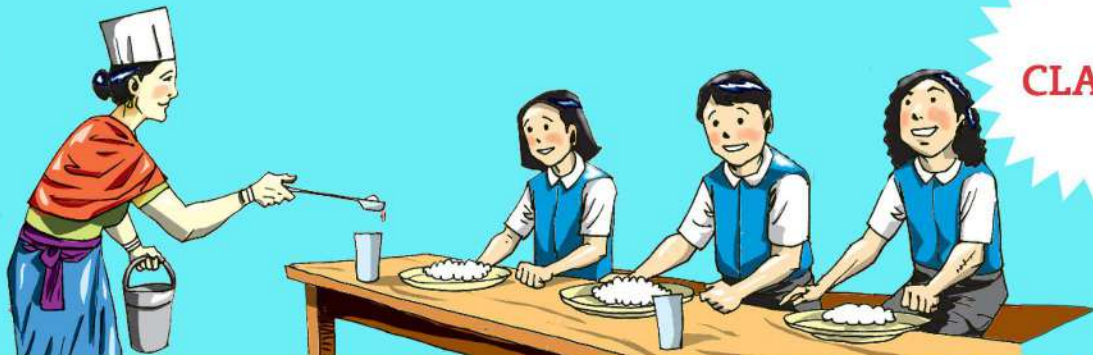


CLASS 5



A COMIC TEXTBOOK

ENVIRONMENTAL SCIENCE



সমগ্র শিক্ষা
মন্ত্রক
মণিপুর

Samagra
Shiksha
Manipur

©**Samagra Shiksha, Manipur 2020. All rights reserved.** No part of this publication may be produced without the express consent of Samagra Shiksha, Manipur. Any reproduction, modification, distribution, transmission, republication, display or exploitation in any way of the content(s), in whole or in part, of this publication is strictly prohibited.



A COMIC TEXTBOOK

ENVIRONMENTAL SCIENCE

COMIC TEXTBOOKS DEVELOPMENT TEAM

ENVIRONMENTAL STUDIES TEAM MEMBERS

Ahanthem Sobita, Lecturer, DIET

Sorokhaibam Sarita, Lecturer, DIET

Salam Bidyananda, Lecturer, DIET

L. Chandrakumar Singh, SC, Samagra Shiksha

Diana Thangjam, ASC, Samagra Shiksha

CARTOON TEAM - Salam Samson Meitei (Cartoonist), Laishram Devkumar Singh (Cartoonist),

Boynao Chongtham (Colouring), Jeelen Sarungbam (Designing), Shamulailatpam Bedajit Sharma
& Jafri Elangbam (DTP)

Comic Illustration by NE Brothers Entertainments Pvt. Ltd.

CONTENTS

CHAPTER	PAGE NO.
01. Shifting from place to place	02
02. What floats and what sinks?	06
03. Unique Character	09
04. Indigenous Games of Manipur	14
05. Dignity of labour	16
06. Super senses	19
07. Interdependency	22
08. Why Some Animals Are In Danger	27
09. Forest our life.	30
10. When Food Gets Spoilt	34
11. Who produces the food we eat	37
12. Food habit and food scarcity/different types of houses	40
13. Exploring Taste	42
14. A Shelter for everyone	46
15. Times Of Emergency And Diseases They Spread.	51
16. Water Flow	54
17. Fuel for vehicles	58
18. Unforgettable experience	63
19. Grow Your Own Food	67

P R E F A C E

Students of Primary Class love stories, fun and always want to explore. Normal textbooks, many a times, are difficult to read and understand without the help of a teacher or parent. Cartoons and Comics always create the interest amongst students. The main objective for developing Comic Textbooks for Class III, IV and V is to entertain and educate young minds by creating unique illustrated books in comic strips so as to help to them learn easier with fun, retain the characters and stories, arouse curiosity, encourage peer learning, and induce reading habits.

Utmost care has been taken to relate the stories to the cultures and tradition of the State. Effort has also been made to cover the concepts and chapters of the entire Environmental Science V textbook and also to cover all the Learning Outcomes.

The objectives would not have been fulfilled without the support and help of a large number of dedicated teachers of the Department, Resource Persons from SCERT, Manipur and Samagra Shiksha, Writers and Cartoonist, NE Brothers Entertainments Pvt. Ltd and NEST Advertising and Marketing Pvt. Ltd. The project would not have been brought to this stage without the support and guidance of Dr. Amarendra Behera, Professor and Head of ICT, NCERT and other Team members of NCERT, New Delhi. The project has also the support of Shri Th. Radheshyam Singh, Hon'ble Minister (Education), Manipur for conceptualization of the concepts.

I would appreciate every member of the Comic Team and other Officials of the Department for their support in this yearlong journey that has led to the development of the 3 Comic Textbooks. As the initiative is done for the first time, shortcomings could have been there. Suggestions from the readers for further improvement are welcome.

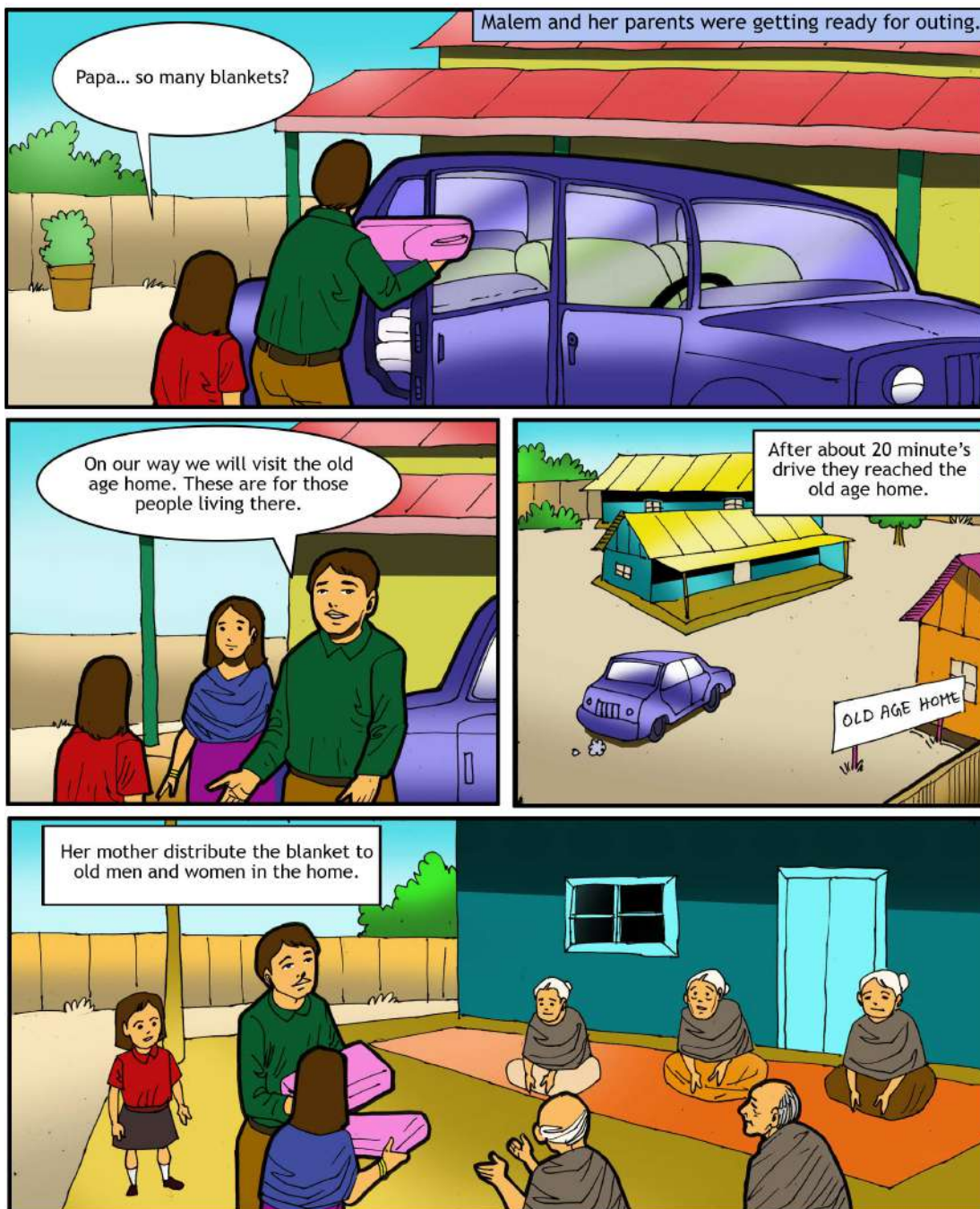
Imphal, the 11th April, 2020.

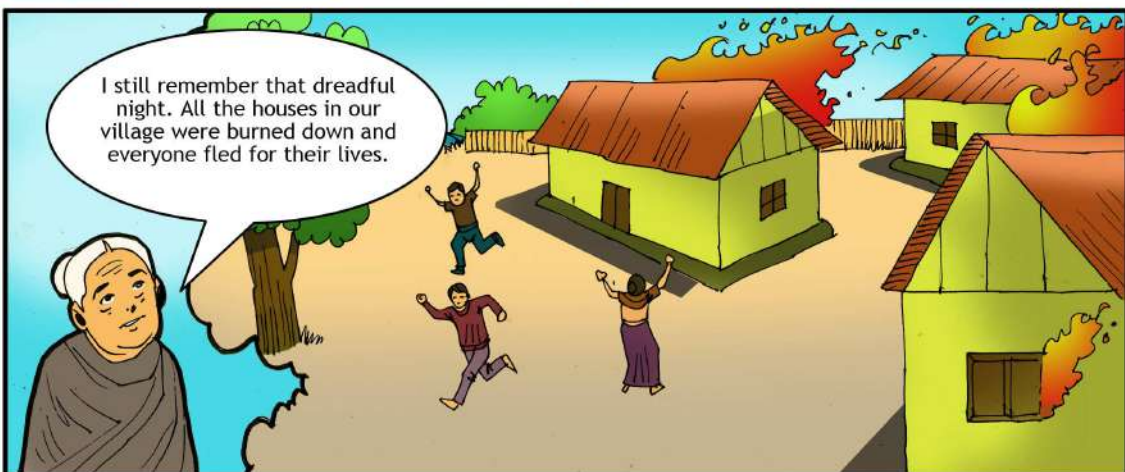


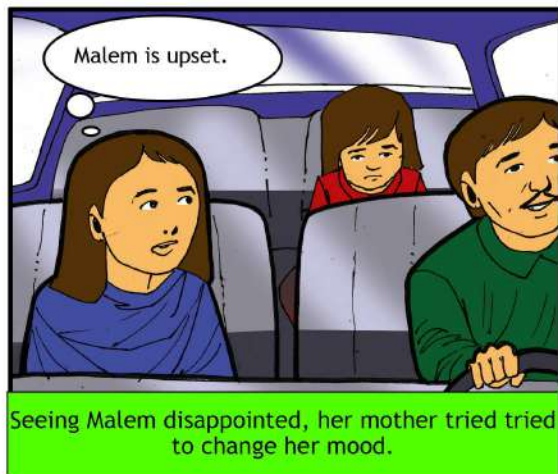
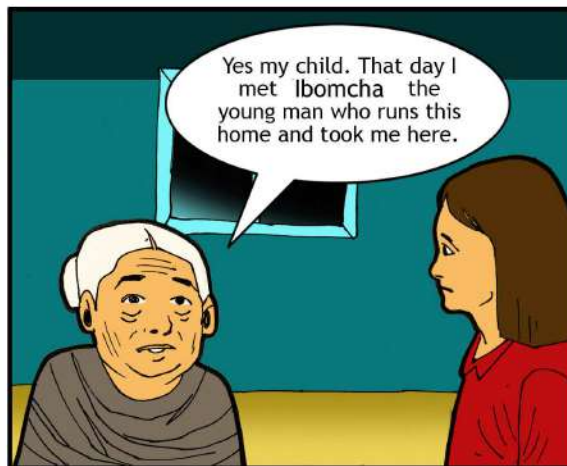
(Th. Kirankumar, IAS)
Director, Education (Schools) and
SPD (Samagra Shiksha)
Manipur.

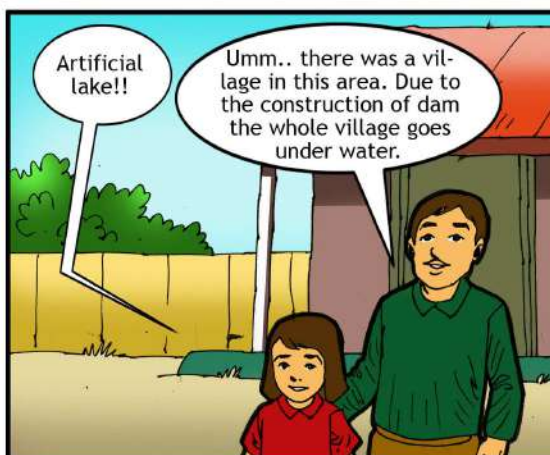
ENVIRONMENTAL SCIENCE

Lesson 1, Shifting from place to place

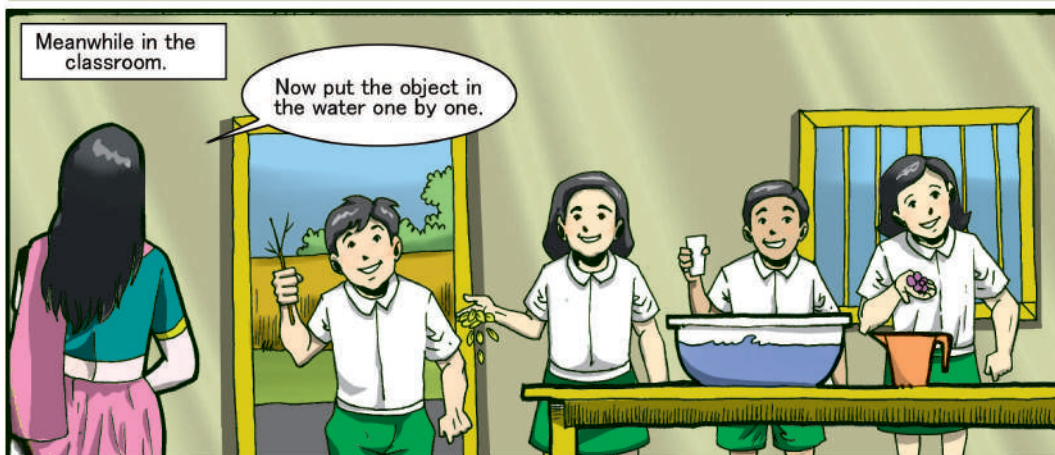
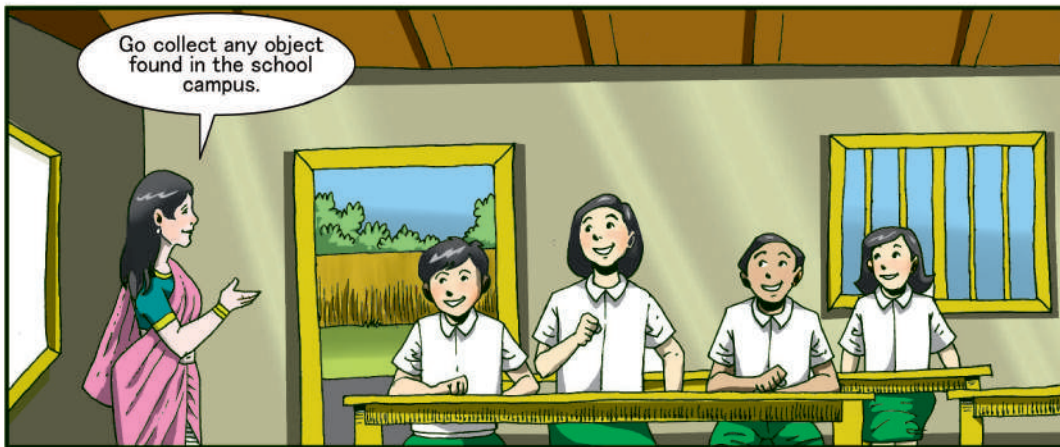


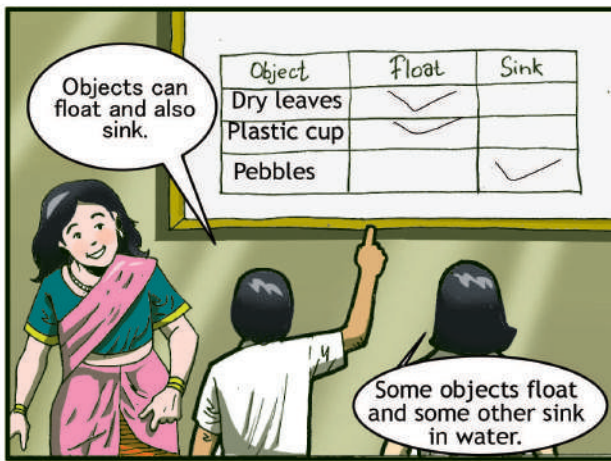
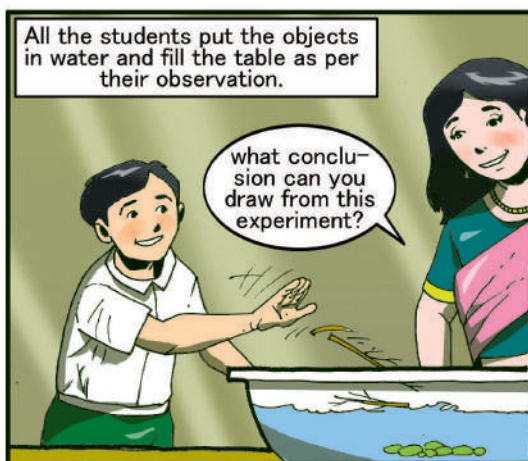
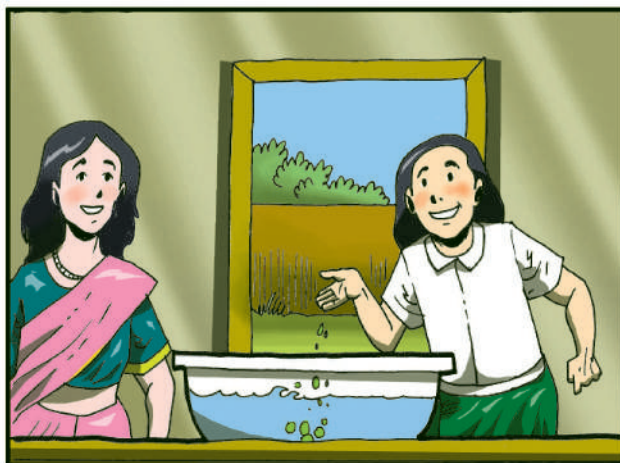


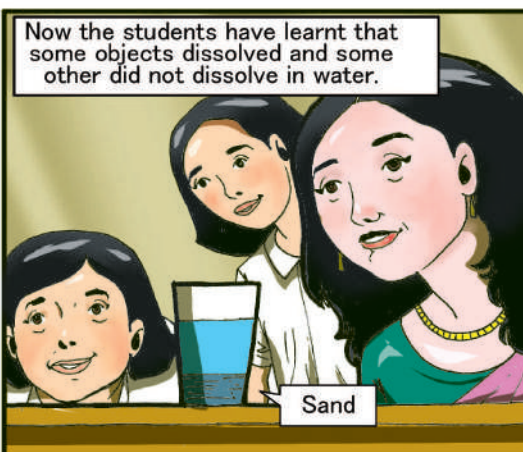




Story 2 : What floats and what sinks

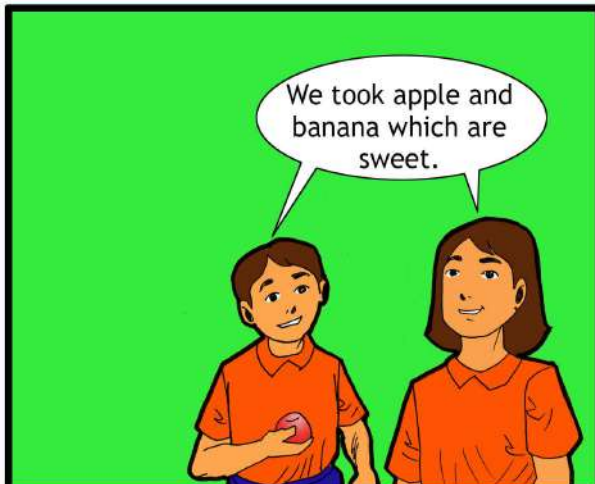
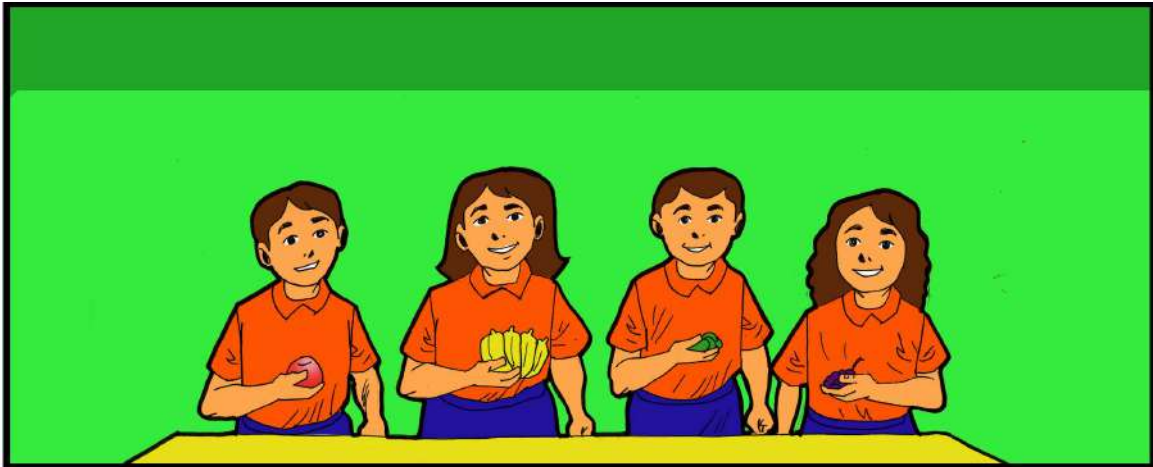


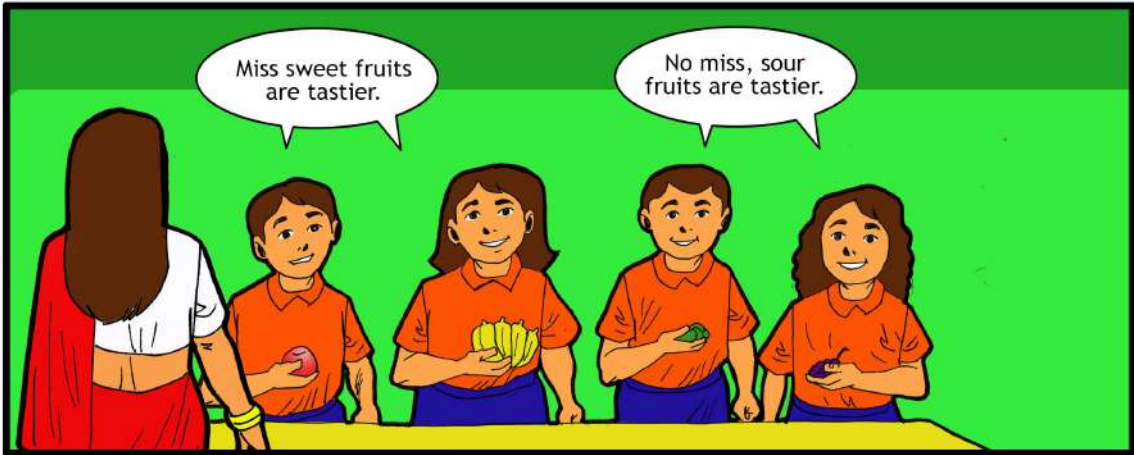


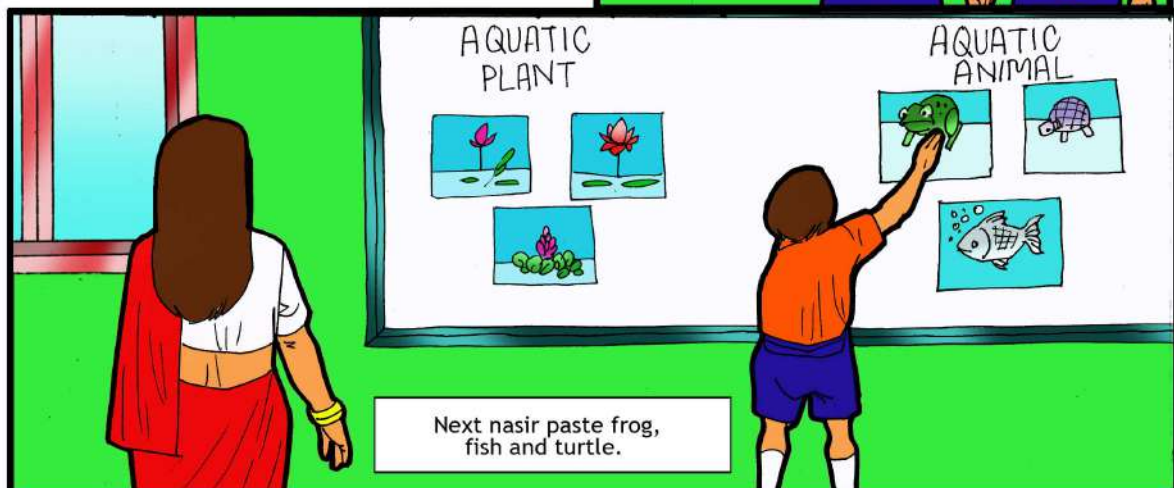
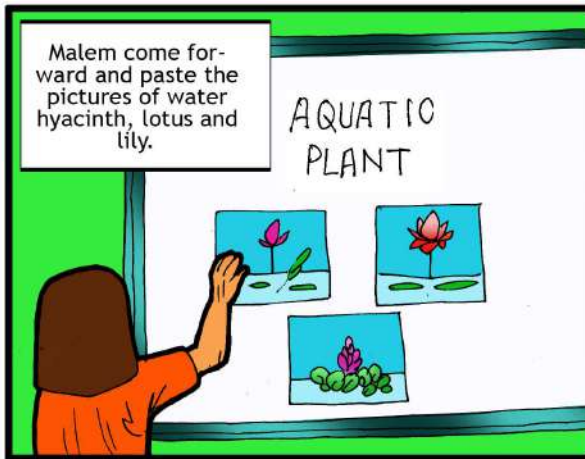


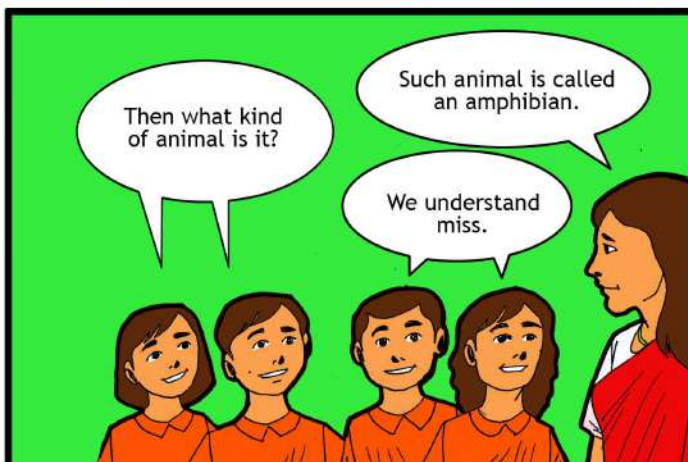
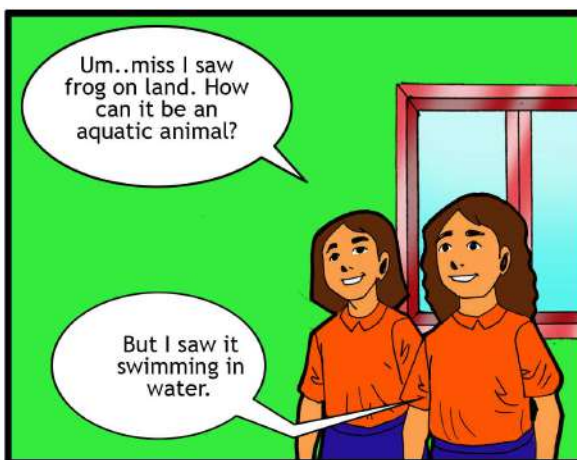
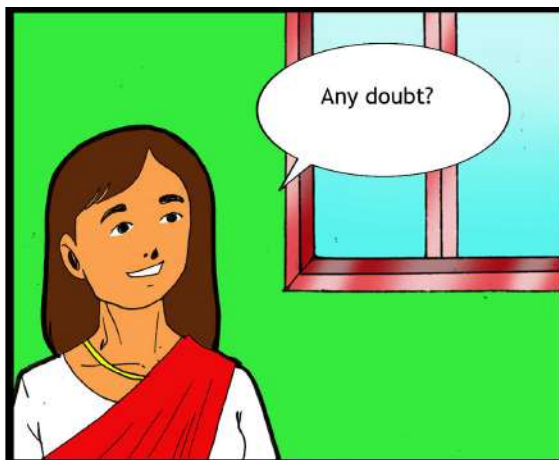
Chapter 3, Unique Character



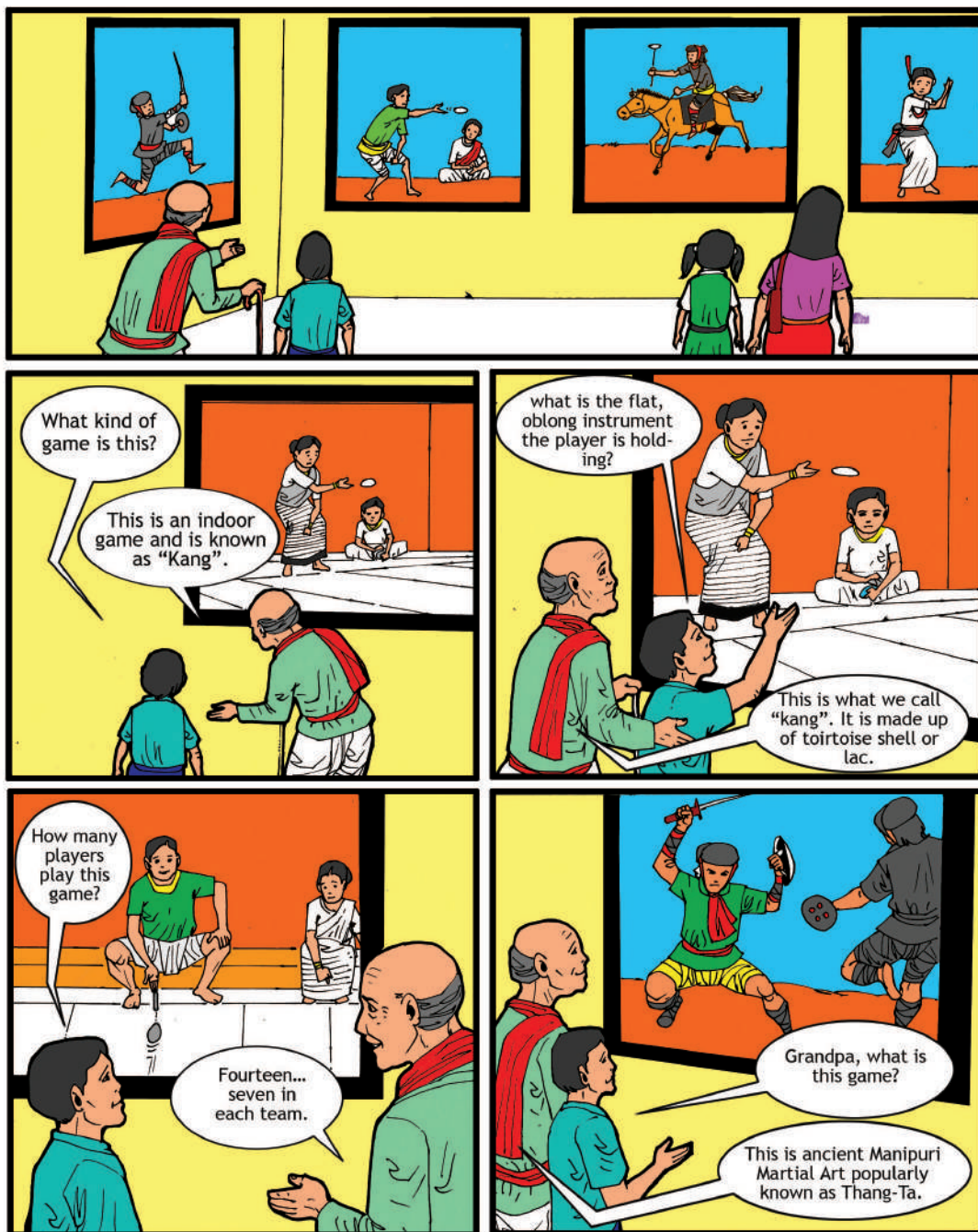






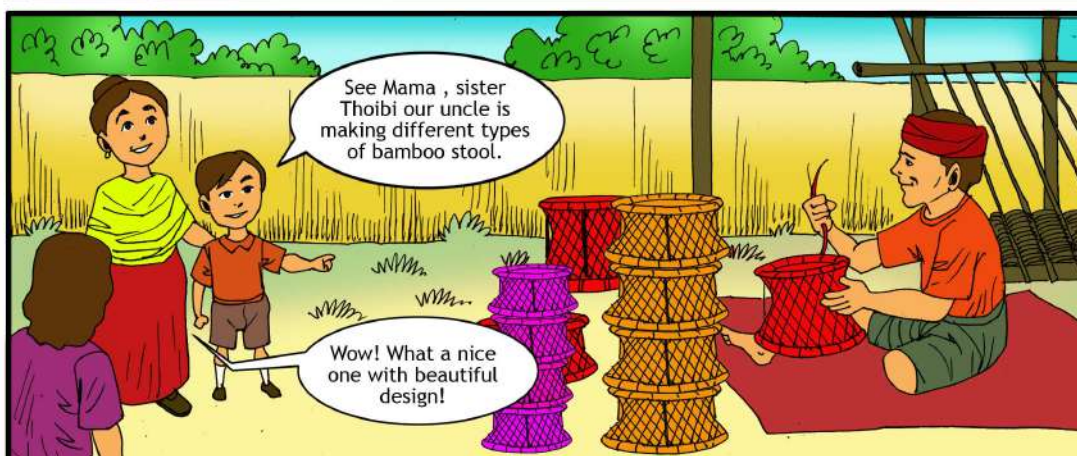
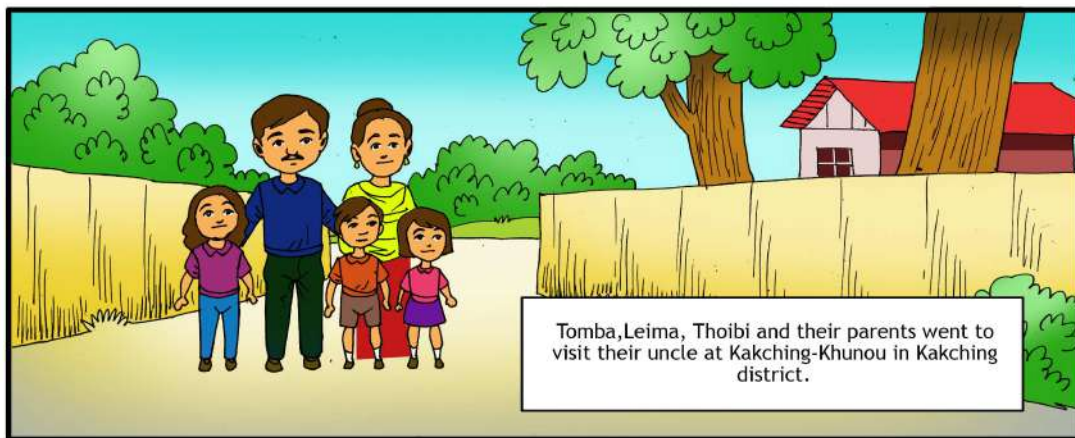


Lesson 4: Indigenous Games of Manipur

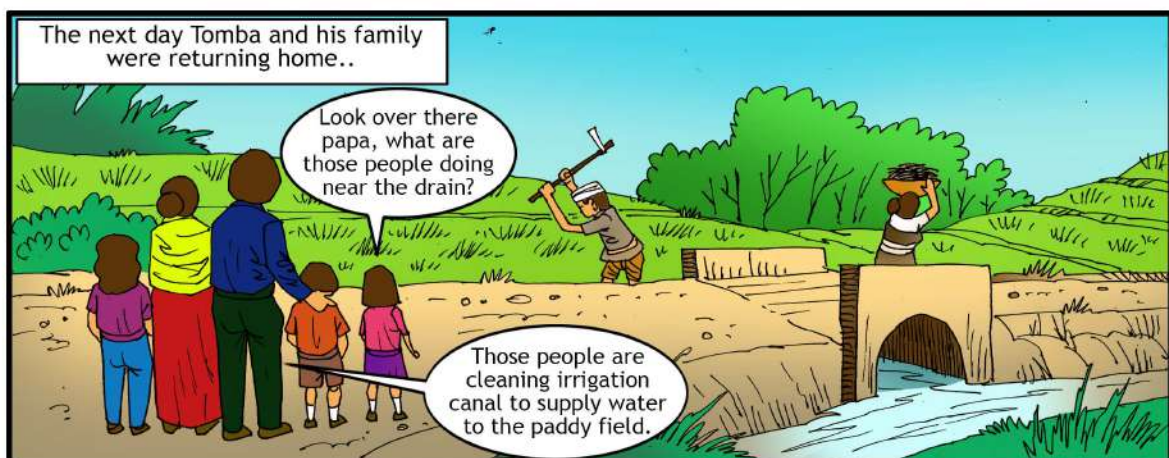




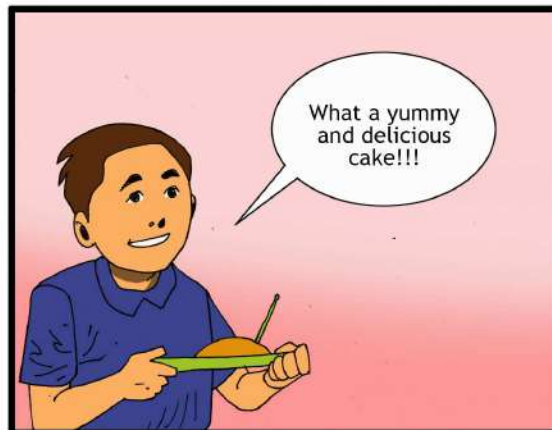
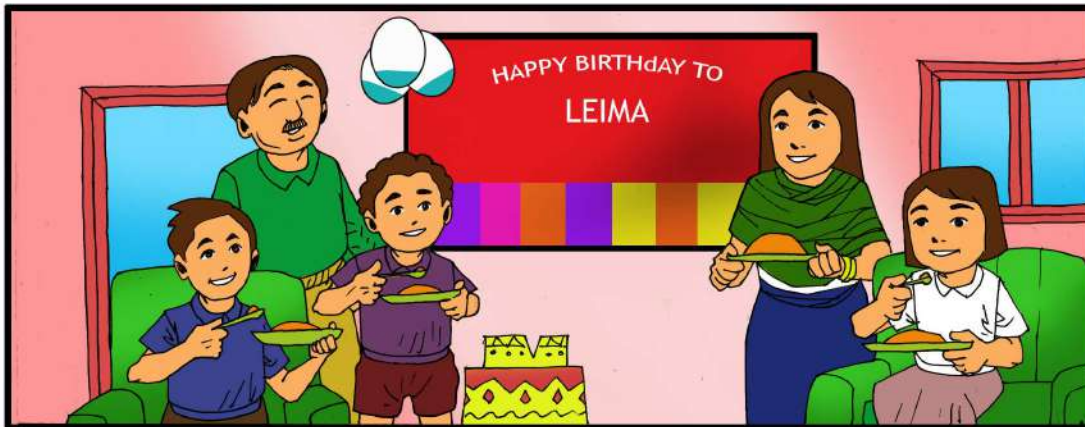
Lesson 5- Dignity of labour

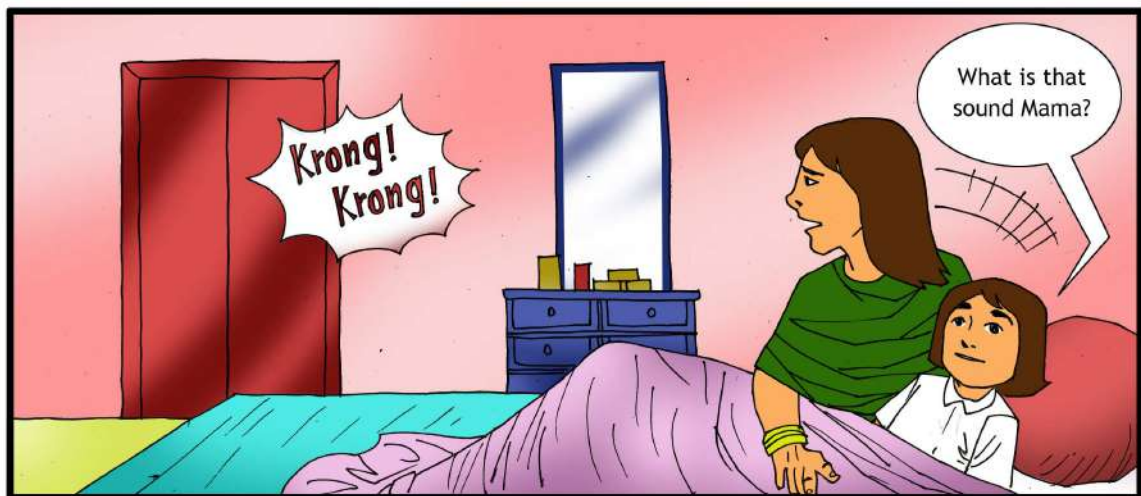






Lesson 6- Super senses







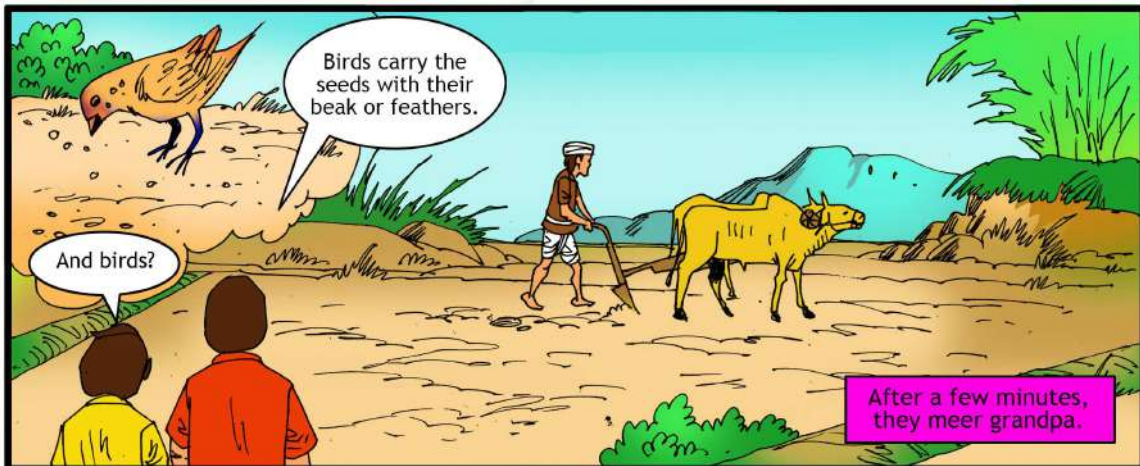
Tips-

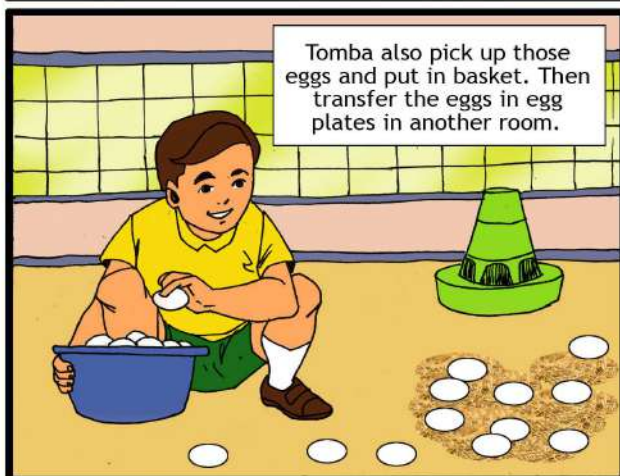
1. The five senses are sight, smell, hearing, taste and touch.
2. The sense organs are the eyes, nose, ears, tongue and skin.

Lesson 7-Interdependency





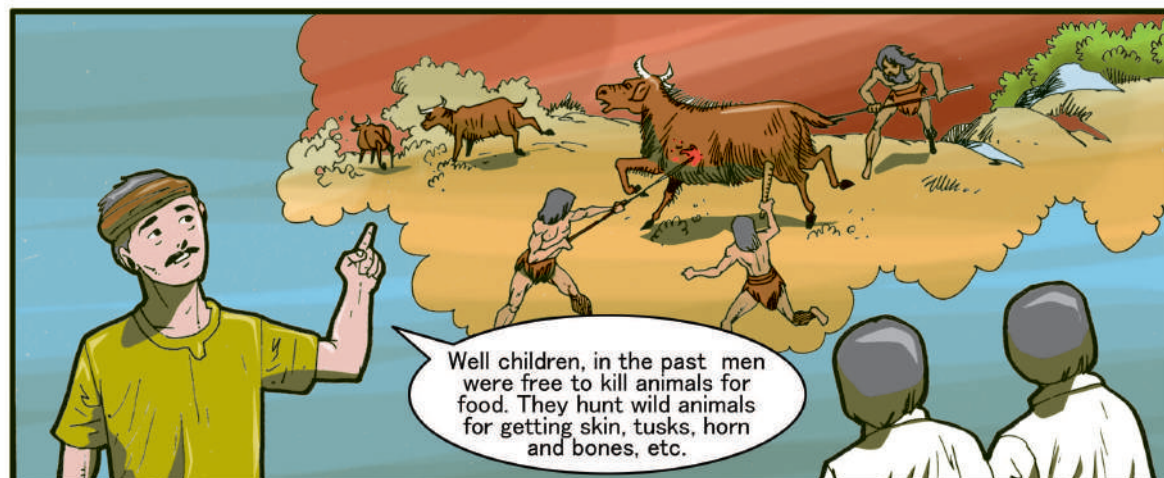
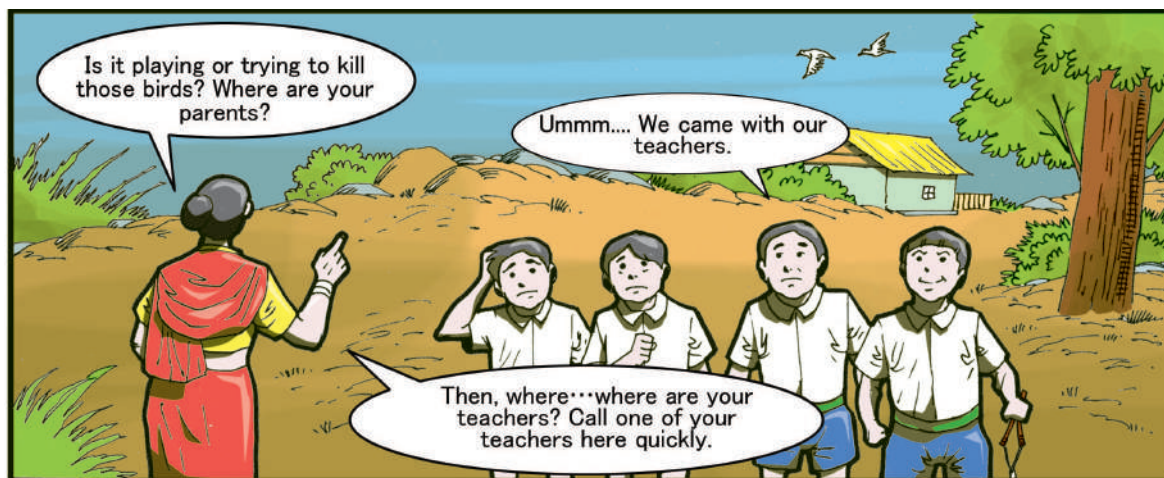


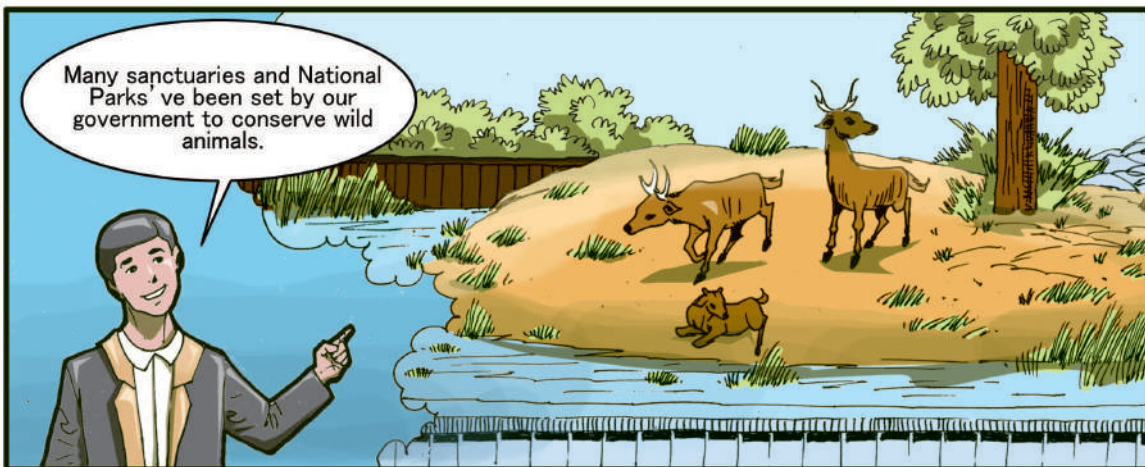




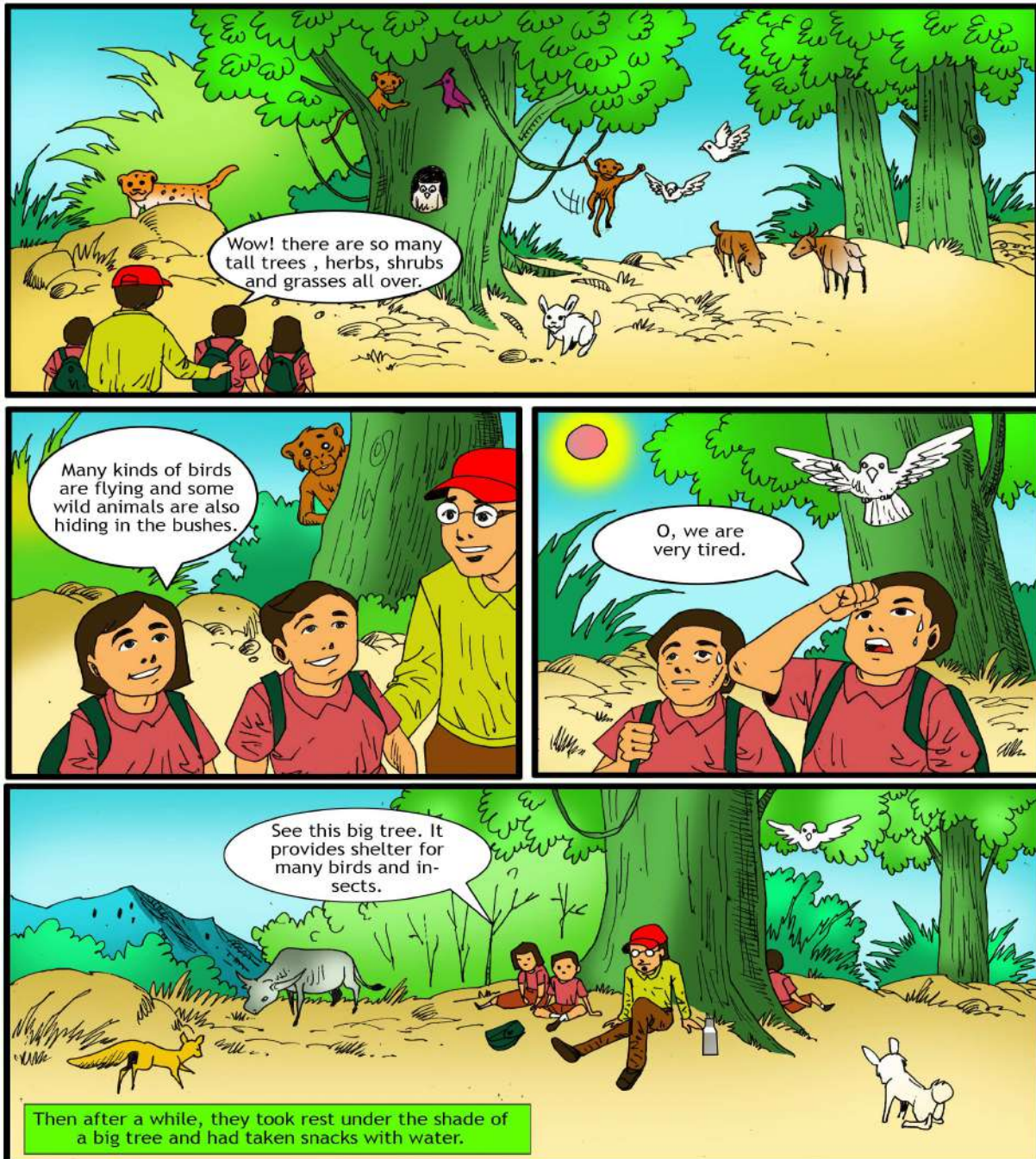
STORY 8----WHY SOME ANIMALS ARE IN DANGER

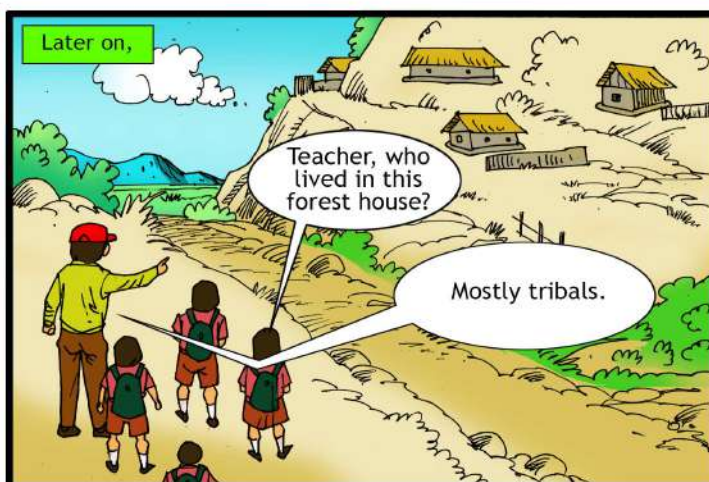
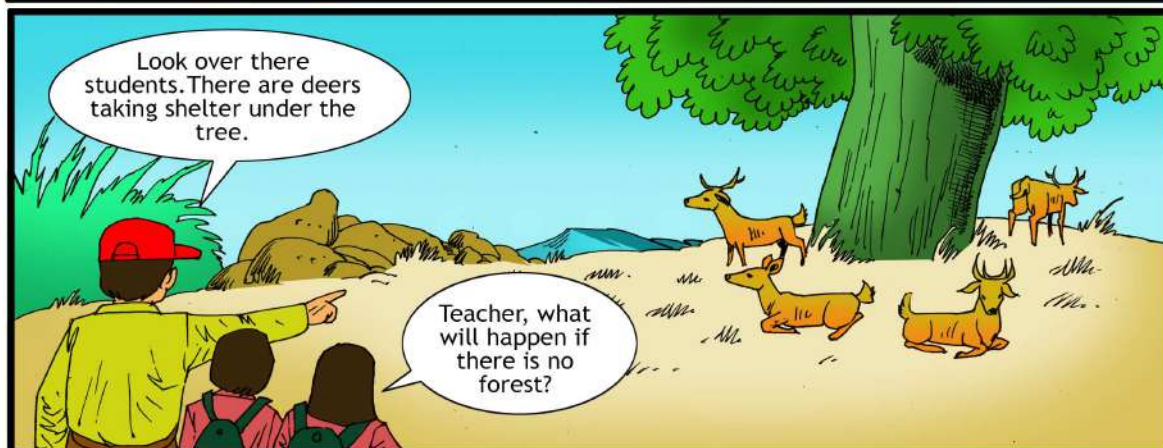


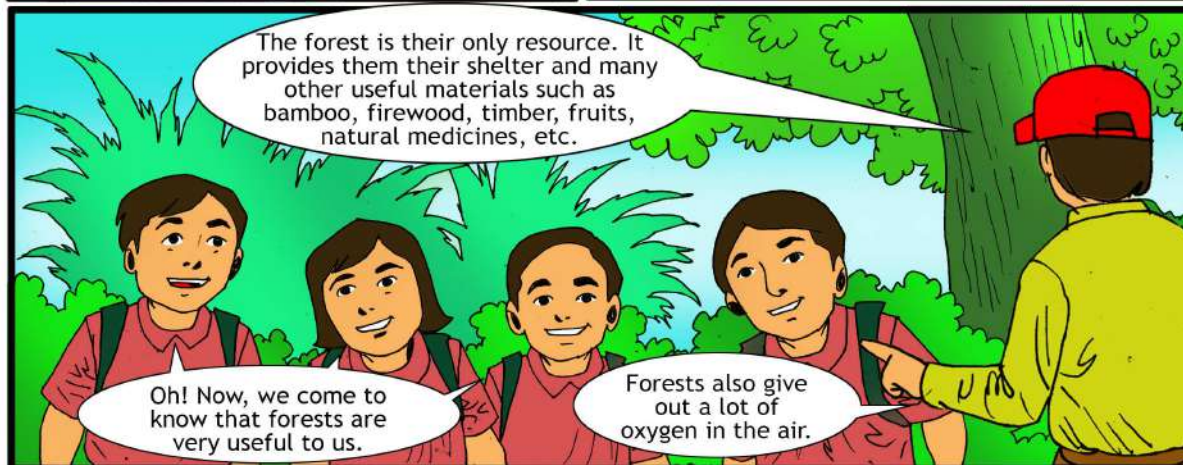
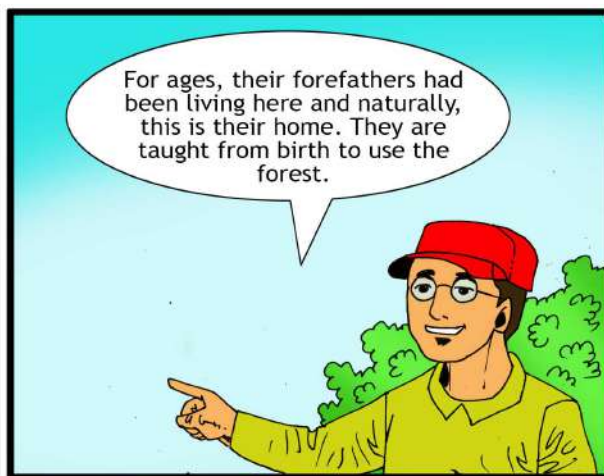
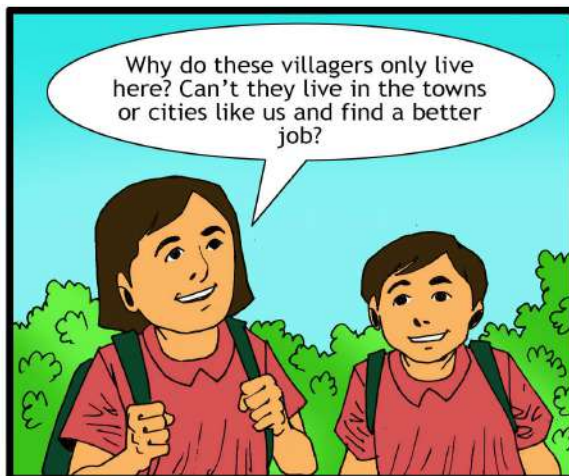


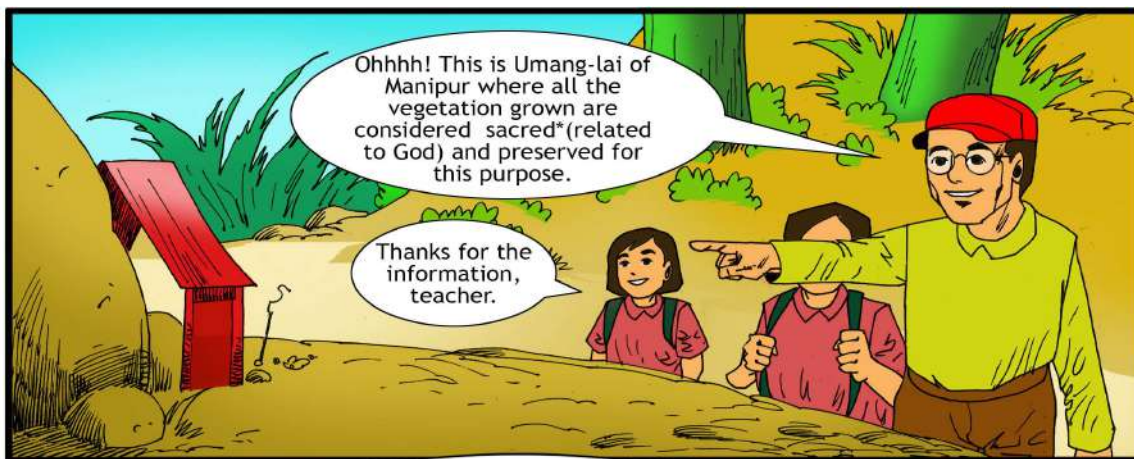


Lesson 9 - Forest our life.







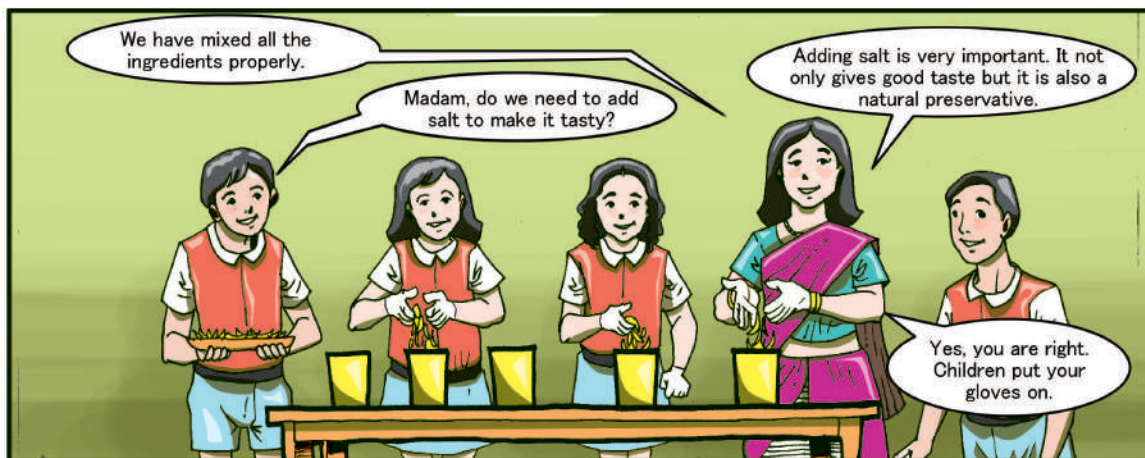


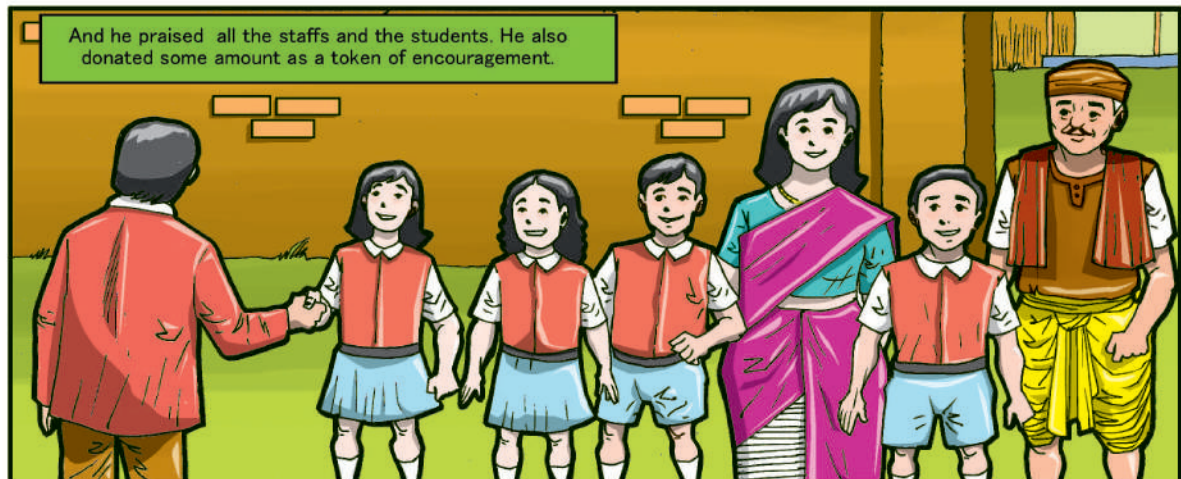
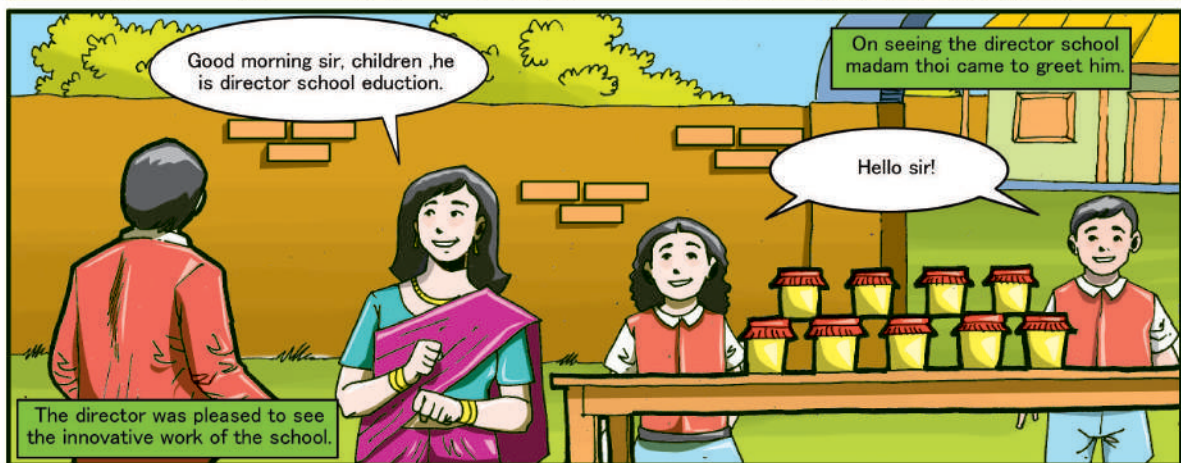
Tips:-

1. A natural community including trees, shrubs, climbers, grasses and ground cover forms forests.
2. Right to Forest Act 2007. According to this, people who have been living in the forest for at least 25 years have a right over the forestland that is, to claim whatever that grows on it.

Story10 : When Food Gets Spoilt



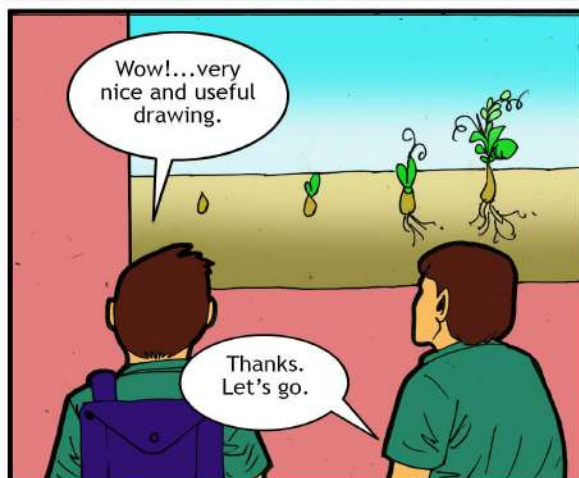




Lesson-11. Who produces the food we eat.

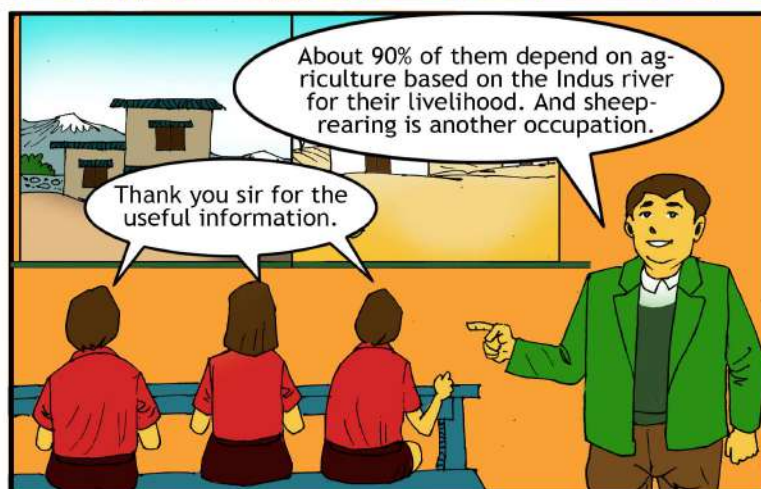
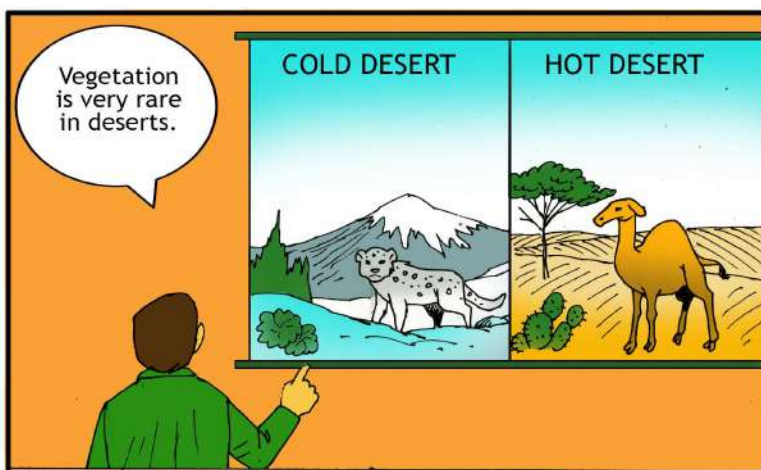
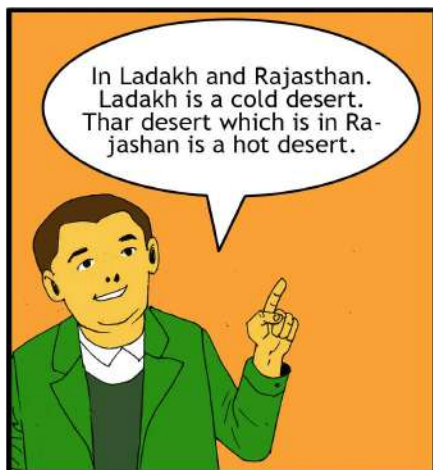






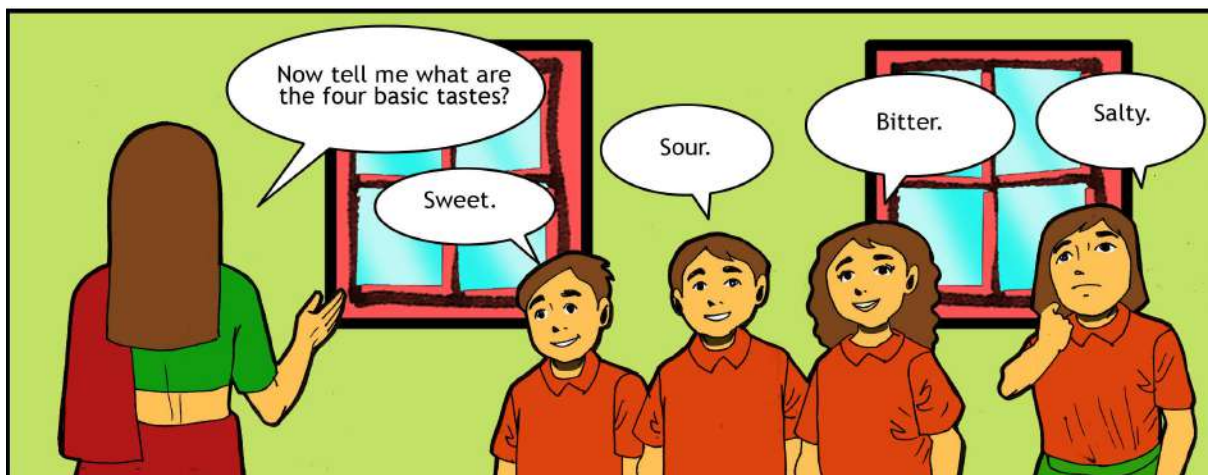
Lesson - 12 Food habit and food scarcity/ different types of houses

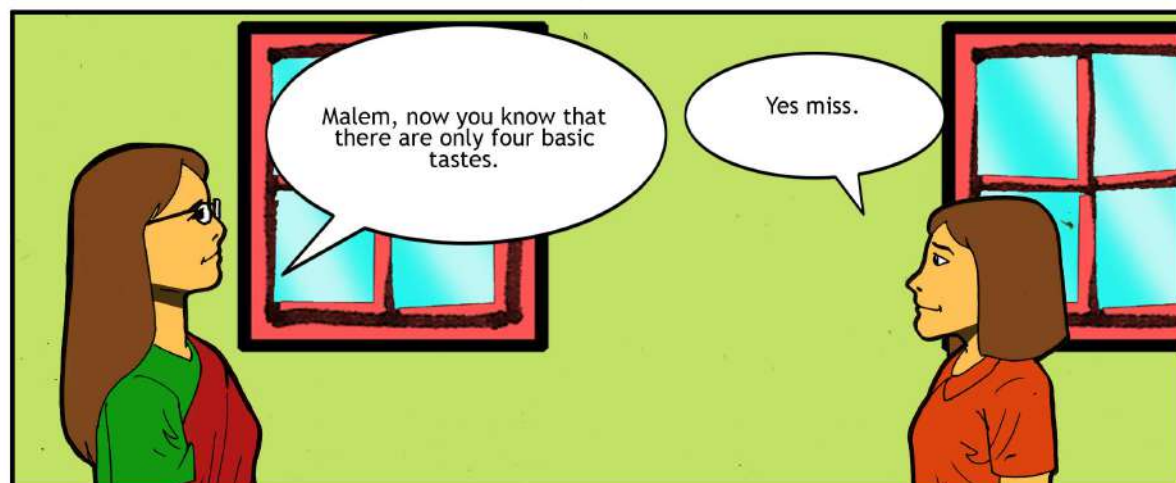
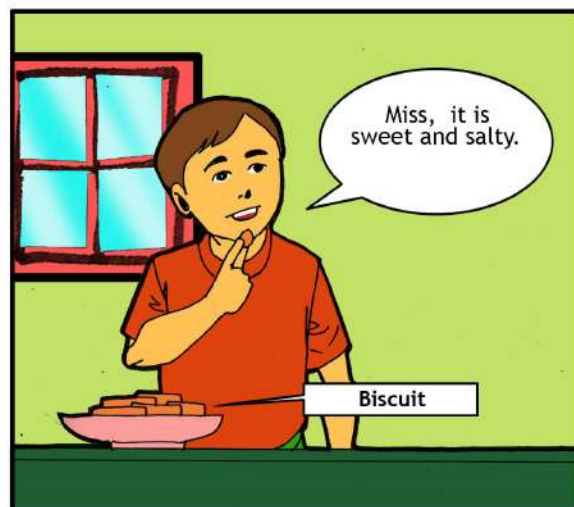


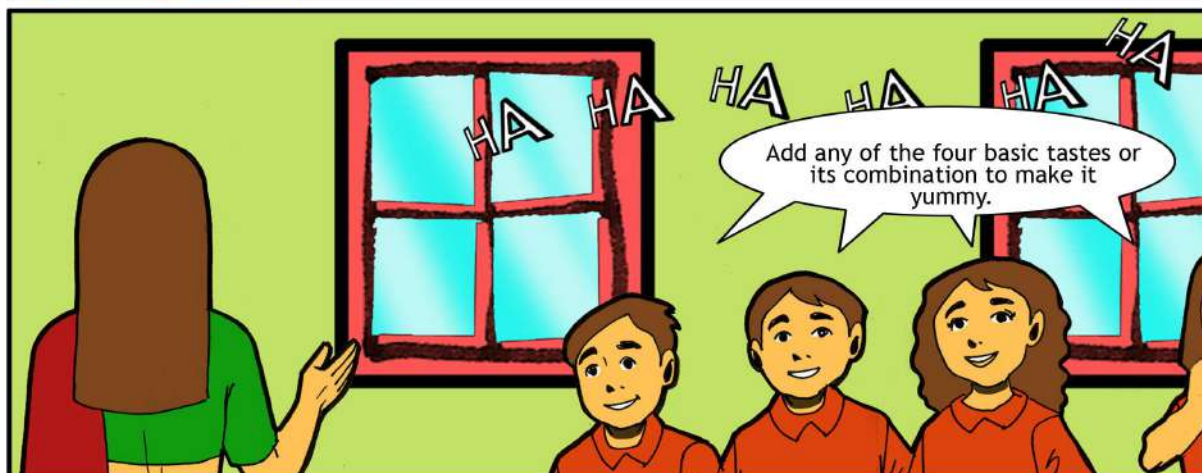


Lesson 13, Exploring taste



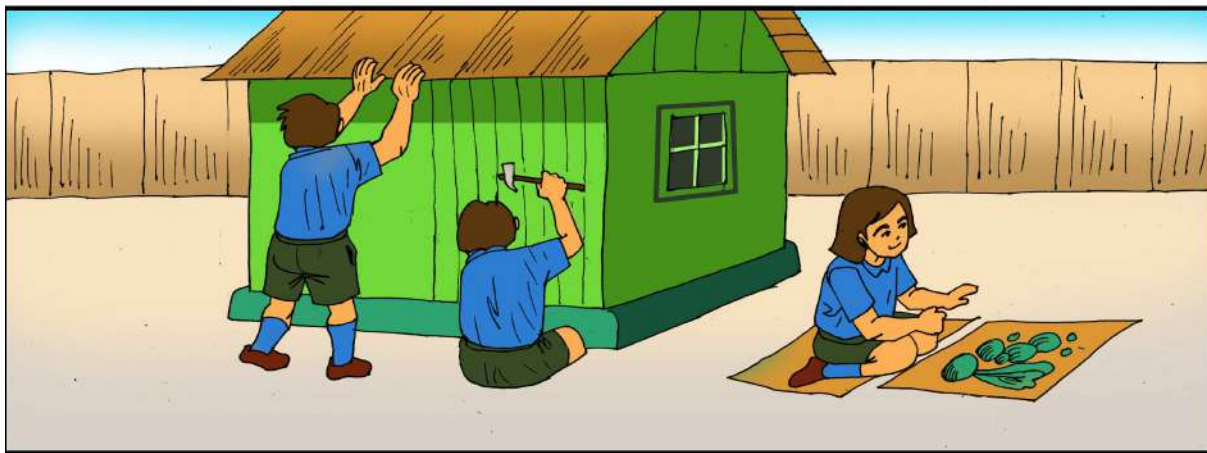
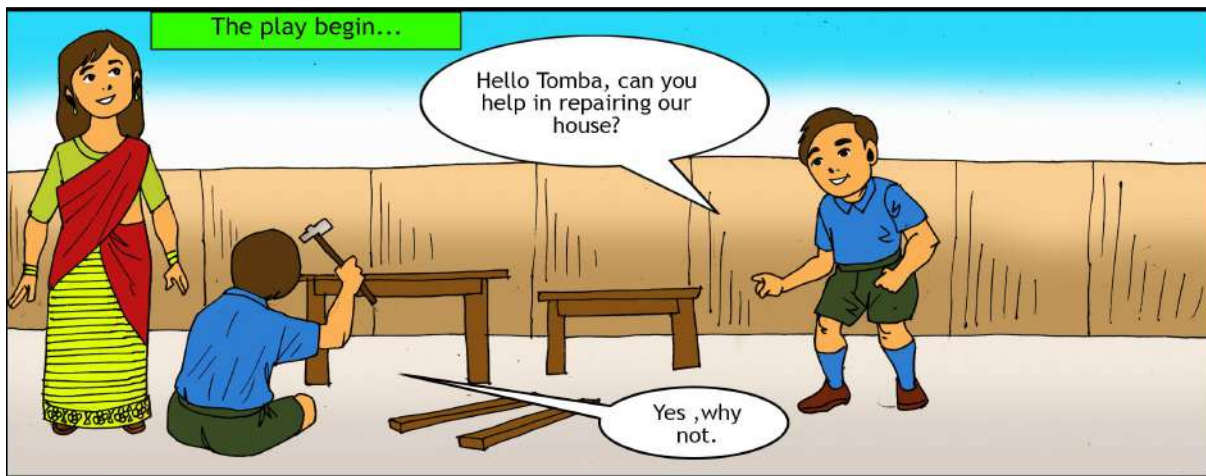


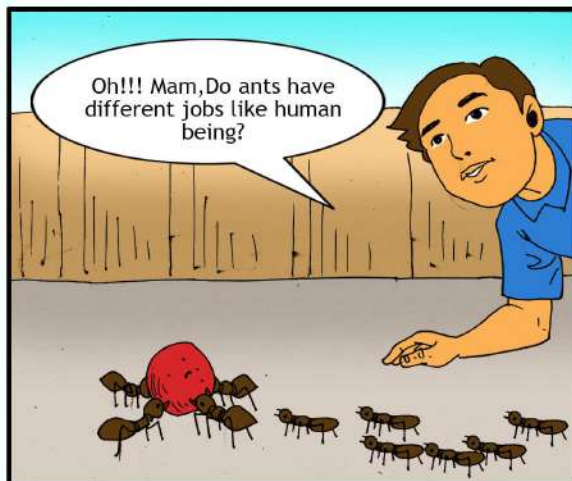


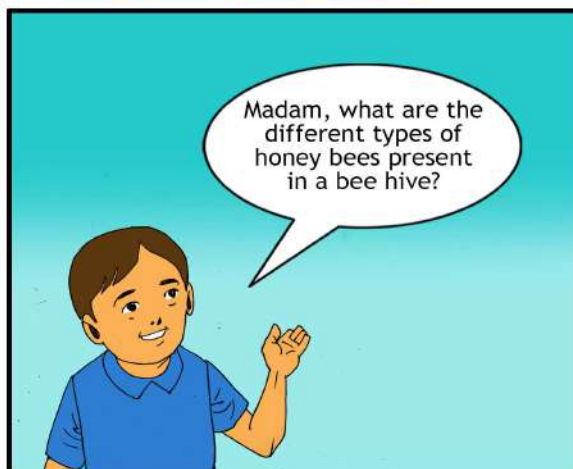
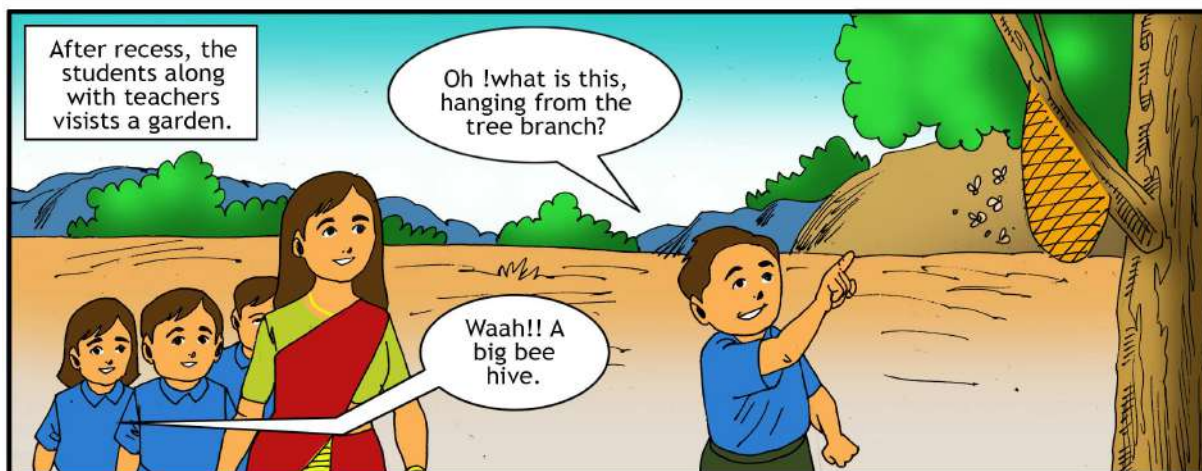


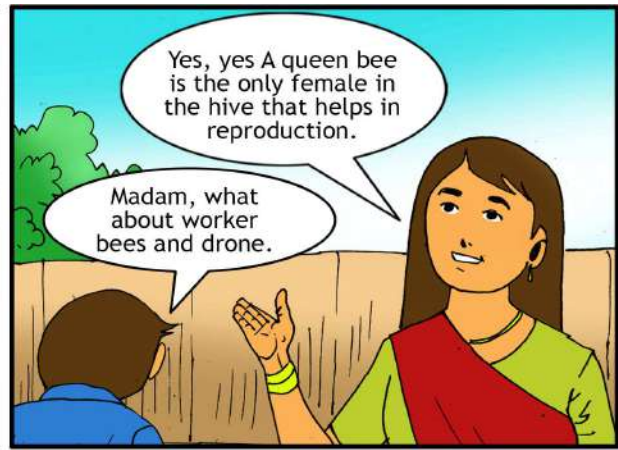
Lesson 14. A Shelter for everyone.



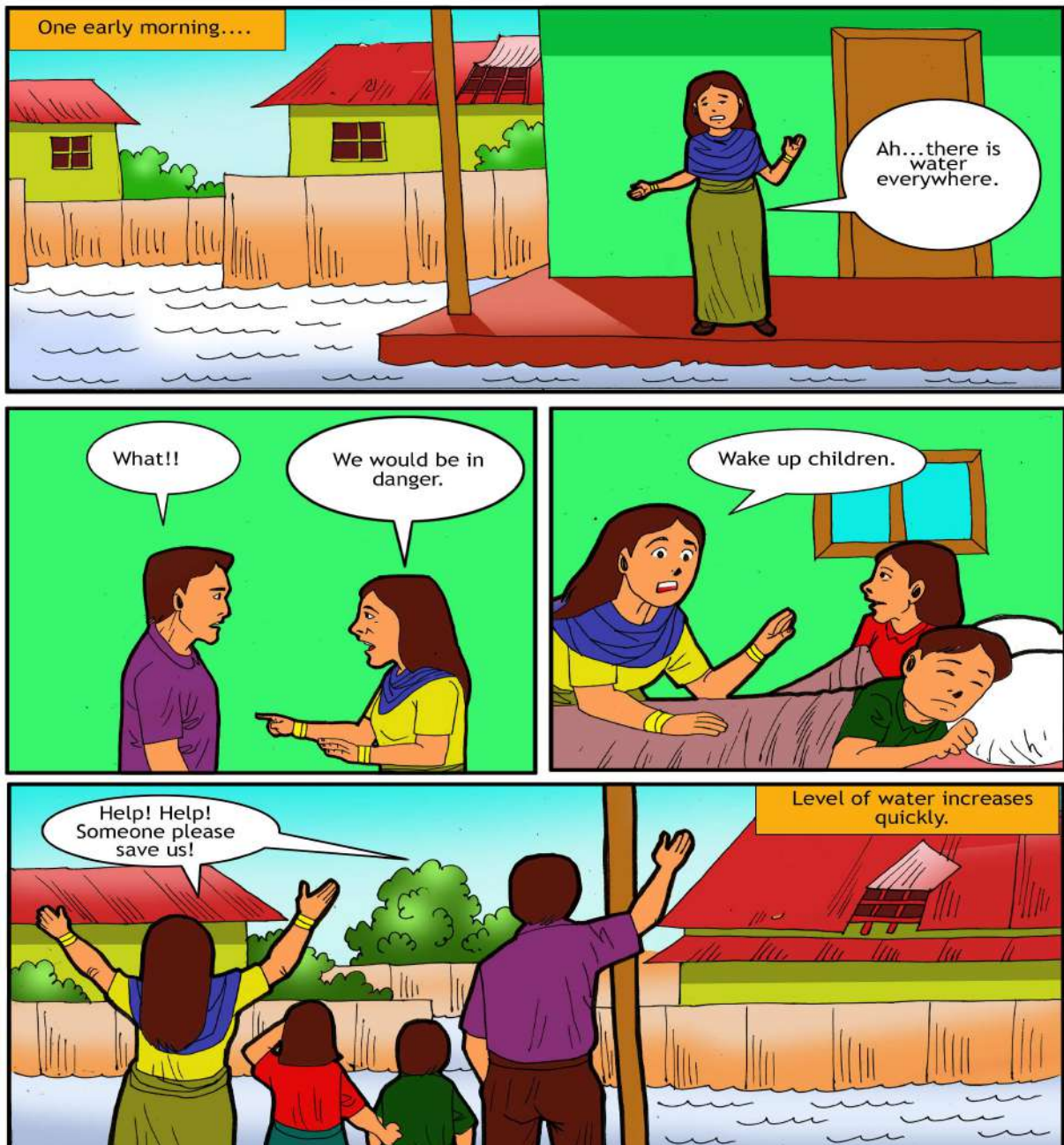






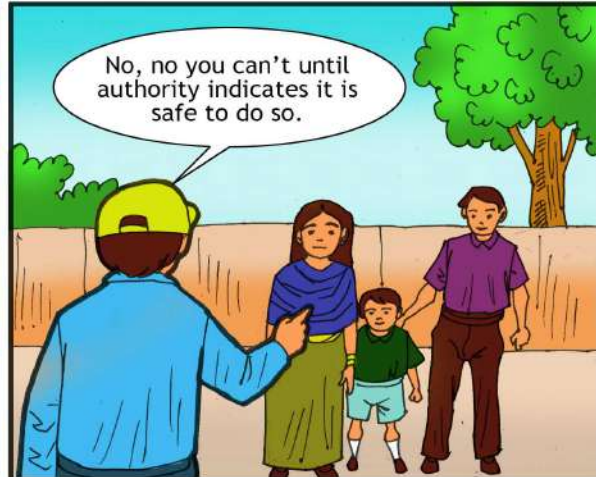


Chapter 15, Disaster, Interdependence and Health.





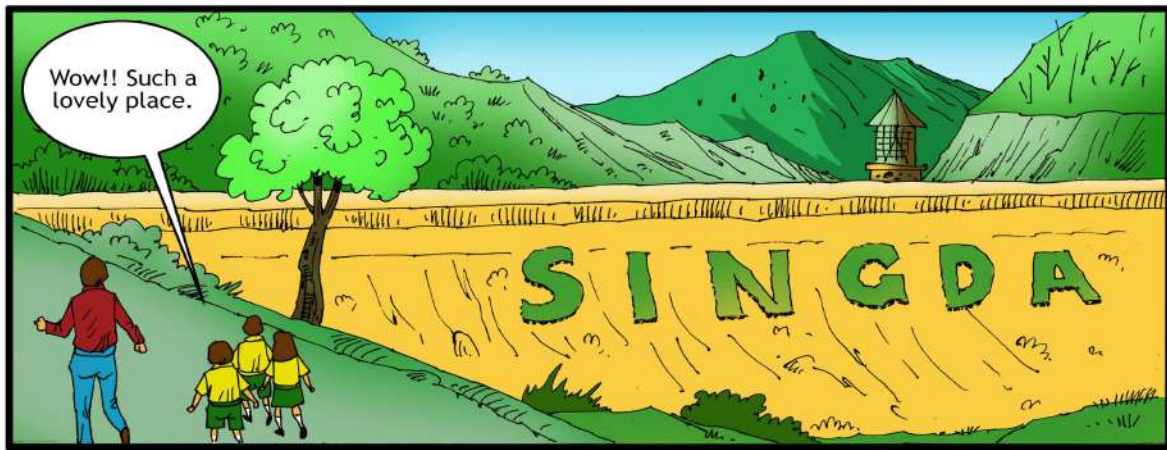
About a week the water level reduces gradually.



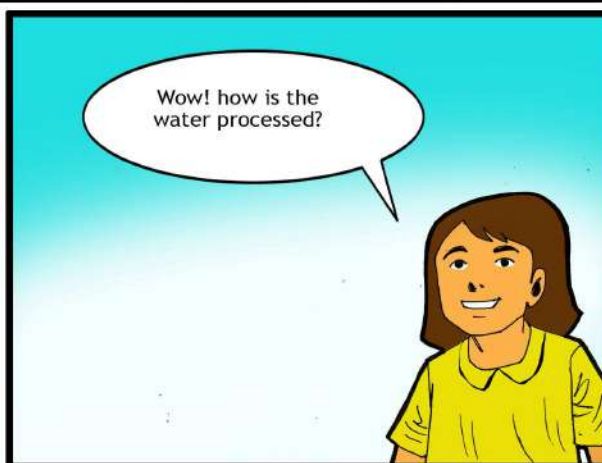
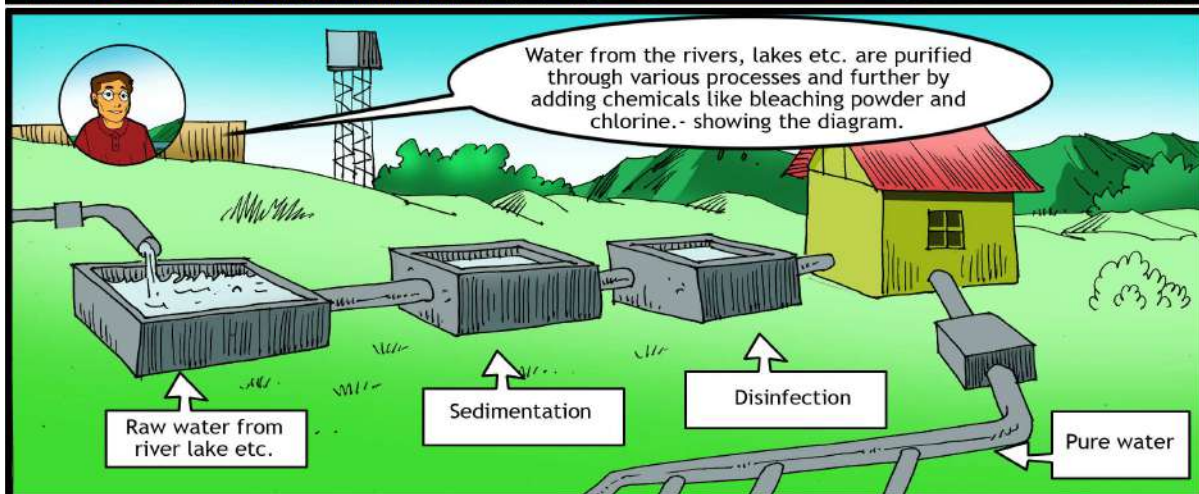
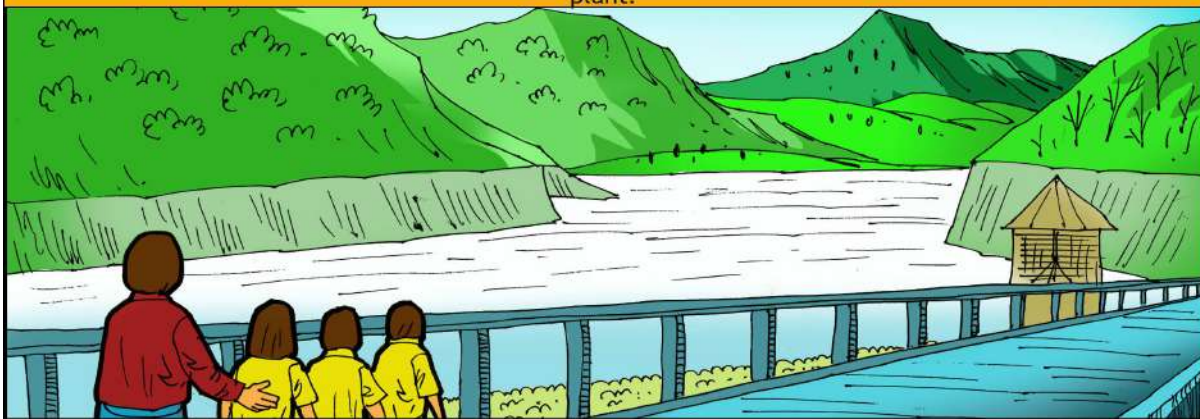
After flood, they organise free health camp and observe Ibohal and some victims were suffering from malaria and other water borne disease.

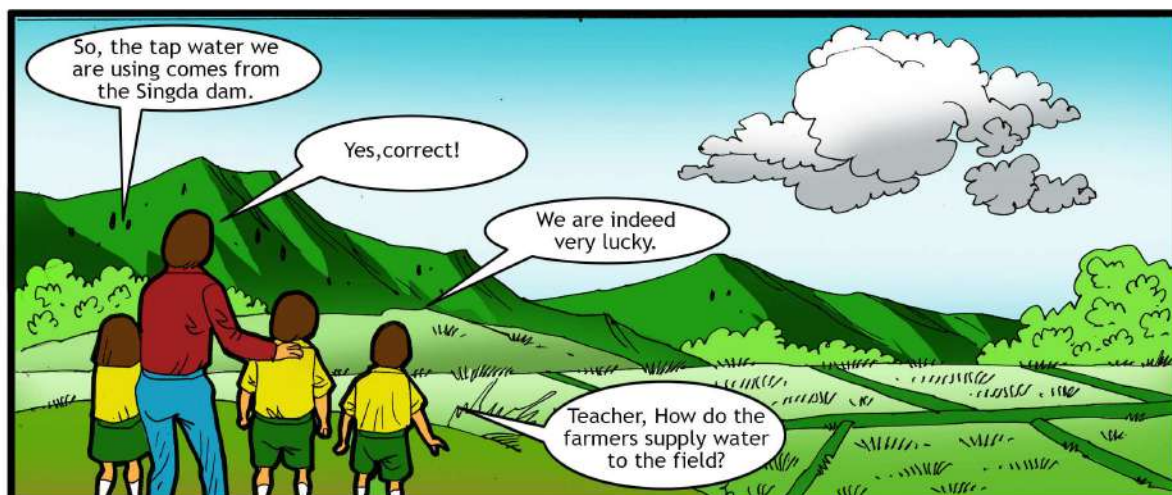
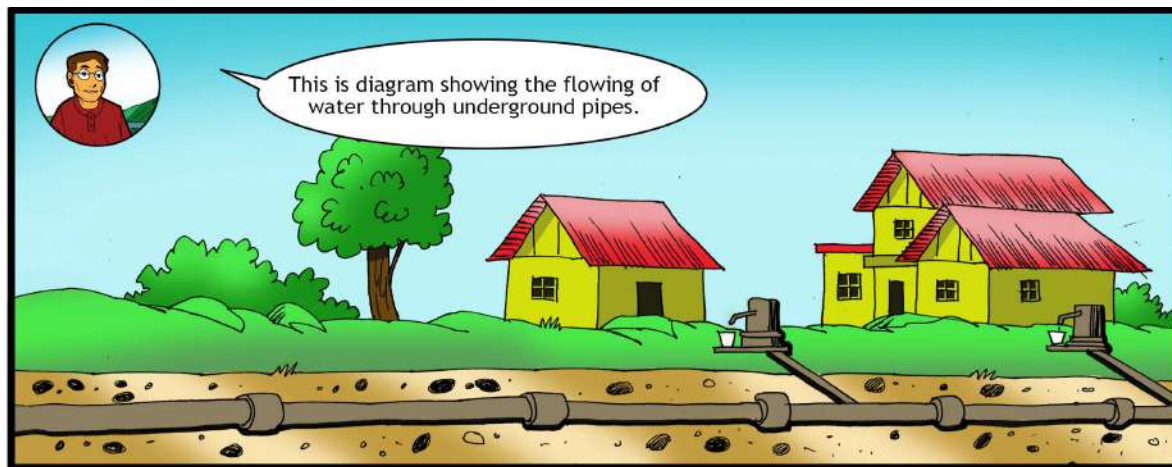


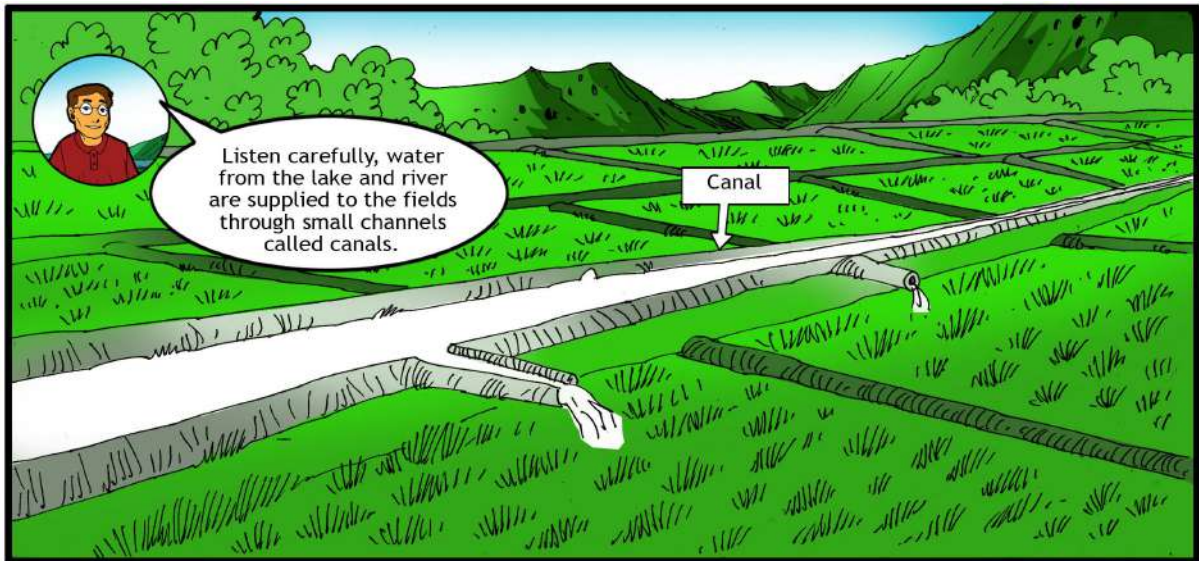
CHAPTER 16- WATER FLOW



To show the process of water treatment, the students were brought at the site of the water treatment plant.





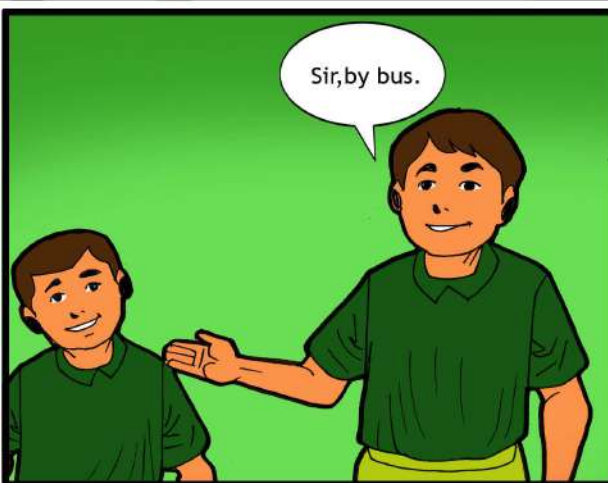


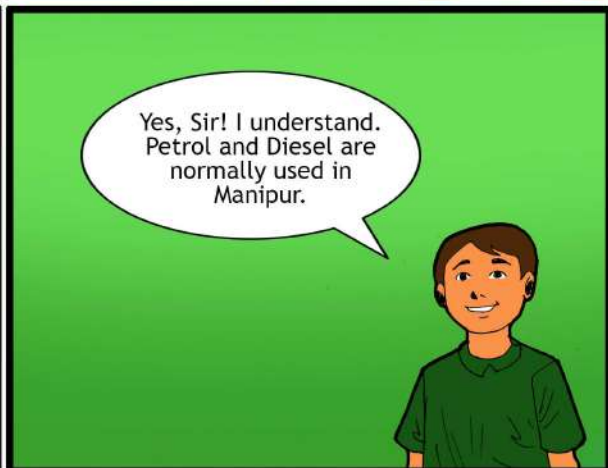
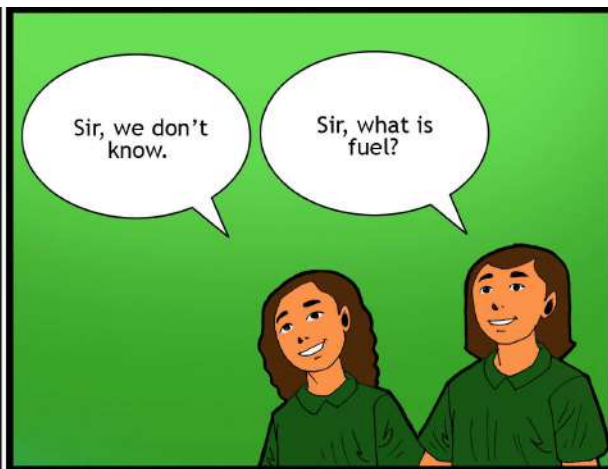
Tips-

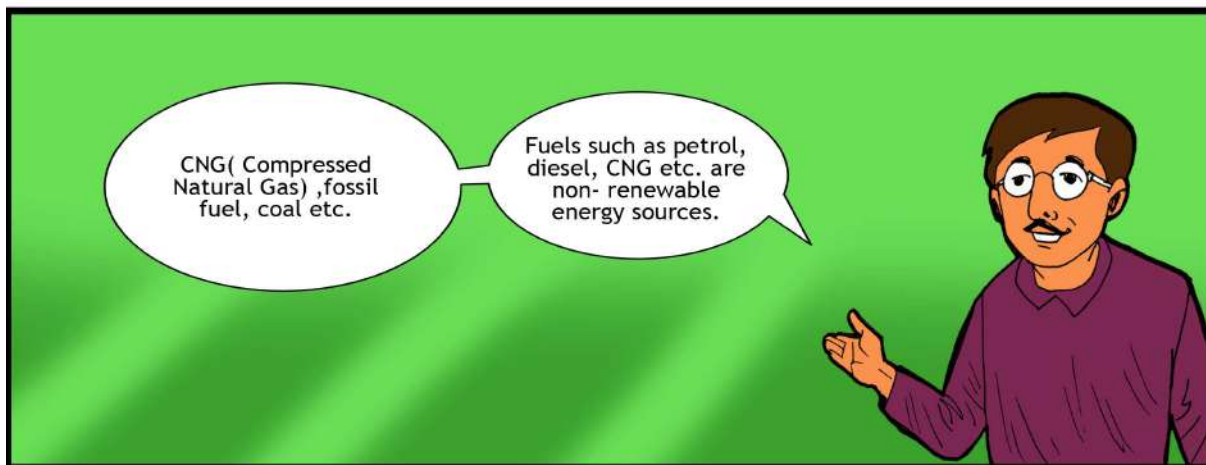
1. Supplying water to the fields where crops are grown is known as irrigation.
2. Water is stored in an artificial lake by constructing a dam across a river.

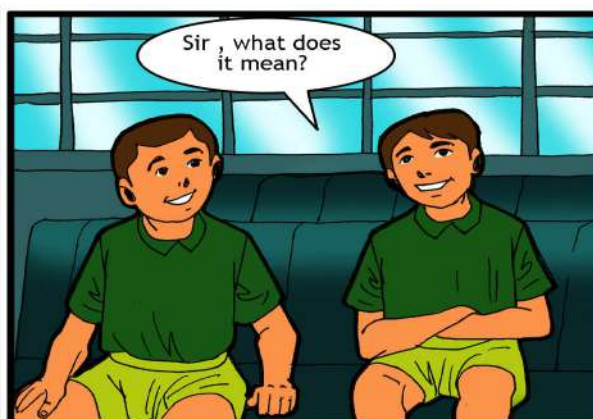
CHAPTER 17, FUEL FOR VEHICLE







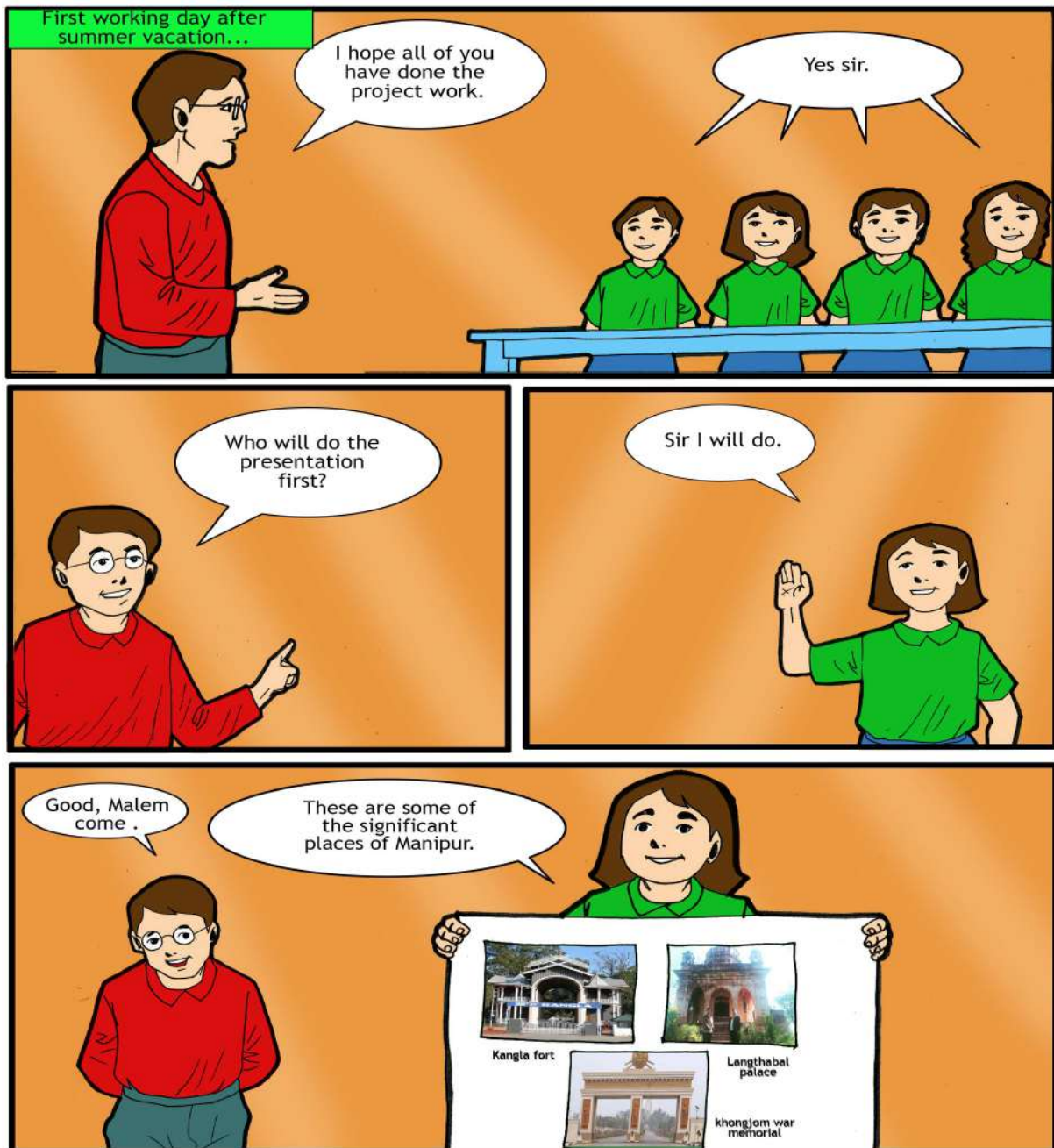


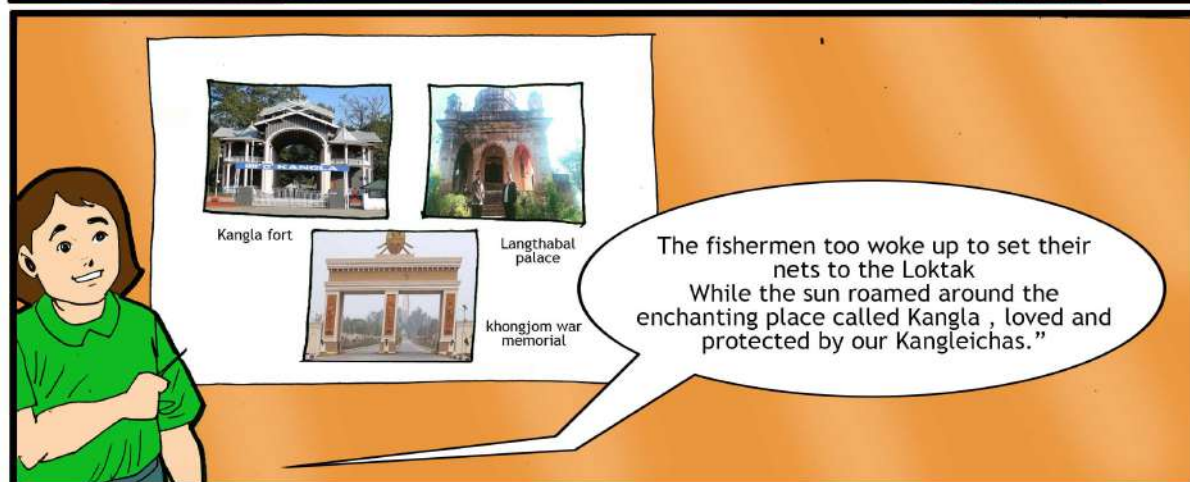
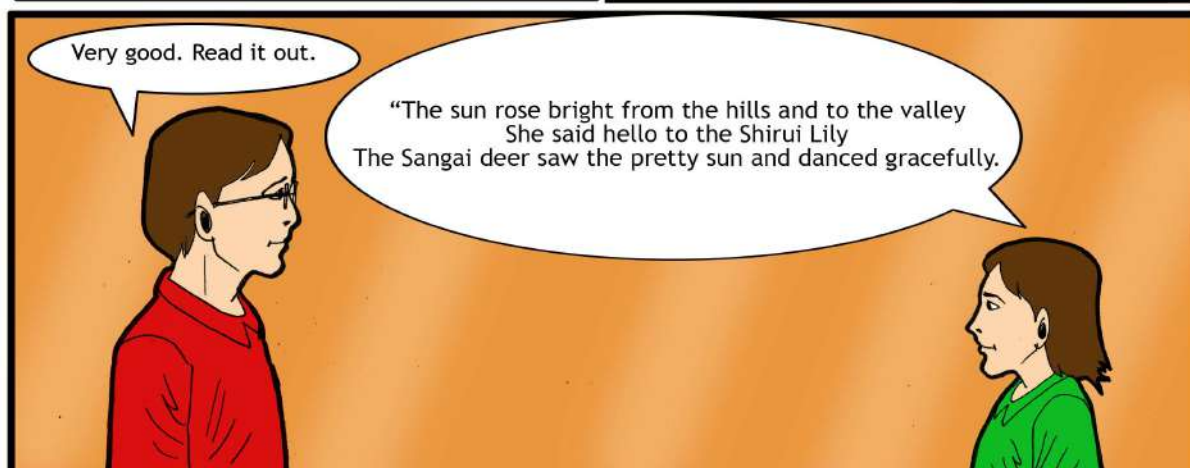


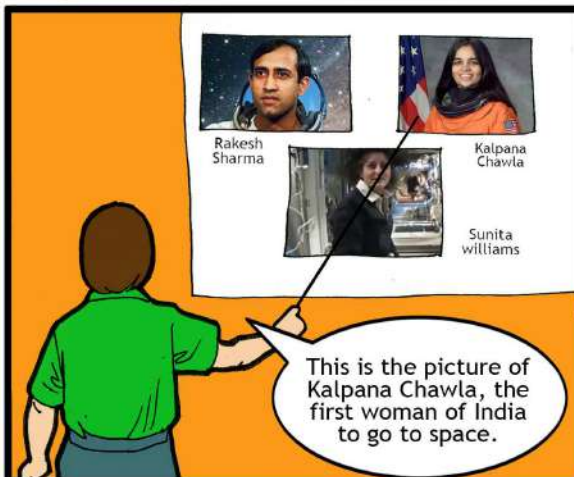
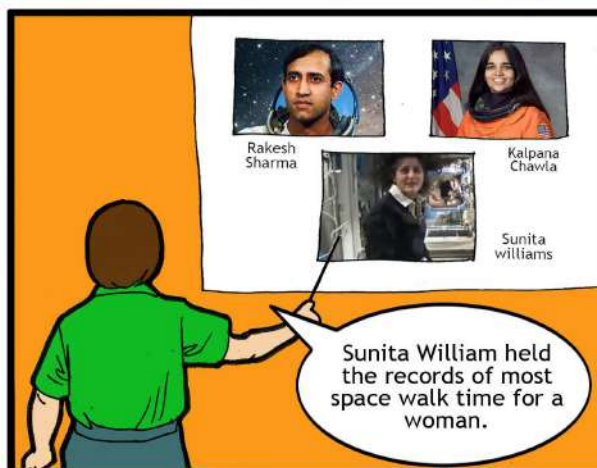
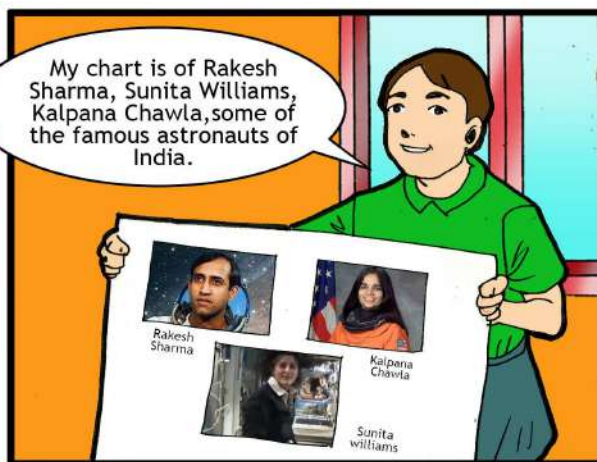
Tips:-

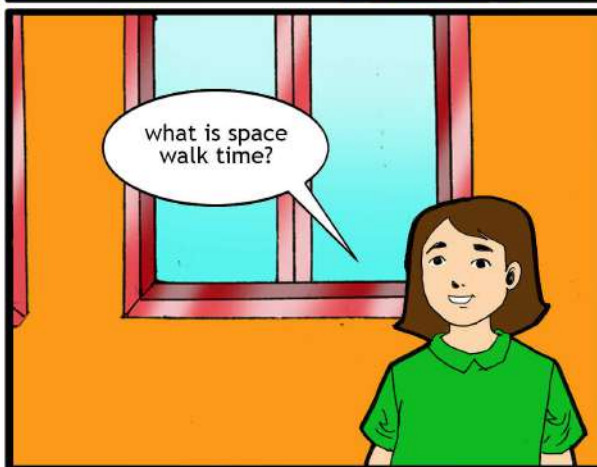
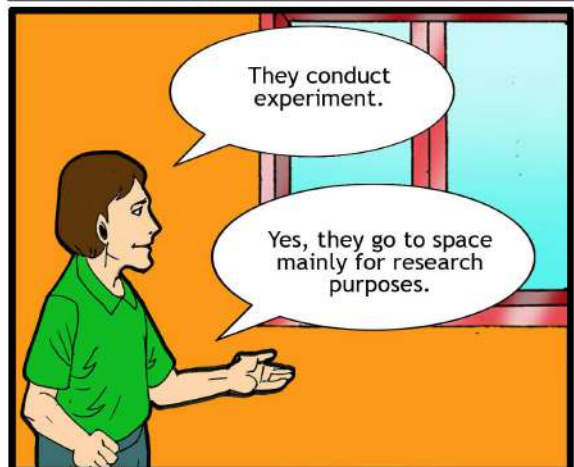
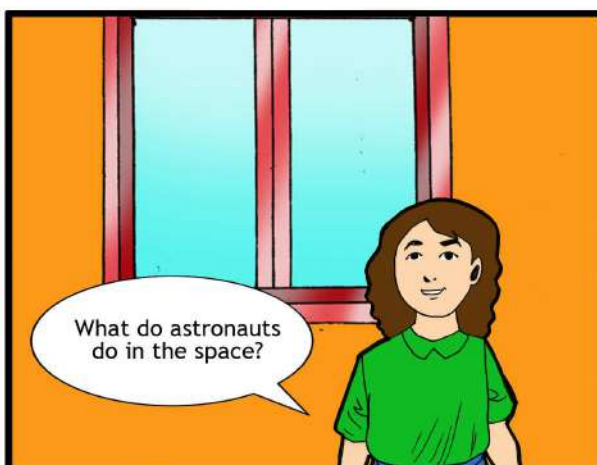
1. In Delhi, almost all the public transport vehicles use CNG.
2. Fuels like natural gas, biogas, solar energy, hydrogen, ethanol and electricity etc. are regarded pollution-free.
3. The word petroleum comes from Latin words Petra, meaning rock and Oleum, means oil.
4. Idling refers to running a vehicle's engine when the vehicle is not in motion.

CHAPTER 18, UNFORGETTABLE EXPERIENCE









Story 19. Grow Your Own Food.







RIGHT TO EDUCATION

"I HAVE THE RIGHT TO GO TO SCHOOL"



Free entitlement under RTE Act 2009:

Free text books, uniforms, free special learning and support materials for CWSN

Provision for 'Special Training'

- If I complete 6 years, I can enter a class with children of my own age.
- If I missed some months or years of school, I can still go to a class in which children of my age are studying. Even If I am 10 years old, I can still go to an age appropriate class and get 'Special Training' to catch up.

SAMAGRA SHIKSHA, MANIPUR

SAMAGRA SHIKSHA, MANIPUR

The Integrated Scheme on School Education



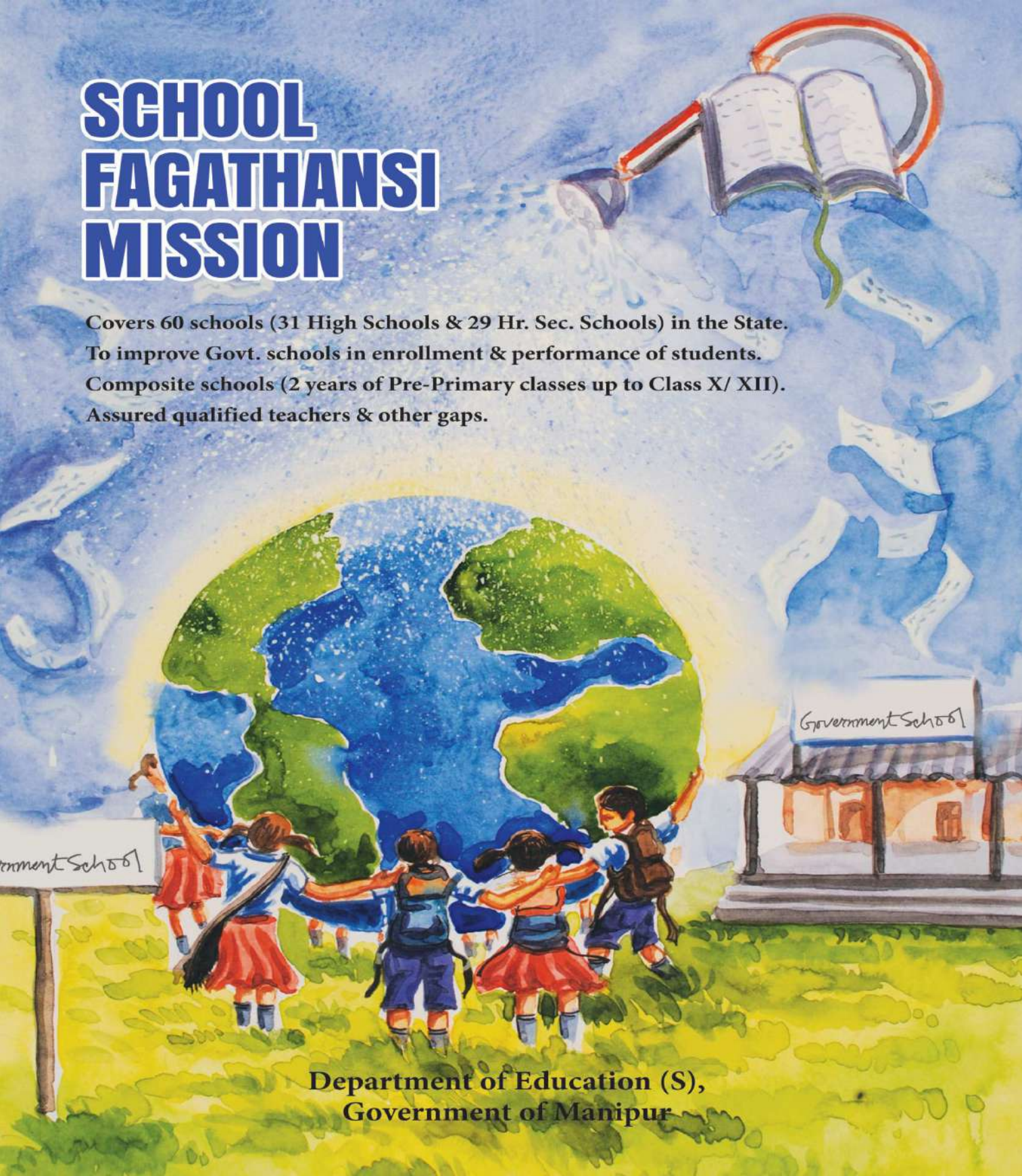
The Integrated Scheme on School Education envisages the 'School' as a continuum from pre-school, primary, upper primary, secondary, secondary to Senior Secondary levels.

The Vision of the Scheme is to ensure inclusive and equitable quality education from pre-school to senior secondary stage.

We support Girl Child by opening special schools for them where, apart from Education, fooding and lodging are provided.

SCHOOL FAGATHANSI MISSION

Covers 60 schools (31 High Schools & 29 Hr. Sec. Schools) in the State.
To improve Govt. schools in enrollment & performance of students.
Composite schools (2 years of Pre-Primary classes up to Class X/ XII).
Assured qualified teachers & other gaps.



Department of Education (S),
Government of Manipur