



UTSAV FOUNDATION

Curriculum Science 2025-'26

(Class-7th&8th) MARKS - 100

General Objectives:

1. Develop scientific temper, curiosity, and analytical thinking in students.
2. Encourage observation, experimentation, and logical reasoning.
3. Foster awareness of the interdependence of science, technology, and society.
4. Promote environmental consciousness and sustainable practices.
5. Strengthen conceptual understanding through practical applications.
6. Enhance problem-solving and decision-making skills.
7. Encourage teamwork and collaboration through group activities and projects.

Specific Objectives:

1. **Knowledge Acquisition:**
 - Understand fundamental concepts of Biology.
 - Learn about the interdependence of science and everyday life.
 - Gain awareness of environmental issues and sustainable practices.
2. **Conceptual Understanding:**
 - Differentiate between various scientific phenomena and principles.
 - Relate theoretical concepts to real-world applications.
 - Develop a scientific perspective toward health, hygiene, and nutrition.
3. **Application of Knowledge:**
 - Apply scientific principles to solve practical problems.
 - Use knowledge of forces, energy, and motion in daily activities.
 - Implement chemical and biological concepts in everyday situations.
4. **Awareness and Responsibility:**
 - Understand the importance of conserving natural resources.
 - Develop responsible behavior towards pollution and sustainability.
 - Recognize the role of science in technological advancements and societal growth.

Learning Outcomes

1. Understanding Scientific Concepts and Principles

- Explain fundamental concepts in physics, chemistry, and biology.
- Identify and describe natural phenomena such as combustion, pressure, friction, and reproduction.
- Differentiate between Useful and harmful microorganisms including their uses.

2. Application of Science in Daily Life

- Relate scientific concepts to real-life situations (e.g., conservation of resources, microorganisms in health, chemical effects of current).
- Understand the importance of agriculture and modern farming techniques.
- Apply knowledge of force, pressure, and friction to understand vehicle movement and safety measures.

3. Development of Scientific Skills

- Conduct simple experiments and interpret observations.
- Use scientific methods like hypothesis formation, experimentation, and conclusion drawing.
- Record and analyze data using charts, graphs, and tables.

5. Health and Hygiene Awareness

- Understand the role of microorganisms in health, diseases, and medicine.
- Recognize nutritional needs and the importance of a balanced diet.
- Identify hygiene and personal care practices, especially during adolescence.

6. Technological and Scientific Developments

- Describe advances in synthetic materials, biotechnology, and space exploration.
- Understand how electricity and magnetism are used in technology.
- Discuss the impact of science and technology on society.

Curriculum Structure-

Class 8 Science – 120-Hour Plan

Chapter No.	Chapter Name	Total Hours	Topics Covered	Teaching Methods	Activities & Experiments	Assessments
1	Crop Production and Management	10 Hours	- Agricultural Practices - Irrigation Methods - Fertilizers & Manures - Storage and Harvesting	- Interactive Lecture - Group Discussion	- Seed Germination Experiment - Soil Moisture Test	- Quiz - Worksheets
2	Microorganisms: Friend and Foe	10 Hours	- Types of Microorganisms - Useful & Harmful Microbes - Food Preservation - Nitrogen Cycle	- Multimedia Presentations - Role-playing	- Observing Microbes Under a Microscope - Fermentation Experiment	- MCQs - Diagram Labeling
3	Coal and Petroleum	8 Hours	- Formation of Fossil Fuels - Types of Coal & Petroleum Products - Conservation	- Visual Demonstration - Debate on Fuel Conservation	- Chart on Fossil Fuels	- Short Q&A - Concept Mapping

Chapter No.	Chapter Name	Total Hours	Topics Covered	Teaching Methods	Activities & Experiments	Assessments
4	Combustion and Flame	8 Hours	- Types of Combustion - Flame Structure - Fire Control	- Demonstration - Case Study	- Flame Structure Experiment - Fire Extinguisher Model	- Diagram Test - Practical Report
5	Reproduction in Animals	8 Hours	- Modes of Reproduction - Life Cycle	- Concept Videos - Animated Models	- Frog/Butterfly Life Cycle Chart	- Worksheets
6	Reaching the Age of Adolescence	8 Hours	- Changes in Adolescence - Hormones and Growth	- Group Discussion - Role Play	- Poster Making on Hygiene	- MCQs - Group Presentation
7	Force and Pressure	8 Hours	- Types of Forces - Pressure & Applications	- Hands-on Demonstrations	- Experiment on Air & Water Pressure	- Numerical Test
8	Friction	8 Hours	- Types & Effects of Friction - Friction Reduction	- Practical Activity	- Friction Experiment (Inclined Plane)	- Experiment Report
9	Sound	8 Hours	- Sound Production & Propagation - Characteristics of Sound	- Hands-on Experimentation	- Vibrations Using Rubber Band Experiment	- MCQs - Diagrams
10	Chemical Effects of Electric Current	8 Hours	- Electrolysis - Conductors & Insulators	- Practical Demonstration	- Electrolysis Experiment	- Observation Report
11	Some Natural Phenomena	8 Hours	- Lightning - Earthquakes	- Case Study - Video Demonstrations	- Static Electricity Experiment	- Quiz

Chapter No.	Chapter Name	Total Hours	Topics Covered	Teaching Methods	Activities & Experiments	Assessments
12	Light	10 Hours	- Reflection & Refraction - Human Eye & Vision	- Demonstration - Practical Lab	- Mirror & Lens Experiment	- Ray Diagram Test

Total Duration: 120 Hours

- **Theory & Discussions: 70 Hours**
- **Hands-on Activities & Experiments: 30 Hours**
- **Assessments & Revisions: 20 Hours**

Final Marks Distribution

Total Marks: 100

Chapter	Total Marks
Chapter 1: Crop Production and Management	15
Chapter 2: Microorganisms: Friend and Foe	15
Chapter 3: Coal and Petroleum	15
Chapter 4: Combustion and Flame	15
Chapter 5: Reproduction in Animals	15
Chapter 6: Reaching the Age of Adolescence	15
Chapter 7: Force and Pressure	15
Chapter 8: Friction	15
Chapter 9: Sound	15
Chapter 10: Electric Current and Its Effects	15
Chapter 11: Light	15

Assessment Strategies

- **Formative Assessments** (quizzes, worksheets, discussions).
- **Summative Assessments** (tests, exams, lab reports).
- **Project-based Evaluations** (model making, research assignments).
- **Skill-based Evaluations** (observations, problem-solving).



UTSAV FOUNDATION

SYLLABUS SCIENCE 2025-'26

(Class-8th) MARKS – 100

Learning Objectives:

- Develop a scientific attitude and curiosity about natural phenomena.
- Understand fundamental concepts of **agriculture, biology, chemistry, and physics**.
- Learn about the **interdependence of living and non-living things** in the environment.
- Understand **scientific principles** related to force, pressure, sound, light, and electricity.
- Develop **problem-solving and analytical skills** through hands-on activities and experiments.
- Recognize the **importance of sustainable practices** in agriculture, fuel consumption, and energy usage.
- Apply scientific knowledge to **everyday life and technological advancements**.

Learning Outcomes:

- Explain the **importance of crop production and different agricultural methods**.
- Identify different **types of microorganisms**, their benefits, and harmful effects.
- Understand the **formation of fossil fuels (coal and petroleum)** and the need for conservation.
- Describe the **types of combustion**, structure of a flame, and fire safety measures.
- Differentiate between **sexual and asexual reproduction** in animals and explain the life cycle of different species.
- Explain the **physical, hormonal, and emotional changes** during adolescence and the importance of hygiene and nutrition.
- Understand **force and pressure**, and their applications in daily life, including atmospheric pressure.
- Explain the **causes and effects of friction**, its advantages, and methods to reduce or increase friction.
- Describe **sound production, propagation, and characteristics** like pitch, frequency, and amplitude.
- Explain the **chemical effects of electric current**, electrolysis, and its applications like electroplating.
- Understand **natural phenomena such as lightning and earthquakes**, and safety measures during such events.
- Describe the **laws of reflection and refraction**, and how mirrors and lenses work.

- Explain the **functioning of the human eye**, common vision defects, and their corrections.
- Develop an understanding of **scientific reasoning and experimental methods** to analyze real-world situations.

Chapters Included:

- 1. Crop Production and Management**
- 2. Microorganisms: Friend and Foe**
- 3. Coal and Petroleum**
- 4. Combustion and Flame**
- 5. Reproduction in Animals**
- 6. Reaching the Age of Adolescence**
- 7. Force and Pressure**
- 8. Friction**
- 9. Sound**
- 10. Chemical Effects of Electric Current**
- 11. Some Natural Phenomena**
- 12. Light**



UTSAV FOUNDATION
SYLLABUS SCIENCE 2025-'26
(Class-7th) MARKS – 100

Learning Objectives:

- Develop a scientific attitude and curiosity about natural phenomena.
- Understand fundamental concepts of **agriculture, biology, chemistry, and physics**.
- Learn about the **interdependence of living and non-living things** in the environment.
- Understand **scientific principles** related to force, pressure, sound, light, and electricity.
- Develop **problem-solving and analytical skills** through hands-on activities and experiments.
- Recognize the **importance of sustainable practices** in agriculture, fuel consumption, and energy usage.
- Apply scientific knowledge to **everyday life and technological advancements**.

Learning Outcomes:

- Explain the **importance of crop production and different agricultural methods**.
- Identify different **types of microorganisms**, their benefits, and harmful effects.
- Understand the **formation of fossil fuels (coal and petroleum)** and the need for conservation.
- Describe the **types of combustion**, structure of a flame, and fire safety measures.
- Differentiate between **sexual and asexual reproduction** in animals and explain the life cycle of different species.
- Explain the **physical, hormonal, and emotional changes** during adolescence and the importance of hygiene and nutrition.
- Understand **force and pressure**, and their applications in daily life, including atmospheric pressure.
- Explain the **causes and effects of friction**, its advantages, and methods to reduce or increase friction.
- Describe **sound production, propagation, and characteristics** like pitch, frequency, and amplitude.
- Explain the **chemical effects of electric current**, electrolysis, and its applications like electroplating.
- Understand **natural phenomena such as lightning and earthquakes**, and safety measures during such events.
- Describe the **laws of reflection and refraction**, and how mirrors and lenses work.

- Explain the **functioning of the human eye**, common vision defects, and their corrections.
- Develop an understanding of **scientific reasoning and experimental methods** to analyze real-world situations.

Chapters Included:

1. Crop Production and Management

2. Microorganisms: Friend and Foe

3. Coal and Petroleum

4. Combustion and Flame

5. Reproduction in Animals

6. Reaching the Age of Adolescence

Chapter No.	Chapter Name	Total Hours Allocated	Breakdown (Theory, Activities, Experiments, Revision & Assessment)
1	Crop Production and Management	20 hours	6 hrs (Theory) + 6 hrs (Activities) + 4 hrs (Experiments) + 4 hrs (Revision & Assessment)
2	Microorganisms: Friend and Foe	20 hours	6 hrs (Theory) + 6 hrs (Case Studies) + 4 hrs (Experiments) + 4 hrs (Revision & Assessment)
3	Coal and Petroleum	15 hours	5 hrs (Theory) + 4 hrs (Discussions) + 3 hrs (Experiments) + 3 hrs (Revision & Assessment)
4	Combustion and Flame	15 hours	5 hrs (Theory) + 4 hrs (Experiments) + 3 hrs (Case Studies) + 3 hrs (Revision & Assessment)
5	Reproduction in Animals	25 hours	8 hrs (Theory) + 6 hrs (Model Making) + 5 hrs (Videos/Diagrams) + 6 hrs (Revision & Assessment)
6	Reaching the Age of Adolescence	25 hours	8 hrs (Theory) + 6 hrs (Group Discussions) + 5 hrs (Health Awareness Activities) + 6 hrs (Revision & Assessment)

Marks Distribution (100 Marks)

Chapter No.	Chapter Name	Total Marks
1	Crop Production and Management	20
2	Microorganisms: Friend and Foe	20
3	Coal and Petroleum	15
4	Combustion and Flame	15
5	Reproduction in Animals	20
6	Reaching the Age of Adolescence	10
Total	-	100