED TO "FLAMES IN THE FOREST")**

**AIMS:**  
 To predict and raise awareness of the Sustainable Development Goals (SDGs), focusing on Goal 15: Life on Land, which emphasizes protecting nature, restoring ecosystems, and

<b>Day &amp; Date:</b> 16/09/2025,	<b>Class &amp; Section:</b> VII F	<b>Subject:</b> English
<b>Time:</b> 1:00 PM to 1: 45 PM	<b>Chapter:</b> Parliament and Making Laws	

**Topic from Textbook:**


“Flames in the Forest” by Ruskin Bond (focusing on themes of nature, forest fires, wildlife, and human responsibility)discrimination.

## TEACHING RESOURCES:

- Video: “Flames in the Forest” by Ruskin Bond – Story Summary and Themes –
- [https://youtu.be/yHh\\_dOuFW0c](https://youtu.be/yHh_dOuFW0c) (or similar animated reading; suggest adding images of forest landscapes and fire scenes during playback for visual emphasis).
- Video: SDG 15: Life on Land – Protecting Forests and Biodiversity – <https://youtu.be/HRtua9GpzhY> (suggest integrating images of reforestation and wildlife conservation here to reinforce the video’s message).
- Images of healthy forests, forest fires, affected wildlife, reforestation efforts, and fire prevention methods (suggest placing in introduction for context, step 2 for interactive discussion, and step 3 for group activity inspiration).
- Textbook content on “Flames in the Forest” (excerpts for reading and analysis).
- Chart papers and art supplies for poster-making activity.

## PROCEDURE:



<p><b>2. Step 2:</b>  <b>Develop the topic further - Awareness raising and prediction (10–12 minutes)</b></p>	<p><b>Introduction to SDG 15:</b> Show the video SDG 15: Life on Land – Protecting Forests and Biodiversity – <a href="https://youtu.be/q_Yv9XaGhaw">https://youtu.be/q_Yv9XaGhaw</a> and explain that it focuses on sustainable ecosystem management, halting biodiversity loss, and combating desertification, directly relating to the forest fire crisis in the story.</p> <p><b>Engagement Questions:</b></p> <ol style="list-style-type: none"> <li>1. How can we prevent forest fires like those in “Flames in the Forest” at school or in our communities?</li> <li>2. How does protecting biodiversity help the environment, as seen in the story's wildlife descriptions?</li> <li>3. What elements from nature can we preserve instead of allowing them to be destroyed by fires?</li> </ol> <p><b>Interactive Activity:</b> Show images of forests before and after fires, and ask students to predict the story's outcomes or discuss real-world parallels (suggest adding images here to facilitate guessing and deepen engagement).</p> <p><b>Real-life Examples:</b> Share examples of Indian initiatives like the National Afforestation Programme or school-led tree-planting drives that prevent habitat loss similar to the story's events.</p> 
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Time / Step	Explanation
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**3. Matching and prioritizing (10–12 minutes)**

**Concept Presentation:**

1. Forest conservation – protecting natural habitats without depleting biodiversity, as emphasized in the story.
2. Biodiversity protection – safeguarding wildlife and plants from threats like fires.
3. Fire prevention – implementing measures to avoid ignition sources and reduce risks.
4. Reforestation – restoring burned or damaged areas to rebuild ecosystems.
5. Responsible habits – adopting daily actions that support nature, inspired by the story’s message.

**Example Discussion:** Discuss how the careless human actions in “Flames in the Fores” harm the planet and how responsible habits (e.g., fire safety awareness) can prevent such disasters.

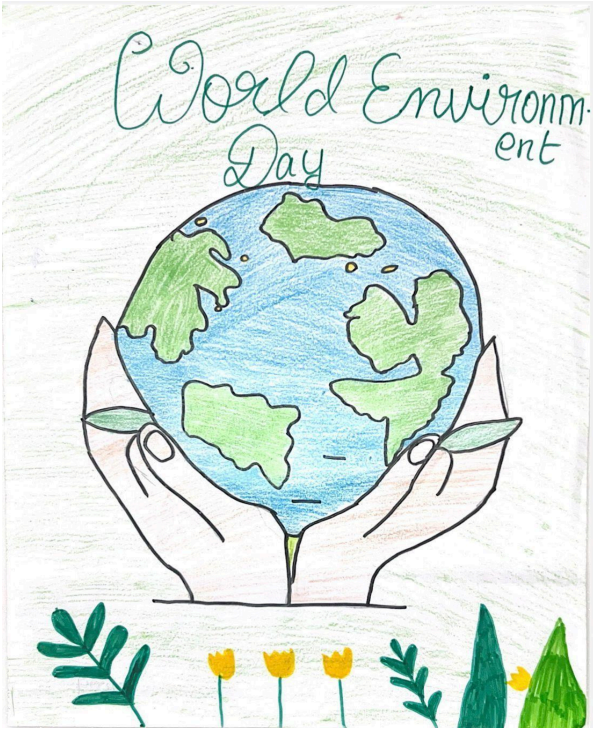
**Group Activity:** In groups, make a classroom “Forest Protection Action Plan”

poster, incorporating quotes from the story and SDG 15 targets.

Class Discussion: Share group plans and link them to SDG 15 goals (suggest adding images of successful conservation efforts here to inspire and visualize positive outcomes).

Time / Step	Explanation
<p><b>4. Questions / Assignments(7 minutes)</b></p>	<p><b>Facilitated Discussion:</b></p> <ol style="list-style-type: none"> <li>1. What is nature protection in the context of “Flames in the Forest”?</li> <li>2. How is SDG 15 connected to the story's themes of habitat preservation?</li> <li>3. What actions can we take to make our homes and schools more ecosystem- friendly?</li> </ol> <p><b>Critical Thinking:</b> How does preventing forest fires, as portrayed in the story, help the planet and future generations?</p> <p><b>Activity:</b> Create a “Nature Protection Checklist” for your home, including story-inspired ideas like avoiding litter that could start fires.</p> <p><b>Reflection:</b> Write one new habit you will start to protect nature, referencing the story.</p>
<p><b>5. Setting homework (5 minutes)</b></p>	<p><b>Homework:</b> Take the topic “Flames in the Forest” and connect it to SDG 15: Life on Land.</p> <p>Based on your interest, either write a short paragraph or create a drawing to show how protecting forests and preventing fires (as in the story) can support SDG 15</p>

**EVIDENCES OF THE CLASS WORK**



# The Sustainable Development Lesson Plan

Topic: (SDG Goal)

Goal 12 – Responsible Consumption and Production

## Aims

- To develop awareness of accurate financial record-keeping through journals.
- To understand the significance of transparency and accountability in promoting sustainable business practices.
- To link business education with real-world sustainable development initiatives

Learning Outcomes  
using

At the end of the lesson,  
students

using **Action Verbs** for Bloom's Revised Cognitive Taxonomy:  
students will be able to:

- **Remember**  
Define journal and identify its components (date, particulars, ledger folio, etc.)
- **Understand**  
Explain the purpose of maintaining a journal in accounting
- **Apply**  
Illustrate the format of a journal and record sample transactions
- **Analyse**  
Examine how accurate journal entries support responsible consumption and production
- **Evaluate**  
Discuss why maintaining proper accounting records contributes to sustainable business practices
- **Create**  
Design a model journal on A4 paper representing responsible and ethical business activities

Day & Date: 07/08/2025

Class & Section: 9<sup>th</sup>

Subject: Commerce

**Time: 10:45 – 11:20**

**Chapter: Accounting Books and Statements**

- Whiteboard and markers
- Chart of Journal format

**Topic: from Text book**

- SDG 12 symbols and meanings

**Journal Meaning and Format**

- PPT on Journal and SDG 12

- Sample business transactions

**Teaching Resources:**

**Procedure**

<p>1. <b>Introducing the topic</b>  (5 minutes)</p>	<p><b>1. Topic introduction and discussion</b></p> <p>“Good morning students! Today, we begin with a very interesting topic — <i>Journal</i> — one of the first steps in learning how businesses record their financial activities.</p> <p>But before that, let me ask — Have you heard of <b>the Sustainable Development Goals or SDGs?</b></p> <p>SDGs are a set of 17 goals set by the United Nations to make the world a better place by 2030. They aim to remove poverty, protect the environment, and ensure peace and prosperity.</p> <p>Now, can you guess how something like ‘accounting’ could be linked to sustainable goals?</p> <p>Think about businesses – if they maintain honest, clear, and responsible records – won’t they contribute to responsible consumption and production? That’s what SDG 12 is about!</p> <p>So let’s explore how something as simple as a <i>Journal</i> in accounting connects to building a fair and responsible world.”</p>
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## Procedure

**2. Step 2:  
Develop the  
topic further**  
**Awareness  
raising and  
prediction**

**(10–15 minutes)**

- Show **SDG 12 symbol:**



**“Ensure sustainable consumption and production patterns.”**

- Discuss:
- Many businesses over-consume or misuse resources due to lack of proper records.
- Misreporting or errors can lead to corruption, pollution, or overproduction.
- Journals ensure every transaction is recorded correctly — building accountability.
- **Prediction Prompt to Students:**  
"If businesses don't maintain journals or keep improper records, what kind of problems might arise? Can this affect sustainability?"

**3. Matching and  
prioritizing**

**(10–15 minutes)**

### **Concept Teaching – Journal**

- Define Journal: First book where business transactions are recorded date-wise.
- Purpose: Basis of accounting process, source for preparing ledger and trial balance.
- Format explanation:
  - Date
  - Particulars
  - Ledger Folio
  - Debit Amount
  - Credit Amount
- **Example:**
  - Transaction: Purchased goods for ₹5000.
  - Entry in Journal:

- Date: 07/08/2025

(Being goods purchased for cash)

Link back to SDG 12:

- When every rupee is recorded, it ensures responsible consumption of financial and natural resources.
- Transparent business records prevent resource exploitation.

4.  
Questions/Assi  
gnments  
(05 minutes)

**Ask Students:**

- **What is a Journal?**

A journal is the first book in which all financial transactions of a business are recorded in a date-wise manner. It is also called the book of original entry.

This is where every business activity is recorded first, before being transferred to other books like the ledger. So it plays a key role in making sure nothing is forgotten.

- **Name any two components of the Journal format.**

- Date
- Particulars

(Other answers can include Ledger Folio, Debit Amount, Credit Amount)

These components help in understanding when the transaction happened, what accounts are involved, and how much was debited or credited.

- **Why is the Journal called the “book of original entry”**

Because every transaction is recorded here first, before it's posted anywhere else in the accounting system.

Think of the journal like a diary — it's the first place where all events are written down as they happen

- **What is SDG 12?**

SDG 12 is one of the Sustainable Development Goals. It focuses on Responsible Consumption and Production.

It means using natural and financial resources in a way that reduces waste, pollution, and ensures fair use — both for today and for future generations.

- **How can maintaining accurate journal entries support sustainability?**

It helps businesses keep track of what they earn and spend, which

prevents misuse or overuse of resources. It ensures transparency and accountability.

When businesses record everything properly, they are more likely to act responsibly — like not overspending, not wasting materials, and not hiding financial information. This supports SDG 12 by encouraging ethical and sustainable practices.

**5. Setting homework  
(5 minutes)**

**Activity Title: “Responsible Business – My Journal Project”**

**Instructions:**

- Think of any small business around you (a fruit vendor, grocery store, tailor, etc.).
- Imagine 3–4 transactions they might do daily (e.g., buying raw material, selling products, paying rent).
- On an **A4 sheet**, draw a **journal format** and fill in the sample transactions properly.
- Add a small note below explaining how this business, if honest in maintaining records, can contribute to SDG 12 (responsible production and consumption).

# PEDAGOGY-2

(Social Science, Mathematics and Biology)

## SDG 10 – REDUCED INEQUALITIES



### The Sustainable Development Lesson Plan

#### Aims

- To raise awareness about SDG 10: Reduced Inequalities
- To help students understand the teachings of Bhakti and Sufi saints.
- To highlight how these movements condemned discrimination and promoted equality.
- To connect historical teachings with present-day challenges of inequality.
- To develop creativity and empathy by expressing ideas through slogans/poetry.

#### Learning Outcomes using Action Verbs for Bloom's Revised Cognitive Taxonomy:

*At the end of the lesson, students will be able to:*

- Recall key teachings of Bhakti and Sufi saints
- Explain how their teachings opposed caste, religious, and gender discrimination.
- Relate Bhakti and Sufi values to present-day issues of inequality.
- Examine how inequality affects different groups in society.
- Assess the relevance of Bhakti–Sufi ideals in reducing inequalities today.
- Create their own slogans/short poems that promote unity and equality.

<b>Day &amp; Date:</b> 26/08/2025	<b>Class &amp; Section:</b> VII- C	<b>Subject:</b> Social Science <b>(History)</b>
<b>Time:</b> 10:20am-11:00am	<b>Chapter:</b> Bhakti Cult and Sufi heritage	
<b>Day &amp; Date:</b> 26/08/2025	<b>Class &amp; Section:</b> VII- C	<b>Subject:</b> Social Science <b>(History)</b>
<b>Time:</b> 10:20am-11:00am	<b>Chapter:</b> Bhakti Cult and Sufi heritage	

## Teaching Resources:

**Visual Aids:** Pictures of Bhakti and Sufi saints, images showing inequality (gender, caste, religious, economic), and the SDG 10 logo.

**Video Clip:** Short SDG 10 awareness video (2–3 minutes) highlighting real-life examples of inequality.

**Activity Materials:** Flashcards for **Impact–Solution Matching**, sticky notes for the activity, and stationery for students to write slogans or poems.

## Procedure

1.  
**Introducing the topic**  
  
(5 minutes)

### Topic introduction and discussion

The teacher begins the lesson by playing the UN video *“What are the Sustainable Development Goals?”*

<https://www.youtube.com/watch?v=3WODX8fyRHA>

#### Discussion after video:

The teacher asks:

*“What did you notice in this video?”* *“How many goals are there?”*

*“Why do you think these goals are important for us?”*

The teacher then displays a chart of all 17 SDGs and briefly explains each one.



The teacher highlights SDG 10 on the chart and explains:

*“SDG 10 aims to reduce inequality within and among countries. It reminds us that every human being deserves equal rights and opportunities, without discrimination.”*



# 10 REDUCED INEQUALITIES



## Building Context:

The teacher displays pictures of inequalities in society such as caste- based discrimination, unequal treatment of women, and hardships faced by the poor.



The teacher then engages the students by asking:

- “What do you notice in these pictures?”
- “Who seems to be treated unfairly here?”

- |  |  |
|--|--|
|  | <ul style="list-style-type: none"><li>• “How would you feel if you were in their place?”</li></ul> |
|--|--|

**Teacher explains:**

“These pictures remind us that inequality has existed in society for a long time. People were often treated unfairly because of caste, gender, religion, or poverty. But in those times, the Bhakti and Sufi saints challenged such practices. They spread the message of love, equality, and unity. Their teachings remind us of the importance of SDG 10: Reduced Inequalities which emphasizes that everyone should be treated equally”

**2. Step 2:  
Develop the  
topic further  
Awareness  
raising and  
prediction  
(10–15  
minutes)**

**Discussion Prompts**

The teacher asks:

- “Where do you see inequality around you today?”
- “Can you think of examples in school, community, or the news where some people are not treated equally?”

*(Students may mention caste bias, gender inequality, rich vs. poor, religious intolerance, etc.)*

The teacher writes these points on the board to create a **shared reference for the class.**

The teacher then prompts the students to discuss:

*If these inequalities continue, what will our society look like in the future?*

*Will everyone get fair opportunities? Will there be peace and unity?*

*What problems may arise?”*

Students discuss in small groups and share their ideas with the class (e.g., more conflict, lack of development, loss of harmony).

**Connecting to SDG 10 – Reduced Inequalities**

The teacher highlights:

“The United Nations created SDG 10: Reduced Inequalities because without equality, other goals like No Poverty (SDG 1), Quality Education (SDG 4), or Peace, Justice and Strong Institutions (SDG 16) cannot be achieved.”

The teacher explains SDG 10 – Reduced Inequalities with a video clip

<https://youtu.be/-5wo1ArN88w?si=Ov49Ulydid9f8LpO>

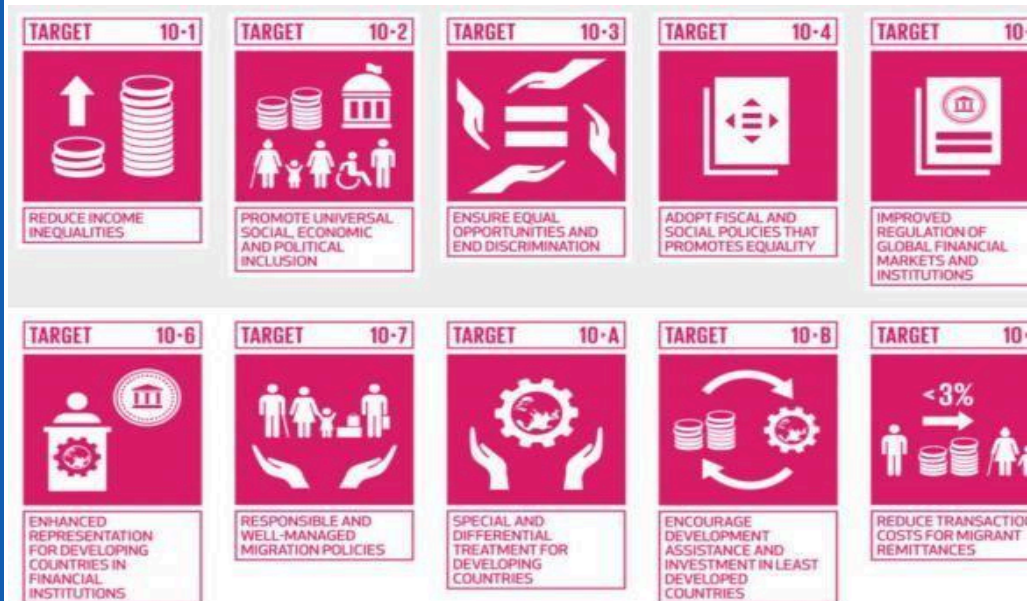
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After viewing, the teacher asks the students to share one thing they noticed or found striking in the video.

Then explains:

“The video shows us that inequality exists in many forms—between rich and poor, men and women, people of different castes or religions. These inequalities stop people from getting fair opportunities and achieving their potential.

Long ago, the Bhakti and Sufi saints understood the same truth. They saw that a society divided by discrimination could never prosper and worked to unite hearts across social and religious divides, just like SDG 10 encourages reducing inequalities today.”



**3. Matching and prioritizing**  
**(10–15 minutes)**

### Concept Presentation:

#### Impacts of Inequality

- Education & Opportunities: Unequal access to education or jobs prevents some people from reaching their potential.
- Social Harmony: Caste, gender, or religious discrimination can cause conflict and division in communities.
- Economic Growth: Poverty and unfair treatment of marginalized groups slow down overall development.
- Health & Wellbeing: Disadvantaged groups often have limited access to healthcare, clean water, and nutrition.

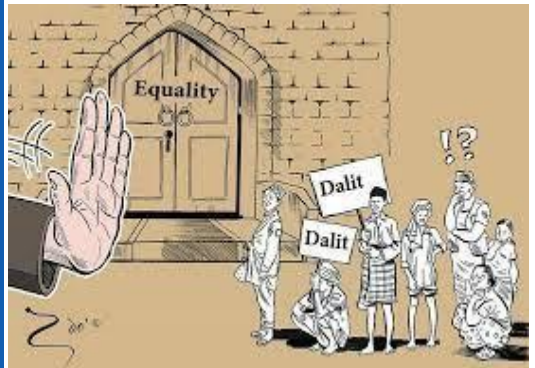
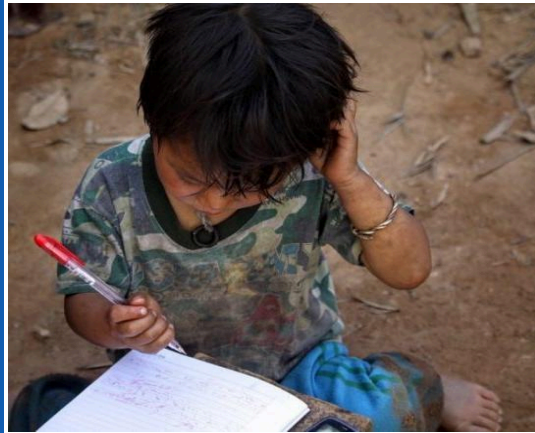
## Causes of Inequality

- Caste & Religious Discrimination: Historical and social practices that marginalize certain groups.
- Gender Bias: Unequal opportunities and expectations for men and women.
- Economic Disparity: Unequal distribution of wealth and resources.
- Lack of Awareness: Superstitions, social prejudices, and exclusionary practices limit social cohesion.

## Prioritizing Real-Life Scenarios Activity

Teacher displays 4 short scenarios with images:

1. A child from a marginalized community unable to attend school.
2. Women being denied equal work opportunities.
3. Religious or caste-based discrimination in the neighborhood.
4. Poor families struggling for basic healthcare and nutrition.





The teacher instructs the students to **rank the scenarios** from most urgent to least urgent.

After the activity, the teacher points out how different groups may **prioritize differently**, showing that inequalities affect people in multiple ways.

Teacher connects to SDG 10: “Reducing inequalities is essential because fairness and equal opportunity are foundations for peace, education, and economic growth.”

### **Impact–Solution Matching Activity**

Teacher prepares two sets of flashcards:

- *Inequality Issues*: caste discrimination, gender bias, unequal access to healthcare, poverty, religious intolerance.
- *Bhakti–Sufi Teachings / Solutions*: universal love and devotion for all (Bhakti), service to mankind (Sufi), harmony among religions (Sufi), social unity initiatives (both traditions).

**Group Task:** Students, in small groups, match each inequality issue with one or more Bhakti–Sufi teachings or solutions.

Each group shares their matches and explains the reasoning to the class.

After the activity, the teacher highlights that Bhakti and Sufi teachings are timeless. Even though they emerged centuries ago, their core message—love, unity, equality, and service—remains directly relevant to the inequalities we face today.

The class is reminded that individual actions (like treating everyone with respect, rejecting discrimination, or helping someone in need) are equally important as larger efforts by the community, government, and international bodies.



**4.**  
**Questions/Assignments**  
**(05 minutes)**

**Critical Thinking Discussion Prompts**

Based on the above discussion, the teacher poses a single question to each group of students who discuss it among themselves and share their opinions with the class.

1. Inequalities exist in gender, caste, wealth, and opportunities. Which one do you think affects society the most today, and why?
2. Bhakti and Sufi saints tried to reduce divisions through love and equality. Which of their teachings is most relevant for today's world?
3. Some people say "inequality is natural and cannot be reduced." Do you agree or disagree? Give one strong reason.
4. Equal opportunities in education and jobs can reduce poverty. Do you think governments should focus more on these areas? Defend your view.
5. Imagine you are a youth leader in your community. Suggest one practical action (in school, neighbourhood, or online) that promotes SDG 10. Explain why it would work.

**Connect & Commit (Exit Ticket)**

The teacher asks:

"From today's lesson, what one small action can you take to reduce inequality in your surroundings — inspired by Bhakti–Sufi teachings of love, service, and unity?"

- Students write one sentence on a post-it(e.g., help a classmate with studies, avoid judging others by caste/religion, speak up against unfair treatment, share food with someone in need).
- The post-its are collected and displayed as a "Class Equality Pledge Wall for SDG 10."

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5.  
Setting  
homework  
rk  
(5 minutes)

**Homework Task – Awareness Through Art**

The teacher instructs each student prepares a short slogan or a poem that spreads awareness about reducing inequalities (SDG 10) and reflects the teachings of Bhakti-Sufi traditions.

Instruction to Students:

“In the **next class**, some students will be invited to share their slogans or poems aloud as a way of spreading awareness and inspiring others.

No matter who you are  
Love and kindness should  
always be done  
No caste, No gender,  
with hearts united  
Let love be our guide

Every one  
are equal  
No one  
small or  
Big.

Helps a friend  
share some cares  
show the world  
what love is  
Nor one is higher  
Nor one is lower  
Everyone is equal.

Stop discrimination  
based on the  
caste and wealth  
and profile

# The Sustainable Development Lesson Plan

## Topic: (SDG Goal)

- **Goal 12:** Responsible Consumption and Production
- **Goal 13:** Climate Action

## Aims

- To apply the concept of percent and percentage to real-life environmental data.
- To raise awareness of how reducing energy use can help achieve SDGs.
- To encourage students to calculate and interpret percentage savings in their own context.

## Learning Outcomes using Action Verbs for Bloom's Revised Cognitive Taxonomy:

*At the end of the lesson, students will be able to:*

**Time: 1:35 PM – 2:10 PM**

**Chapter: Percent and percentage**

## Topic: from Text book

### Percent and percentage

#### Teaching Resources:

- SDG wheel image (highlight Goal 12 & Goal 13)
- Infographic of household energy use in percentages
- Before-and-after bar chart for electricity/CO<sub>2</sub>
- savings Blackboard and chalk
- Pre-prepared energy-saving data for problems and activities
- PPT for visuals

Title & Time	Description
<b>Step 1 – Hook: Why Percentages Matter in the Real World (0–5 min)</b>	Begin with a question: “If your electricity bill goes from ₹2000 to ₹1500, how much money did you save?” (₹500) “And what percent of the bill is that?” (25%). Explain: “Percentages aren’t just numbers in the textbook — they tell us how much we are saving, wasting, or using in real life.” Show the SDG wheel and highlight <b>Goal 12</b> (using resources wisely) and <b>Goal 13</b> (taking climate action).
<b>Step 2 – Linking Percentages to SDGs (5–10 min)</b>	Show an infographic of household energy use. Example: Lights – 30%, Fans – 20%, AC – 25%, Others – 25%. Ask: “If we reduce AC use by 20%, what’s the percentage decrease in the total bill?” Lead students to see that every percentage saved in electricity means fewer fossil fuels burned → less CO <sub>2</sub> → helps SDG 13.
<b>Step 3 – Core Math Practice (10–18 min)</b>	Give two sample problems: <b>Q1:</b> A school reduced electricity usage from 5000 kWh to 3500 kWh in a year. Find the percentage reduction. (30%) <b>Q2:</b> A factory reduced CO <sub>2</sub> emissions from 100 tons to 85 tons. Find the percentage decrease. (15%). Solve one together, have students solve the other in pairs, and share answers.
<b>Step 4 – Group Activity: Percent Savings Challenge (18–28 min)</b>	Split students into groups of 4. Give each group 3 “energy-saving” scenarios (e.g., switching to LED lights, reducing AC use, cycling instead of using scooters). Each scenario includes old usage and new usage. Groups calculate: 1) The absolute saving 2) The percentage saving 3) Which SDG(s) benefit most. Groups share their top saving with the class.

<b>Step 5 – Discussion: Which Action Matters Most? (28–32 min)</b>	As a class, discuss which single action would give the biggest environmental benefit. Prompt: <i>“Is a 30% saving in AC use better than a 10% saving in overall school electricity?”</i> Guide them to consider both the number size and the actual environmental impact.
<b>Step 6 – Wrap-Up &amp; Reflection (32–35 min)</b>	Quick oral questions: “What is the formula for percentage decrease?” “Name one SDG linked to reducing electricity use.” “What is one percentage goal you can set for your home this week?” Conclude: <i>“Percentages help us measure our progress towards a cleaner, greener world.”</i>

Evidences

Teacher's Comment → Score for Public Transport (Per day, 10 kms roundtrip)

Criteria	Value
Score for Public Transport (40km/d)	$10 \text{ km} \div 40 \text{ km/d} = 0.25 \text{ L}$
Public Transport Score per 100 kms	0.05 L
Fuel Saved	$0.25 \text{ L} - 0.05 \text{ L} = 0.20 \text{ L}$
CO <sub>2</sub> Saved	$0.20 \text{ L} \times 2.3 \text{ kg/L} = 0.46 \text{ kg}$ Per day
Percentage Saving	$(0.20 \div 0.25) \times 100 = 80\%$

~~CO<sub>2</sub>~~

~~Energy wastage~~

~~Pollution~~

**SDG 12 & 13**

~~Wastage~~

Case: old fans to Energy Efficient (BLDC) fans

Criteria	Values
Old device (Per fan)	75 W
New device (Per fan)	35 W
Lab Total (old)	$75 \times 4 = 300 \text{ W}$
Lab Total (New)	$35 \times 4 = 140 \text{ W}$
Saving	$300 - 140 = 160 \text{ W}$
Percentage Saving	$\frac{160}{300} \times 100 = 53.33\%$

**SDG 12 & 13**

~~LED LIGHTS~~ - ~~NORMAL BULBS~~

**LED Vs Normal Bulb**

Criteria	Values
Normal Bulb Power	60 W
LED Bulb Power	10 W
Energy Saved	50 W
Percentage Saving	83.3%
SDG	12 and 13

Preethi Prathy

**Topic: (SDG Goal)**

Sustainable Development Goal 3 – Good Health and Well-being

**Aims**

- To predict and raise awareness of the Sustainable Development Goals (SDGs), focusing on Goal 3: Good Health and Well-being.
- To help students understand the types and functions of endocrine glands in humans.
- To connect knowledge of the endocrine system with real-life health and well-being.

**Learning Outcomes using Action Verbs for Bloom's Revised Cognitive Taxonomy:**

*At the end of the lesson, students will be able to:*

- **Identify** the key Sustainable Development Goals (SDGs) and their significance.
- **Define** and **describe** the major types of endocrine glands in humans.
- **Explain** the role of hormones secreted by these glands in maintaining good health.
- **Analyze** how endocrine health affects overall well-being (SDG 3).
- **Create** a poster to show why endocrine health is important using only one gland.

**Day & Date:** Monday,  
15/09/2025

**Class & Section:** VIII

**Subject:** Biology

**Time:** 12:10 PM to 12:45  
PM

**Chapter:** Endocrine System in Humans

**Topic: from Text book**

Classification of Endocrine Glands in Humans

**Teaching Resources:**

- Video: *What is Sustainable Development?* by the United Nations (UN)
- Video and infographic explaining SDG Goal 3: Good Health and Well-being
- Diagram/chart of the human endocrine system
- Flashcards with names of glands and their hormones
- Art supplies for poster-making homework

## Procedure

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**1. Introducing the topic**  
**(5 minutes)**

**1. Topic introduction and discussion**

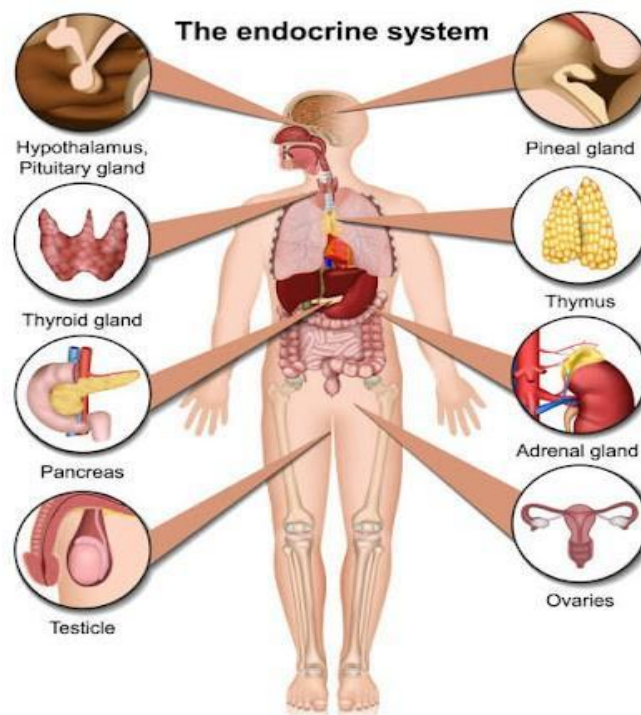
- **Video:** Show the UN video *What is Sustainable Development?* (<https://www.youtube.com/watch?v=3WODX8fyRHA>) to introduce SDGs.
- Briefly explain SDG Goal 3 – Good Health and Well-being.

**Discussion Questions:**

- “Why is good health essential for sustainable development?”
- “How does our body maintain balance to stay healthy?”

**Visual Aid:**

- Display a large diagram of the human endocrine system and ask students: “What do you think these glands do?”





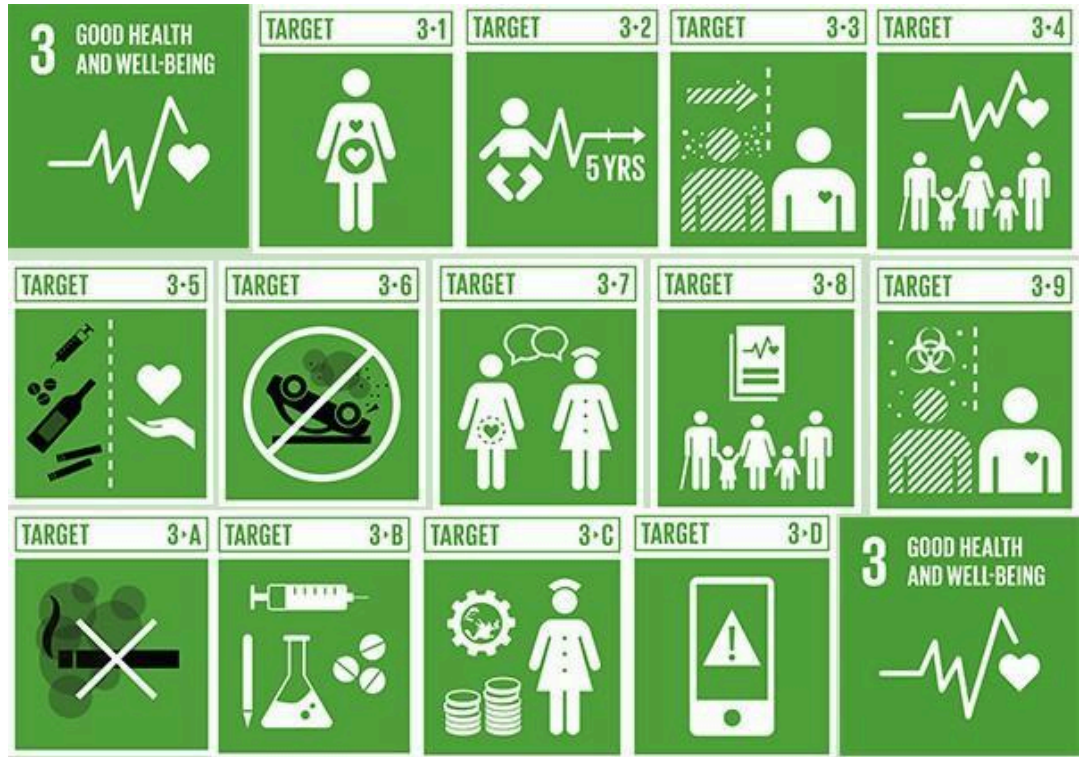
**2. Step 2:  
Develop  
the topic  
further**

**Awareness  
raising  
and  
prediction**

**(10–15 minutes)**

**Introduction to SDG Goal 3 – Good Health and Well-being:**

- Explain that Goal 3 focuses on ensuring healthy lives and promoting well-being for all ages.
- **Video:** Show the video about SDG Goal 3 Good Health and Well Being [https://youtu.be/ARmBCl4nid0?si=yjAQyMfKK5EH4\\_Bu](https://youtu.be/ARmBCl4nid0?si=yjAQyMfKK5EH4_Bu)



- Highlight that the **endocrine system** plays a crucial role in growth, metabolism, stress response, reproduction, and maintaining overall health.

**Real-life Examples:**

- Poor thyroid health leading to fatigue and weight changes.
- Insufficient insulin production (pancreas) leading to diabetes.
- Stress hormones from the adrenal glands affect mental health.
- How education about endocrine health helps prevent lifestyle diseases.

**Activity:**

- Give each group a card with the name of one endocrine gland (e.g., pituitary, thyroid, adrenal, pancreas).

- Students discuss in 2 minutes what they think the gland does and one health problem caused if it malfunctions.
- Groups share their answers briefly.

**Engagement Questions:**

- “How do hormones from these glands keep you healthy?”
- “Why do you think learning about endocrine health is important for good health and well-being?”
- “How can knowledge about these glands help prevent or manage diseases?”

**Teacher Prompts:**

- Link their answers back to Goal 3: Good Health and Well-being — understanding the endocrine system empowers individuals to take care of their health and prevent diseases.

**Wrap-up of Step 2:**

- Summarize that learning about endocrine glands equips students with knowledge to support good health, echoing the importance of **SDG Goal 3**.

**3. Matching and prioritizing (10–15 minutes)**

**Concept Presentation:**

- Using the textbook diagram, explain the **types of endocrine glands in humans**: pituitary, thyroid, parathyroid, adrenal, pancreas, gonads, and pineal.
- Describe one key hormone from each gland and its function briefly.

**Interactive Activity:**

- Provide a table with glands in one column and functions/hormones mixed up in another column. Students match them correctly in pairs.

**Questions to Discuss:**

- “Which gland controls growth?”
- “Which gland controls blood sugar?”
- “What could happen if a gland is overactive or underactive?”

**4. Questions/Assignments**  
(05 minutes)

**Facilitated Discussion:**

- Begin by reinforcing the SDG context. Ask students:
  1. “What are the Sustainable Development Goals?”
  2. “What are your nation’s efforts towards meeting the SDGs?”
  3. “Studying the endocrine system has helped me understand the importance of hormones and good health in day-to-day life.”

**Activity – Spider-Web Discussion Technique:**

- Arrange students in a circle.
- Start by posing a question:  
*“Think about your home, school, or playground. Identify one way hormones affect your daily life — growth, mood, energy, stress, or metabolism. How does this show the importance of endocrine health?”*
- This creates a “spider web” of ideas, illustrating how endocrine health connects to every student’s life and well-being.
- The teacher facilitates, summarizing and mapping the connections on the board.

**Critical Thinking Prompt:**

- “Why is learning about the endocrine system important for your own health?”
- “How does knowledge of endocrine glands help prevent or manage diseases?”
- “Why is this knowledge essential to achieve SDG Goal 3: Good Health and Well-being?”

**Reflection:**

- Conclude by asking students to take one minute to write a short reflection:  
*“How does understanding the endocrine system help me make better choices for my health and well-being?”*
- Link back to **Goal 3 – Good Health and Well-being:** Learning about the endocrine system equips students with knowledge to promote healthy lifestyles and prevent diseases.



<p><b>5. Setting homework</b> <b>(5 minutes)</b></p>	<p>For homework,</p> <ul style="list-style-type: none"> <li>○ Assign students to create a poster to explain <b>why endocrine health is important using only one endocrine gland.</b></li> </ul> <p><b>Guidelines:</b></p> <ul style="list-style-type: none"> <li>○ Include the name of the gland, its hormone, one key function, and one health issue if the gland malfunctions.</li> </ul> <p><b>Future Sharing:</b></p> <ul style="list-style-type: none"> <li>● Plan to collect and display the best posters on the classroom board.</li> <li>● In the next class, have students briefly present their poster to reinforce learning.</li> </ul>
<p><b>Assessment Criteria:</b></p>	<ul style="list-style-type: none"> <li>● Accuracy of identification and functions of endocrine glands.</li> <li>● Creativity and relevance of written or drawn responses.</li> <li>● Ability to link endocrine health with real-life well-being and SDG Goal 3.</li> </ul>

**PANCREAS:** It is located at the abdomen. Hormone secreted = Insulin regulates glucose level in the blood and conversion of glucose into Glycogen.

**Adrenal Gland:** Located above the kidney produces the stress hormone that give fight or flight response. It also noradrenaline.

**Pituitary Gland** also Master gland, located at the base of the brain. It secretes growth hormone to control other glands like thyroid, adrenal, ovary and testis.

Less Insulin causes Diabetes.

# About

(hypothyroidism)  
less sugar (good)

(goitre)

# Diabetes Mellitus

(hyperthyroidism)

# and

# Thyroid

- Adruith

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**Diabetes Mellitus** ⇒ a condition when sugar level in blood increases due to deficiency of Insulin.

**Thyroid** ⇒ This is an endocrine gland.

- It is found in the neck region just in front of trachea.
- It has two (2) lateral lobes, one on either side of trachea.

**Sugar Level High** (Bad) ↑

**Sugar Level** ↓

