

## Chapter -9

### Technology in our life

#### Science:

Science is the knowledge or study about the natural world through observation and experimentation to describe and explain natural phenomena.

#### Technology:

Technology is the practical application of science to solve the problems of our life. Technology used in many fields such as education, medical care, communication, and transportation.

#### Industrial Revolution:

A rapid major change in an economy marked by the general introduction of power-driven machinery or by an important change in the prevailing types and methods.

#### Scientific Method:

A scientific method is followed by the scientist to investigate and answer questions about the world around us. It includes six steps. They are:

##### **1)Observation:**

By observing the world around you, you can notice the things happen or the phenomena, or you may have a particular topic of interest.

##### **2)Question:**

When we saw, heard, or read something, we may have questions about that. Choose a question That can be answered by making observations or experiment.

##### **3)Hypothesis:**

By using previous knowledge, make a guess that answer your question this is called hypothesis.

##### **4)Experiment:**

Design a test to justify the hypothesis is true or not. List the materials you will need. Write the steps you follow. Collect data and record the result of your experiment.

##### **5)Conclusion:**

Analysis the data you collected and summarized your results. Think about your results that either support your hypothesis or not.

##### **6)Sharing:**

Report your results and share it to others.

**Difference between science and technology:**

| Science  | Technology   |
|--|--|
| 1.Science seeks truth that enrich human life.        | 1.Technology helps in spreading the devices in our civilization.             |
| 2.Science is a organized knowledge.                  | 2.Tecnology is an application of knowledge to various system and sub system. |
| 3.Science is a quest for enlightenment               | 3.Technology teaches the process to enlightenment.                           |
| 4.Science is the process of exploring new knowledge. | 4.Technology is the use of laws of science to create new products.           |
| 5.Science will never change with time.               | 5.Technology changes with time.  |

**Relationship between Science and Technology:**

Science and Technology have different purpose, but they are closely related to each other and both playing a vital role in our life.

Scientists have studied the natural world to explain natural phenomena without a purpose of solving practical problems. They have discovered scientific knowledge such as electricity and light. On the other hand, they apply science knowledge to create products and tools for improving their life which we know as technology.

So, it can be said that science and technology have an interconnection in between them.

**Science and Technology depends on each other- Explain the statement.**

Technology applies science knowledge to create products and tools. Scientists also use technology when they study the natural world. For example, a telescope makes it possible for scientist to see object far into space. Scientists use a microscope when they investigate the objects that can not be seen with naked eyes. So, now a day's science and technology depend on each other.

**Technology in Agriculture:**

People use some technology in agriculture. They are:

- 1.Mechanical Technology
- 2.Chemical Technology
- 3.Biotechnology

| <b>Mechanical Technology</b>  | <b>Chemical Technology</b>   | <b>Biotechnology.</b>  |
|---|--|--|
| a. People invented different types of agricultural tools.                           | a. People use various types of chemicals product such as fertilizers, pesticides, insecticides, etc. | a. Biotechnology is a technology that uses the living systems and living things for human welfare.                               |
| b. These tools helps us to produce a lot of food in the shortest period of time.    | b. These chemicals products helps us to produce more food and resist harmful pests and weeds also.   | b. With the help of this technology farmers can grow plant that are more nutritious, more resistant to pets and more productive. |
| c. Example: - shovel, spade, plough, tractor, irrigation pump and threshing machine | c. example: - urea which is made from nitrogen gas.  | c. Example: Agricultural biotechnology is a way to make plants with special qualities.   |

**Negative effects of Technology:**

1. Air gets polluted when coal is burnt in power plant to produce electricity.
2. Acid rain and global warming occurs when black smoke emitted from the factories mix with air.
3. Soil and water is polluted by the use of chemical fertilizers.
4. Excessive use of pesticides pollutes both soil and water.
5. it helps to make different types of weapon such as atom bombs, hydrogen bombs.
6. Sometimes technology turns into addiction.