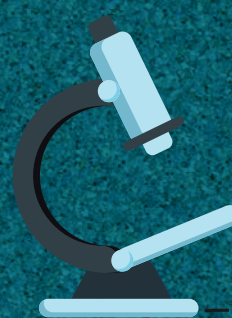
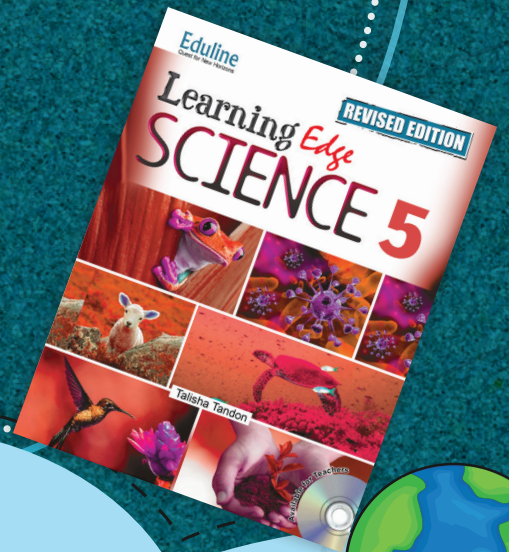


Includes
the essentialities of
NEP 2020

LEARNING Edge

SCIENCE

Classes 1-8



with Teachers Manuals and CDs





Eating healthy

Lesson highlights

- Food groups
- Main meals
- Healthy eating habits

Get, set and go...

Have fun solving this crossword on some healthy food and drinks.



Food contains different useful substances called things that give us energy, help us grow and pro

42

Get, Set and Go

offers warm-up activities based on previous knowledge, observation skills and thinking skills.

Lesson Highlights

list the main objectives of the lesson giving it a definite direction.

17 Forests: Our Lifeline



Image 17.1 Conserve forests: Conserve life

An area with high density of trees is known as a forest. A forest is a system which is composed of plants, animals and microorganisms. Forest is the habitat for a variety of living beings. Many plants, animals and microbes live in the forest.

In this chapter, we will learn about:

- Forest structure
- The significance and usefulness of forests

FOREST STRUCTURE

A typical tree forest is composed of two distinct layers, namely **overstory** (or canopy) and **understory**. The understory is further subdivided into the shrub layer, herb layer and also the moss layer and soil microbes. In some complex forests, there is also a well-defined lower tree layer. A tree can be divided into two parts: trunk and branches. The branches of a tree make its **crown**. Crowns of several trees, in the forest, make the canopy. In dense forests, the



Image 17.2 The forests of Central Africa are home to more than 8000 different species of plants

Lesson highlights

- Earth
- Sun and the Solar System
- The movements of the Earth
- Moon
- Stars and constellations
- Asteroids and comets
- Artificial satellites

Teacher's Jukebox

- A ball and a torch to demonstrate how days and nights are caused by the rotation of the Earth.
- A model of the Solar System

Teacher's Jukebox (Classes 3 to 5)

includes various teaching aids for the teachers.

Quick Quiz

encourage the reinforcement of fundamental concepts addressed in the lesson.

QUICK QUIZ

Underline the correct answer.

1. Which of the following is not true about rocks?
a. they are hard
b. they melt easily
c. they are found on earth's crust
2. What is the term for molten rock found inside the Earth?
a. fossils
b. lava
c. pepper
d. magma
3. The Earth's surface is made up of enormous slabs of rocks known as plates. What is the scientific term for these plates?
a. rocky plates
b. earthy plates
c. tectonic plates
d. igneous plates
4. All rocks are very hard.
a. serious
b. joking
5. This type of rock is formed as a result of volcanic activity:
a. sedimentary rock
b. metamorphic rock
c. igneous rock
d. none of these
6. What sort of rock are we likely to find where a river used to flow?
a. igneous rock
b. sedimentary rock
c. metamorphic rock
d. mineral rock

Recap

- There are many types of plants.
- Big plants are called trees.
- Small plants with woody stems are called shrubs.
- Small plants with soft stems are called herbs.
- Climbers are plants that need support to stand and grow.
- Creepers have weak stems and grow along the ground.
- Water plants grow in water.
- Desert plants grow in deserts and have thorns.
- Plants grow from seeds. They need air, water, sunlight and soil for their growth.
- Leaf, flower, stem, fruit and roots are the different parts of a plant.
- Leaves are of different shapes and sizes.

Recap

lists essential points for brush up.

Discover

inculcates the longing for knowledge.

Discover

Visit <http://www.who.int/mediacentre/factsheets/fs311/en/index.html> and find out how the WHO defines overweight and obesity.

Value Point

is a subtle effort to instil important values and life skills.

Value Point

Save water because every drop counts!



Green Steps

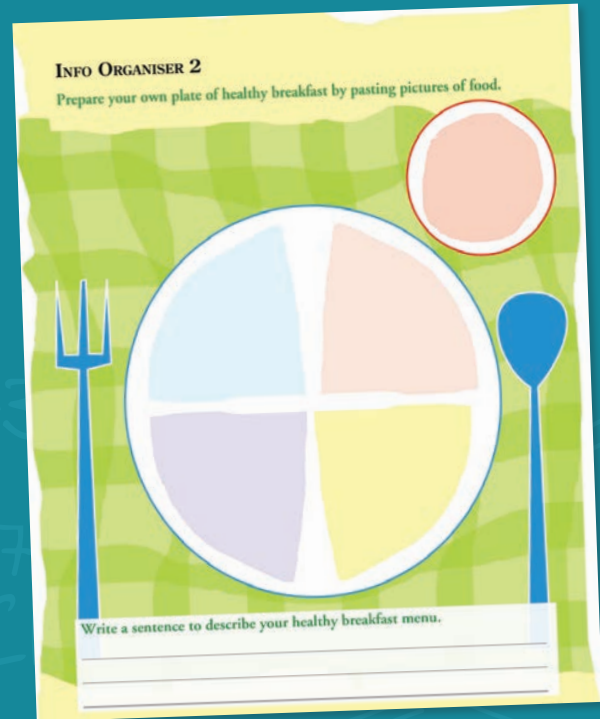
draw attention towards the role of science in conserving the environment.

Green steps

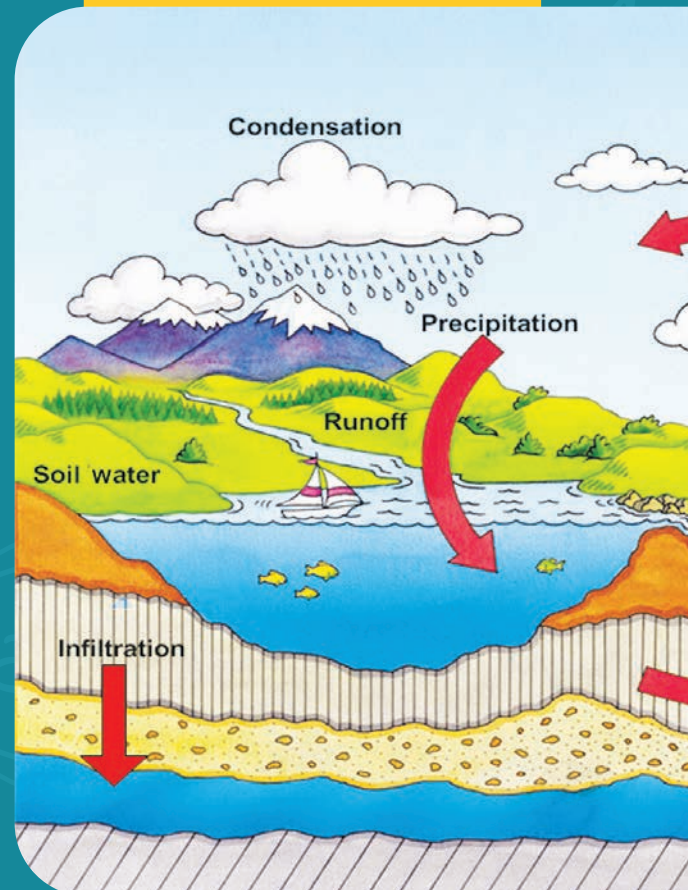
We have a limited deposit of minerals on Earth. Let us use them carefully without wasting any.

Info Organisers

polish the skill of organising information and remembering better.



WATER CYCLE



Big Breakthrough

highlights landmark scientific and technological discoveries and inventions.

Big Breakthrough!

The Fahrenheit scale was developed by the 18th-century German physicist Daniel Gabriel Fahrenheit. He originally took as the zero of his scale the temperature of an equal ice-salt mixture and selected the values of 30° and 90° for the freezing point of water and normal body temperature, respectively. Later, these were revised to 32° and 98.6°.

HOTS

queries target to sharpen thinking and analysing skills.

HOTS

1. Minerals have different properties that help scientists to identify them. Which is not a property used to identify minerals?
 - a. Colour
 - b. Composition
 - c. Size
 - d. Lustre
2. How do you think a stone erodes? Will it be a fast or a slow process?

Facts

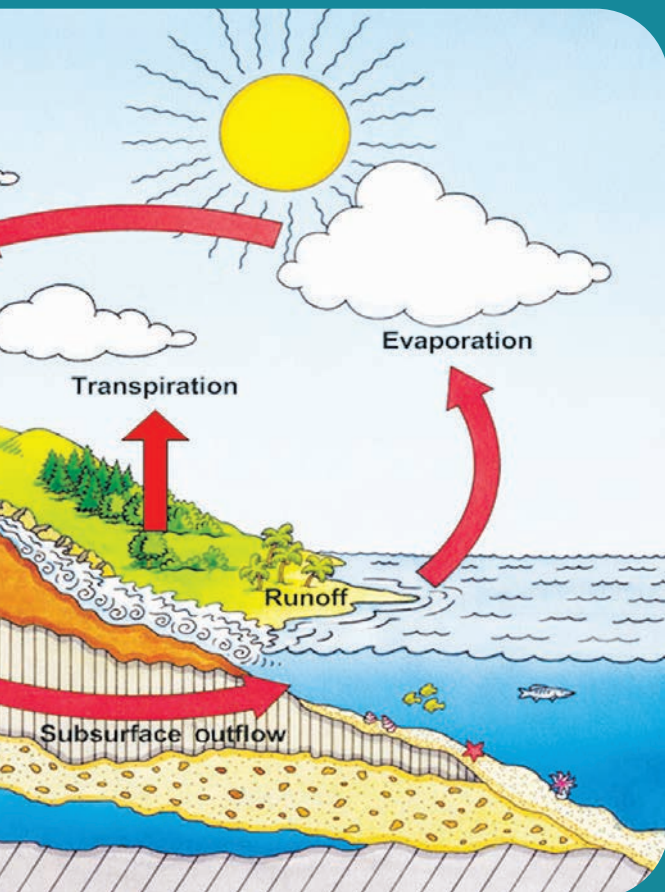
present curious information bites from the wide and progressive world of science.

Fact

Most of the garbage generated in our houses can be recycled and reused. Kitchen waste such as leftover foodstuff, vegetable peels, and spoilt or dried fruits and vegetables can be recycled by putting them in the compost pits dug in the garden or neighbourhood parks.

Attractive Illustration

Attractive illustrations to capture the interest of children.



Life Skills

is a subtle effort to instil important values.

Life skill

Advantages of including complex carbohydrates in the daily diet.

Vegetable fibre found in complex carbohydrates has a wealth of benefits. It prevents colon cancer, regulates bowel movement and helps in combating high blood glucose levels, so it is good for diabetics.

Keywords

define the meanings of important terms and concepts.

KEYWORDS

- **Monomer** The repeating unit of a polymer
- **Polymer** A large compound made up by joining of many smaller compounds
- **Thermoplastics** Plastics which soften on heating and can be remoulded
- **Thermosetting plastics** Plastics which do not soften on heating and cannot be remoulded

Practice Time

A. Day-to-day Science

1. Make some music with water chimes.

Things needed: 8 glasses of about the same size and shape, metal teaspoon, water and an adult's help

Steps:

- Line up the eight glasses.
- Fill the first glass about $\frac{1}{8}$ th full of water for the high note, the second glass should be $\frac{1}{4}$ full, the third glass should be $\frac{3}{8}$ ths full for the next note, and so on.
- Each glass should sound like a note on the music scale (do, re, mi, fa, sol, la, ti, do). You may need to tune the music scale by adding or removing water with the teaspoon until each note rings well.

Day-to-day Science

encourages scientific research and investigation by drawing the learner's attention towards his/her immediate environment and day-to-day occurrences.

Term-I (Half-Yearly)

CHAPTERS 1-8

M.M. – 80 marks
Total Time: – 3 hrs
6×1=6

A. Underline the correct answer.

1. The shoulder and hip joints are examples of this:
a. pivot joint
b. ball and socket joint
c. gliding joint
d. hinge joint
2. Which of these facts is not correct?
a. It is the largest part of the body
b. It helps us stand upright
c. It helps us move
d. It helps us breathe
3. Which of these is not a communicable disease?
a. malaria
b. cholera
c. typhoid
d. diphtheria
4. Seed that gets dispersed by wind is
a. poppy seeds
b. wheat
c. coconut
d. mango
5. The nutrients necessary for growth are
a. fats
b. proteins
c. carbohydrates
d. vitamins

National Science Olympiad Sample Questions

1. Where will you put termites in the following table?

	Two pairs of legs	Three pairs of legs
With wings	P	Q
Without wings	R	S

- a. P
b. Q
c. R
d. S
2. If your diet is deficient in sour fruits then you are supposed to suffer from:
a. rickets
b. beri beri
c. scurvy
d. night blindness
3. Which of the following traits is/are inherited?
i. talking in different languages
ii. love for reading
iii. love for knitting
iv. colour of eyes
v. love for music
a. (iv) only
b. (i) and (iv)
c. (i), (iv) and (v)
d. (iv) and (v)

Term Papers

range of questions for practice

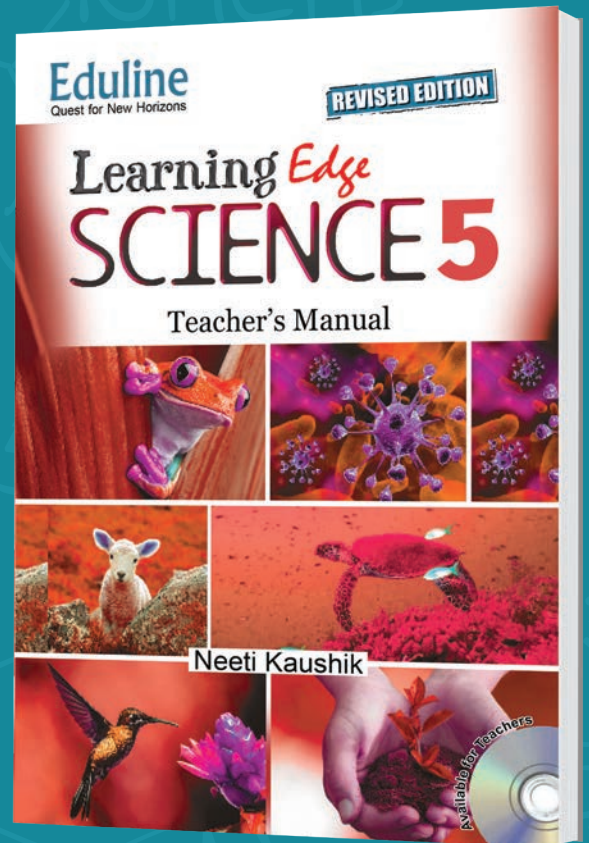
National Science Olympiad

helps students to prepare for competitive examinations

Teacher's Manual 1-8

Teacher's manual for each class containing a support to the teacher.

Complete answers to the questions of chapter-end exercises provided.



3. Domestic animals

Previous knowledge: Animals that are tamed and kept by humans for work, food or as pets are called domestic animals.

The lesson ahead:

- Ducks, sheep, hens and cows are some farm animals. We get farm products such as eggs and milk from them.
- Domestic animals that stay in our homes are called pet animals. Dog, cat, rabbit and fish are some common pets.

Lesson plan

Content	Objective/Aim	To do/Method of teaching	Duration
Farm and pet animals	To understand that farm and pet animals help us in many ways	After reading out the lesson, play a riddle-quiz on farm and pet animals. You may divide the class into two teams and conduct the quiz between the teams.	25 min.
Animals as sources of food	To let the children understand that animals are a big source of food	Describe a familiar food that we get from animals and let the children guess what you are referring to. For example: "This food is generally white on the outside. It has a shell. It is laid in a nest."	20 min.
More help from animals	To know that besides being a source of food, animals are helpful to us in many other ways	Display a collage on the theme while you explain it	20 min.

Teaching aids: Collage on 'Different ways in which animals are helpful to us'

Activities

Classroom:

1. Invite the children to talk about their pets or ask them to imagine their favourite pet and talk, if they don't have any, and how they

Practice Time

- A. 1. pancreas 2. taste buds 3. salivary glands
4. heterotrophs 5. heterotrophic
- B. 1. F 2. T 3. T 4. F
5. T 6. F
- C. 1. b 2. d 3. e 4. a 5. c
- D. 1. b 2. d 3. b 4. b 5. d
6. b 7. c
- E. 1. Cud 2. Stomach 3. Large intestine
4. Mastication
- F. 1. Ingestion: It is the process of intake of food.
2. Digestion: It is the process of breaking down of solid complex food into simple and soluble forms.
3. Absorption: It is the process of passing of digested food into blood vessels in the small intestine.
4. Assimilation: It is the process of absorbed food in complex forms like proteins.
5. Egestion: It is the periodic removal of waste materials from the

Model Test Papers-1

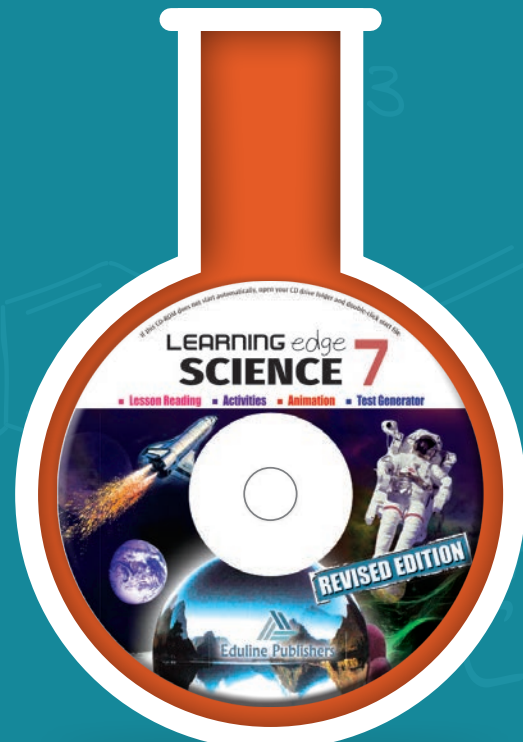
Duration: 2 hours

Maximum Marks: 60

- A. Choose the correct answers. $1/2 \times 6=3$
1. Radiation of heat takes place only in
a. solids b. liquids c. gases d. none of them
 2. The process by which green plants prepare their own food is known as
a. respiration b. symbiosis
c. photosynthesis d. all of these
 3. In amoeba, the process of digestion is known as
a. stomach b. pseudopodia
c. tentacles d. phagocytosis
 4. Number of incisors present in an adult is
a. 2 b. 4 c. 8 d. 16
 5. The pigments present in a leaf are
a. lamina b. stomata
c. chlorophyll d. leaf stalk
- B. Fill in the blanks. $1/2 \times 6=3$
1. Taking out of food particles is known as

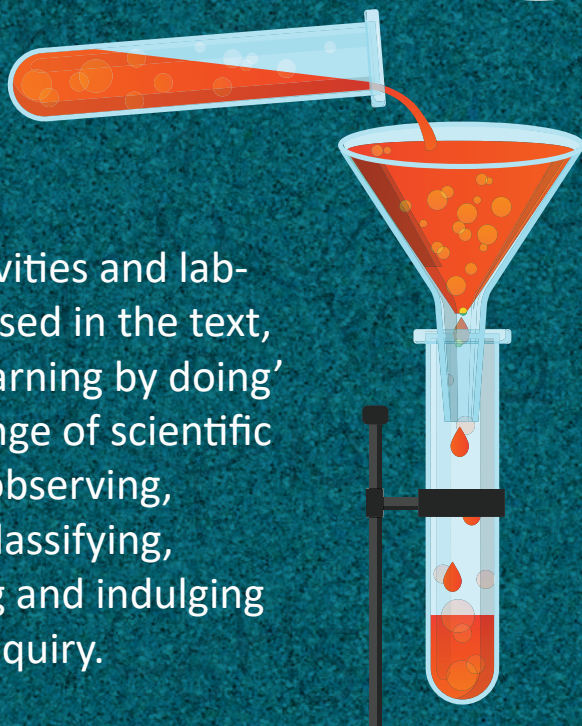
TEACHER'S CD

TEST GENERATOR
INTERACTIVE ACTIVITIES
WORKSHEET
ANIMATIONS



Plan:
To separate insoluble impurities from water

Supplies:
Two test tubes, filter paper, funnel and water with insoluble impurities



Work it out:
Keep the empty test tube in a test tube holder. Fix the funnel with filter paper on it. Pour the impure water (original mixture) from the second test tube slowly.

Lab-time

Hands-on activities and lab-time interspersed in the text, encourage 'learning by doing' and instil a range of scientific skills such as observing, researching, classifying, experimenting and indulging in scientific enquiry.

FILTRATION

Outcome:
While the insoluble impurities (residues) get collected in the filter paper, the pure water (filtrate) gets collected in the test tube that was empty.

What happens:
In this process, dirt and sand (impurities) cannot pass through the filter paper and get accumulated.

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