

** Enhanced Edition
NEP 2020 Guidelines*

FACTS

of

SCIENCE

Teacher Manual



3



Unit I : THE LIVING WORLD

Chapter - 1 — Living and Non-Living Things

Page 11

A. Tick (✓) the correct option:

1. Plants 2. touch-me-not 3. fish 4. hen

B. Fill in the blanks

1. crawl 2. grow 3. stomata 4. reproduction

C. Answer the following questions (Page 12)

1. Birds fly, fish swim and snakes crawl.
2. Plants breathe through small openings under their leaves called stomata.
3. The process by which living things produce more of their own kind is called reproduction.

Critical Thinking (Page 12)

1. Move 2. Feel

Picture Based Activity (Page 12)

Living Things	Non Living Things	
	Natural Things	Man-made things
1. Bird	1. Sun	1. Table
2. Baby	2. Water	2. Book
3. Fish	3. Cloud	3. Boat

Things To Do

Activity to be done by individual learner as Home extended project.

Life Skills

1. Activity can be done as an inter subject and craft activity.
2. Same as above.

Subject link

1. Neck 2. Teeth 3. Eye
4. Legs 5. Hands 6. Arms

Unit II : PLANT WORLD

Chapter - 2 — Parts of a plant

Page 19

A. Tick (✓) the correct option:

1. Root 2. Stem

B. Answer the following questions

1. Tap root and Fibrous root.
2. Stem carry water and minerals from roots to all parts of plant like leaves.
3. The process by which green plants make their food with the help of air, water and sunlight is called photosynthesis.

Critical Thinking

Yes, plants can live without human because plants are not dependent on humans for food or oxygen. They prepare their own food by the process of photosynthesis and can respire oxygen which they evolve as a by-product during photosynthesis.

Picture Based Activity

1. Leaf blade 2. Stomata 3. Flower 4. Seed

Things To Do

Practical activity to be done at home with parental guidance.

Life Skills

Plucking flowers is not correct because flowers are an essential part of plant which is a living being that helps in pollination and reproduction of plant by producing seeds as well as fruits. Moreover plants feel pain as we pluck flowers.

Subject link

To be done as on home assessment activity as a project work under parental guidance.

Unit III : ANIMAL WORLD

Chapter - 3 — Eating Habits of Animals

Page 25

A. Tick (✓) the correct option:

1. Zebra 2. Herbivores 3. Both 4. To bite food

B. Fill in the blanks

1. Carnivore 2. Omnivores 3. Beak 4. Tongue

C. Write 'Yes' or 'No'

1. Yes 2. Yes 3. No 4. No

D. Answer the following questions

1. Herbivores eat plant and plant products.
2. Animals that eat both plant and animal products are called omnivores.
3. The bringing back of food into the mouth to chew it properly by some herbivores like cow, sheep after swallowing it without chewing properly is called chewing of cud.
4. Omnivores have sharp front teeth called incisors like herbivores and also have pointed canines with large and flat back teeth called molars and premolars.

Picture Based Activity

1. Horse 2. Cow 3. Squirrel 4. Frog 5. Dog

Things To Do

To be done by students under parental guidance.

Life Skills

This shows that people are careless and do not assort waste into bio-degradable and non-biodegradable waster.

Subject link

To be done by students under parental guidance.

Unit III : (Continued)

Chapter - 4 — World of Birds

A. Tick (✓) the correct option:

1. Body feathers 2. Duck 3. Fish 4. Talons

B. Match the following:

1. Duck 2. Eagle 3. Peacock
4. Wood pecker 5. Parrot

C. Give two examples of each:

1. Herons, Egrets 2. Hawk, Eagle 3. Crow, Sparrow 4. Duck, Pelicans

D. Answers the following questions

1. Feathers help a bird to fly.
2. a. Short, hard and horny beak
b. Strong and chisel shaped beak
c. Curved beak
d. Broad and flat beak
3. The three types of feathers in birds are Body feathers, Down feathers and Flight Feathers.
4. Birds build nest to protect themselves and their young ones and to lay eggs.

Critical Thinking

1. Then the muddy water they scooped will not flow and leaving the plants and insects.
2. Parrots talk by modifying the air that flows over syrinx to make sounds and by imitating human voice.

Picture Based Activity

1. Eagle 2. Sparrow 3. Wood pecker
4. Parrot 5. Duck

Things To Do

1. Ranganathittu - Karnataka 2. Kumarakom - Kerala 3. Nal sarovar - Haryana
4. Keoladeo - Rajasthan 5. Okhla Bird Sanctuary - Delhi

Life Skills

Do the activity at home with help of parents.

Subject link

Do the activity at home with help of parents.

Unit IV : (OUR BODY)

Chapter - 5 — The Human Body

A. Tick (✓) the correct option:

1. Tissues 2. 206 bones 3. Movement

B. Answer the following questions

1. Cell is the building block of human body.
2. Provides shape and support to body and protects the delicate inner organs of our body.
3. Food on entering the stomach is digested into simpler form and is absorbed by body.
4. Lungs absorb the oxygen from the air. We breathe in and give out carbon dioxide.

Critical Thinking

1. No, because it is made of dead cells.
2. Because brain controls all the functions of all body organs.

Picture Based Activity

1. Digestive system 2. Respiratory system 3. Circulatory system
4. Excretory system

Things To Do

1. To be done by parental assistance.
2. To be done by parental assistance.

Life Skills

To be done by parental assistance.

Subject link

To be done by parental assistance.

Chapter - 6 — Safety and First Aid

A. Tick (✓) the correct option:

1. Open wires 2. Left side 3. Red 4. Matchsticks

B. Fill in the blanks

1. Wet 2. Zebra 3. Wait 4. Immediate

C. Answer the following questions

1. These are the rules that we must follow in order to prevent accidents and injuries at school, home, or road and playground.
2. The immediate help given to an injured person before doctor's arrival.
3. a. (i) Handle sharp objects carefully.
(ii) Stay away from electrical gadgets and switch
b. (i) Always follow the rules of game.
(ii) Do not play near barbed wires or thorny bushes
c. (i) Do not jump on benches.
(ii) Do not run in the corridors.
d. (i) Always walk on left side of road.
(ii) Always walk on footpath.
4. We should give him/her first aid.

Critical Thinking

1. Because it can injure us.
2. We can fall down from terrace.

Picture Based Activity

1. ✓ 2. ✗ 3. ✗ 4. ✗

Things To Do

To be done by parental assistance.

Life Skills

To be done by teacher assistance.

Subject link

1. Police 2. Doctor 3. Traffic police

Chapter - 7 — Housing and Clothing

A. Tick (✓) the correct option:

1. Both 2. Clean 3. In dustbins 4. Cotton clothes

B. Fill in the blanks

1. House 2. Windows, Ventilators
3. Germ killer 4. Winter

C. Give one word for the following

1. House 2. Dustbin 3. Fabric 4. Natural fibre

D. Answer the following questions

1. We need a house to protect us from bad weather, thieves and unwanted animals.
2. Different materials used to make a house are bricks, cement, steel, wood and glass.
3. a. (i) It should have windows and ventilators.
(ii) There should be netting in doors and windows.
4. Natural fibres are obtained from plants and animals, whereas man-made fibres are manufactured by man.

Critical Thinking

1. To direct the smoke away from the stove and out of house.
2. To protect us from the harsh weather conditions in summer and winter season.

Picture Based Activity

1. Cotton clothes, Man made clothes, Rainy season clothes
2. Summer, Winter, Monsoon
3. Cotton, Polyester, Rubber

Things To Do

To be done by parental assistance.

Life Skills

To be done by teacher assistance.

Subject link

To be done by teacher assistance.

Unit V : (SPACE AND ENVIRONMENT)

Chapter - 8 — Air and Water

A. Tick (✓) the correct option:

1. Breeze 2. Oxygen 3. Liquid 4. Storm

B. Answer the following questions

1. Air contains water vapour, dust and gases like oxygen, nitrogen and carbon-dioxide.
2. Air is useful to breathe, helps plants to prepare their food, helps to run windmill to generate electricity, helps ship to sail and dry our wet clothes.
3. It is used for drinking, washing, watering the plants and bathing.
4. The cycle which involves the change of water into water vapour and then to water again is called water cycle.

Critical Thinking

1. No.
2. No, because storm will make the kite wet and thread will break.

Picture Based Activity

To be done by teacher guidance.

Things To Do

To be done by parental assistance.

Life Skills

1. Use water used to wash vegetables to water your kitchen garden.
2. Reuse unwanted ice.
3. Recycle aquarium water.

Subject link

1. Use public transport and carpool.
2. Turn off light when not in use.
3. Recycle and Reuse.
4. Say no to plastic bag.
5. Avoid usage of crackers.
6. Use filter for chimneys.

Chapter - 9 — Weather and Season

A. Tick (✓) the correct option:

1. Both of these 2. Winter 3. Summer season 4. Spring

B. Answer the following questions

1. Weather conditions can be hot, cold, windy or rainy.
2. During windy days, breeze blow and make the weather pleasant. Storms causes wind to blow at very high speed and is accompanied by lightning and thunder.
3. Season is the period during which the weather remains almost the same for many days.

Critical Thinking

1. He is talking about winter season.
2. Cold weather

Picture Based Activity

1. Summer season 2. Monsoon season
3. Winter season 4. Autumn season

Things To Do

To be done by parental guidance.

Life Skills

It is advised so because in rainy days harmful micro-organisms grow rapidly that escalates the food spoilage process.

Subject link

Weight of mangoes	=	1 kg 000 g
Weight of Litchi	=	0 kg 500 g
Weight of Jamun	=	0 kg 250 g
Weight of Watermelon	=	+ 2 kg 000 g
Total weight of fruits	=	<u>3 kg 750 g</u>

Chapter - 10 — The Earth

A. Tick (✓) the correct option:

1. Round 2. Rotation 3. $365\frac{1}{4}$

B. Answer the following questions

1. The rotation of the earth causes day and night.
2. The spinning movement of the earth about its axis is called rotation.
3. The movement of the earth around the sun in an orbit.
4. Rotation of earth around the sun causes 24 hours. Thus, one day is equal to 24 hours.
5. The movement of the earth around the sun is an orbit.
6. The rotation of the earth causes day and night.

Critical Thinking

Your age in years is equal to the number of times the earth has revolved around the sun since you were born.

Picture Based Activity

To be done by parental guidance.

Things To Do

To be done by parental guidance.

Life Skills

To be done by parental guidance.

Subject link

To be done by parental guidance.

Chapter - 11 — Solar System

A. Tick (✓) the correct option:

1. Star 2. Stars 3. 8 4. Air

B. Fill in the blanks

1. Mercury 2. Star 3. Sun 4. Satellite

C. Answer the following questions

1. It is an instrument that helps us to see far-off objects like the stars, the moon and the planets clearly.
2. The planets are the heavenly bodies which move around the sun.
3. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune.
4. These are the heavenly bodies that revolves around some planets.
5. The different shapes of the moon are called phases of the moon.
6. These are a group of stars that resemble a pattern or design.

Picture Based Activity

To be done with teachers and parental guidance.

Things To Do

To be done with teachers and parental guidance.

Life Skills

It is because it did not meet the 3 criteria that IAU uses to define a full sized planet.

Subject link

To be done with teachers and parental guidance.

Unit VI : (MATERIALS AND MATTER)

Chapter - 12 — Rocks and Soil

A. Tick (✓) the correct option:

1. Earthworm 2. Chalk 3. Loamy soil 4. Top soil

B. Fill in the blanks

1. Soil 2. Clayey 3. Moisture 4. Diamond

C. Answer the following questions

1. Soil is formed by the breaking down of rocks.
2. The different layers of soil are top-soil, subsoil, parent rock and bedrock.
3. Soil helps in plant growth, provide food and home to animals and helps to make things like bricks, glass, cement, etc.
4. Sandy soil, clayey soil and loamy soil are the different types of soil.
5. Humus is made from decayed plants and animals present in soil. These organic material make the soil fertile.
6. Because clayey soil is made of very fine particles that stick together and has no space between.

Critical Thinking

1. It comes from the precipitation and irrigated water.
2. Because it has a poor water retaining capacity.

Picture Based Activity

To be done by parental guidance.

Things To Do

To be done by parental guidance.

Life Skills

To be done by parental guidance.

Subject link

1. Soil, crop 2. Manures 3. Loamy soil

Chapter - 13 — Light, Sound and Force

A. Tick (✓) the correct option:

1. The sun 2. Luminous objects 3. Ray 4. Force

B. Fill in the blanks

1. light 2. Luminous 3. Shadow 4. Larynx

C. Answer the following questions

1. Sun
2. Objects that can produce their own light is called luminous object and objects that do not have light of their own is called non-luminous object.
3. The dark shape of an object made on a surface formed when an opaque object comes in path of light is called shadow.
4. Sound which is unpleasant to hear is called noise.
5. Force is a push or pull.

Critical Thinking

1. Moon is a non-luminous object that do not not have light of its own but reflect the light of sun falling on it.
2. I have pushed chair and table.

Picture Based Activity

1. Sun 2. Candle 3. Flame

Things To Do

To be done by parental guidance.

Life Skills

To be done with teacher's guidance.

Subject link

1. Rustling 2. Rustle 3. Pitter patter
4. Thunder clouds 5. Chirp 6. Thump

Chapter - 14 — Measurement

A. Tick (✓) the correct option:

1. Measurement 2. Quantity 3. Weighing balance

B. Fill in the blanks

1. Metre 2. Mass 3. Milliliters

C. Answer the following questions

1. Mass is the amount of material an object contains Gram, Kilogram are the units for measuring mass.
2. Capacity is the quantity of a liquid which a vessel can hold. Litres, Milliliters are the units for measuring the capacity.
3. Time is measured using a clock or watch. Its units are second, minute, hour.
4. A unit is a fixed quantity that is used as a standard of measurement.
5. We do not measure things with handspan because there is no standard size of hand span as some people have bigger or smaller palms than others.

Critical Thinking

- Capacity of Mug = 250 ml
Capacity of Bucket = 3 l = $3 \times 1000 = 3000$ ml
No. of times we need to use a mug to fill the bucket = $3000 / 250 = 12$ mugs.

Picture Based Activity

- Foot ball = 125 g
Badminton cock = 4.75 to 5.50 g
2 Gloves = $340.194 \times 2 = 680.388$ g
Cricket ball = 163 g
Tennis ball = 56 – 59.4 g
Tennis racket = 285 g

Decreasing Order

2 gloves > Tennis racket > Cricket ball > Foot ball > Tennis ball > Badminton cock

Things To Do

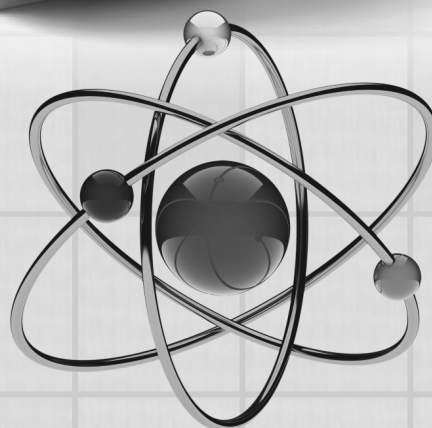
With the help of teacher and parents complete it.

Life Skills

Value of Time is important because it gives motivation, increases productivity, reduce stress level during exams, reduce burden on the students, increase quality of work and helps in attaining more with fewer efforts.

Subject link

- | | |
|--------------|---------------------------|
| Objects | Length |
| Notebook | 4.33×8.26 inches |
| Pencil | 4.3 cm |
| Pencil box | 10 inch |
| Water bottle | 20.3 cm |



YELLOW BIRD PUBLICATIONS PVT. LTD.

EDUCATIONAL PUBLISHER

Regd. Off. : F-214, Laxmi Nagar, Delhi-110 092

Tel. : 91-11-4758 6784, 91-97116 18765

E-mail : yellowbirdpublications@gmail.com • info@yellowbirdpublications.com

Website : www.yellowbirdpublications.com