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PREFACE

Digital transformation involves using digital technologies to transform the curriculum to become more efficient or effective. The idea is to use technology to transform and improve education process while playing a vital role in the progress of the country. **COBOT**, a comprehensive and exhaustive computer series for class **1** to **8** is an endeavour to equip students with necessary repertoire of technical skills and contribute effectively in shaping the digital world.

To make students ready to face the uncertain challenges and to stay tuned with the unprecedented journey of technology, **National Education Policy 2020** has suggested certain skills that should be taught to them. These skills will help them in becoming successful, innovative, adaptable, and productive human beings in the various fields such as Digital Literacy, Coding, Computational Thinking and Artificial Intelligence in the rapidly changing tech-savvy world. This series is based on **Windows 10** and **MS Office 2016** version with a glimpse of **Windows 11** which helps the students to learn the basics of the subject while simultaneously giving them opportunities for exploration and self-learning.

This book incorporates the following features to facilitate the learning process by accomplishing these objectives :

- Proper explanation of concepts is given in each chapter followed with interactive fun-based coding for all levels which empowers them not only to use technology but also to create it.
- **PLUGIN** gives the idea of the chapter at a glance.
- **FACT FOLDER** provide extra information about the concerned topics as well as will help the students to know about the historical development of computers with the flavour of pictorial data regarding inventors and discoverers. It also provides keyboard shortcuts to consolidate the learning process.
- **Fetching Time** includes the different kinds of activities to develop the observation power of the students.
- **THROWBACK** summarizes the whole chapter.
- **Bookmarks** covers the important terms covered in the chapter.
- **Exercise** at the back of the chapter are designed in accordance with an objective and subjective pattern to evolve the conceptual understanding of students.
- **Fun Venture** of every lesson provides an integrated approach to learning and adds value to the long-term growth of a child. It also includes discussion-based questions which helps the students to develop communication and analytical skills. A perfect blend of Sustainable Development Goals (SDGs) which encompass economic, social and environment dimensions.
- **HOTS** put advanced cognitive demand on the students which encourage them to think beyond literal questions.
- **Lab Tech** are given along with the guidelines to enhance the creativity of students.
- **HyperLink** provides online links to breakthrough technologies that are incorporated to access more information on the given topics.
- **Projects** have been added to encourage students to try out for themselves, and to instil in them the confidence before they embark on making their projects using a software.
- **National Cyber Olympiad (NCO)** questionnaire is included to promote awareness about the national level competition.

The amazing world of apps gives a new dimension to this journey of learning. An insight into the captivating branches of augmented and virtual reality, artificial intelligence, big data analytics and machine learning is included. We welcome constructive suggestions and valuable feedback to make this series more relevant, updated and useful for both the teachers and learners.

–Publishers



Creativity

Creativity is an ability to make things happen using skills and imaginations. It is the way of self-expression which can reflect and nurture children's emotional health. There is nothing more satisfying and fulfilling for children than to be able to express themselves openly and without judgment.

Art Integration



A teaching-learning model which is based on learning 'through the arts' and 'with the arts'. It is an approach to engage in a creative process which connects an art form and another subject and to meet evolving objectives in both.



LEADERSHIP SKILLS

Students must be trained to be visionaries and are goal oriented. They should be able to see beyond the task at hand. They involve people and set the steps to achieve it for themselves and for the team.



Communication is the act of giving, receiving and sharing information. Communication skills are needed to speak appropriately with a wide variety of people whilst maintaining good eye contact, demonstrate a varied vocabulary and respect different opinions.

Communication Skills

Critical Thinking



Critical thinking is at the forefront of learning, as it aids a student reflect and understand their points of views to reason better. It helps them base conclusions on facts rather than emotions and ability to go deep into details and examine the different aspects of an issue.

Computational Thinking



It is a problem solving process followed with an interrelated set of skills and practices for solving complex problems. It is a way to learn topics in many discipline by fully participating in a computational world with an approach that integrates across activities.

Scientific Temper

It is a way of life which uses the scientific method followed with an attitude of logical reasoning observing physical reality, questioning, testing, hypothesizing, analysing and communicating.



Problem Solving



Students learn to look at challenges from a fresh perspective. Therefore, they take more calculated risks by examining the questions to find the key ideas, doing the calculations, choosing an appropriate strategy and finding the answers.

Democratic and Human Values



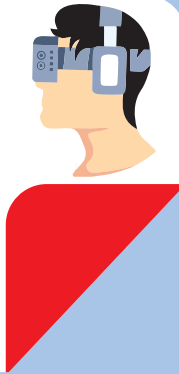
India is a democratic country. Everyone should be treated equally and fairly regardless of their background. Students should learn to have respect and empathy for all human beings.

Objective of NEP 2020

NEP 2020 aims at reforming school education with equal emphasis on all subjects and soft skills while integrating them with new era technology-based learning to prepare the students for the leading role in future. This series has specially been designed to achieve the goal set by NEP 2020, CBA, NIPUN BHARAT and SAFAL 2021.

Spatial Intelligence

An ability to perceive and derive insight from visual data. This is an approach to judge space and visualize its different angles, shapes and fine details, along with recognizing and remembering complete visual scenes. This cognitive process creates an aptitude for understanding visual information in the real and abstract world.



Vocational Skills

It is a non-academic education which provides information on practical activities. These activities are thereby related to a specific trade, occupation or vocation. It prepares students for future job possibilities.



Life Skills



- It is all about working together to improve the overall results and enhancing psychosocial capabilities to deal with the situations and the people in an acceptable manner.

Environment & Health

Students should be aware of the need of a healthy environment and the importance of their own physical and mental health. A healthy environment helps in generating interest and increasing learning capabilities.



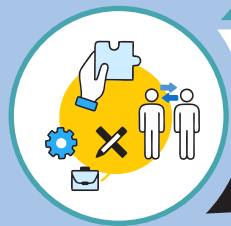
Experiential Learning

Experiential learning is the purposeful engagement with students in direct experience and focused reflection in order to increase knowledge, develop skills and clarify values.



Multidisciplinary Learning

A multidisciplinary curriculum is one in which the same topic is studied from the viewpoint of more than one discipline.



Conceptual Learning

This is to make sure that students are engaged in quality learning around key concepts and central ideas rather than using the traditional method of focusing on topics.



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COMPUTER—AN INTELLIGENT MACHINE

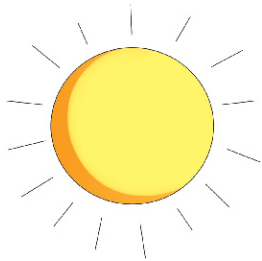


- ✓ Natural Things
- ✓ Man-made Things
- ✓ What is a Machine ?
- ✓ Characteristics of a Computer

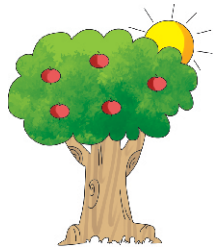
There are many things around us. Some of these things are natural and some are man-made.

NATURAL THINGS

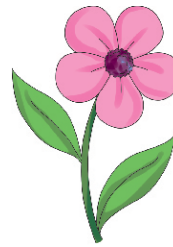
We see so many things around us, such as Sun, trees, clouds, flowers, animals and birds.



Sun



Tree



Flowers



Clouds

All these things are created by nature. They are called **natural things**.

MAN-MADE THINGS

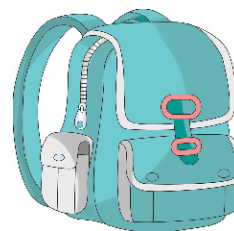
We also see many things around us, such as chair, table, pencil, school bag, ball, mobile phone and car.



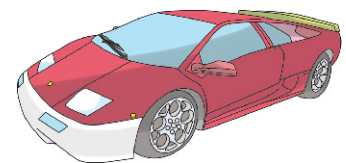
Chair



Table



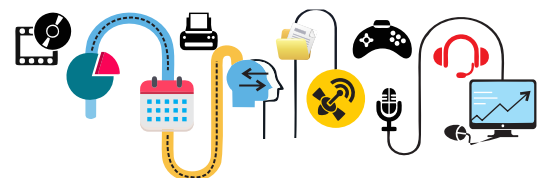
School bag



Car



Computer-1



All these things are created by man. They are called **man-made things**.

WHAT IS A MACHINE ?

We use machines in our everyday life. **Machines** are man-made things. They help us to do different types of work. Machines make our work easy and save time.

There are different types of machines :

Manual machines work with the help of humans. They need our efforts to work.



Sewing Machine



Typewriter



Bicycle

Electronic machines run on electricity.



Television



Washing Machine



Air Conditioner

Some machines run on fuel.



Truck



Car



Bus



Computer-1



Some machines run on batteries.



Clock



Laptop



Mobile Phone



Machines like television and video games entertain us. Vacuum cleaner and microwave oven help us to do work with ease.

CHARACTERISTICS OF A COMPUTER

A computer is a smart and useful machine.

Let us learn some important things about a computer :

I work very fast.

I follow your commands.

I can work fast and save time.

I make the work easy.

I never get tired.

I can play games with you.

I can show you a movie.

I can count.

I can store and remember lots of information.

I can help you draw and paint.



Computer-1



THROWBACK

- ❖ A machine is a man-made device that makes our work easy.
- ❖ There are different types of machines.
- ❖ A computer is a smart and useful machine which works very fast.
- ❖ We can do various things on a computer.
- ❖ A computer store and remember lots of information.



Natural Things : Things which are created by nature are called natural things.

Man-made Things : Things which are created by man are called man-made things.

Machine : A man-made thing which makes our work easy.

Computer : A smart machine that helps us to do various things.

Exercise

A. Tick (✓) the correct option :

- Which one of the following is a smart machine ?
a) Computer b) Boat c) Human
- We can play _____ on a computer.
a) calculations b) games c) machines
- Machines make our work :
a) boring b) difficult c) easier

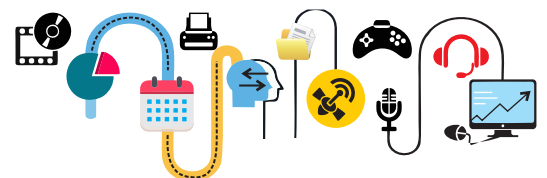
B. Fill in the blanks :

fast mistakes remember man-made

- A computer is a _____ thing.



Computer-1



2. A computer never makes _____.
3. A computer works very _____.
4. A computer store and _____ lots of information.

C. Write T for the true and F for false statements :

1. Nature has created man-made things.
2. All machines run on electricity.
3. Machines save our energy.
4. Computers work very fast.



D. Match the following :



a) Runs on battery

2.

b) Need our efforts to work



c) Runs on Fuel

4.

d) Runs on electricity



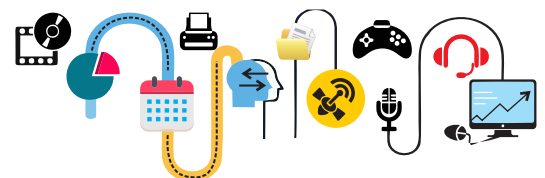
Fun Venture

[Conceptual Learning]

A. Look at the pictures carefully. Colour the box green if it is a manual machine. Colour the box red if it is an electronic machine :



Computer-1



B. Most machines work on resources like electricity and fuel. We should use these resources wisely. List few ways in which you can save electricity and fuel. [Environment and Health]

C. Paste the pictures of the following machines in your notebook :

- Machines which entertain us. [Art Integration]
- Machines which help us to do work with ease.
- Machines which move or travel faster.

HOTS

Aryan wants to create drawing as well he wants to listen to music. Which electronic machine should he use ? [Critical Thinking]




Visit the computer lab and do the following :

[Experiential Learning]

Count the number of computers in the lab.


Do you find your computer lab cooler than your classroom ?

HyperLink

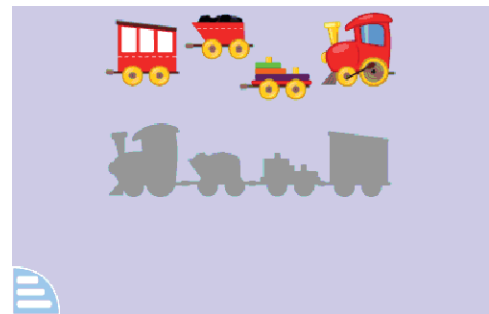
Download GCompris  from the Internet followed by the link (<http://gcompris.net/downloads-en.html>)

[Spatial Intelligence]

Open the Educational Suite GCompris  .

- Click on  icon from the top.
- Click on **Baby Puzzle**.

Move or drag a piece of puzzle with the mouse to the grey-coloured puzzle. Use the **rotation** button if it is required to rotate the piece of puzzle. The level in the game increases in every round. More complicated levels can be found in tangram activity.



Computer-1

