

AIMS AND OBJECTIVES OF MATHEMATICS

Aims means goal, the target where we are to reach. Objectives are the ways and means of achieving the aims in a more practical and definite ways. The aims of teaching mathematics may thus be broken into some specify objectives for providing definite learning experiences.

GENERAL AIMS OF TEACHING MATHEMATICS –

1. To enable the child to solve the mathematical problems.
2. To provide a suitable type of discipline in the mind of the learners.
3. To prepare the child for various technical profession.
4. To prepare the child for economic purposeful, productive, creative, and constructive living.
5. To prepare the child for elementary as well as higher education.
6. To develop in the power of thinking and reasoning.
7. To develop in the child the habit of concentration, self-reliance and discovery.
8. To discover in him a scientific attitude to life.

AIMS OF TEACHING MATHEMATIC AT THE ELEMENTARY LEVEL –

1. To provide a good start in learning mathematics.
2. To provide a clarity about fundamental concept and processes of mathematics.
3. To create in pupil and enduring interest in the subject and to develop a love for it.
4. To develop in pupil a taste and confidence for mathematics.
5. To develop in pupil accuracy and efficiency in fundamental processes.
6. To acquaint pupil with the relation of mathematic to their present as well as their future life.

7. To develop in them the habit such as regularity, practice, patience, self-reliance, and hard work.
8. To prepare the pupil for learning those subjects which are intimately related with mathematics.
9. To acquaint pupil with fundamental language and symbolism.
10. To prepare the pupil for learning of mathematics of higher classes.
11. To initiate and develop required discipline in the learner's mind.

AIMS OF TEACHING MATHEMATICS AT ENTIRE SCHOOL LEVEL –

1. **UTILITARIAN AIM** – Mathematics will be taught primarily for its practical values and aims. The student will be given mathematical knowledge and skills needed in his day-to-day life and enabled to make use of that knowledge and skill. This aim makes the study of mathematics functional and purposeful and establishes relation between the subject and practical life.
2. **DISCIPLINARY AIM** - The subject has also to be taught for its disciplinary and intellectual values. It has to aim at providing training to the mind of the learner and developing intellectual habits in him.
3. **CULTURAL AIM** – This aim helps the learner to understand the contribution of mathematics in the development of civilization and culture. It has enabled him to understand the role of mathematics in fine arts and in beautifying human life.
4. **ADJUSTMENT AIM** – It is to help the learner to develop a healthy, purposeful, productive, exploratory and controlling adjustment with environment.
5. **SOCIAL AIM** – It is to help the learner to imbibe essential social virtues.

6. **MORAL AIMS** – It enables the learners to imbibe the attributes of morality.

7. **AESTHETIC AIM** – It is to develop their aesthetic sensibilities, meet their varying interests and help them in the proper utilization of their leisure time.

8. **INTERNATIONAL AIM** – To develop in them international outlook and understanding.

9. **VOCATIONAL AIM** – It is to prepare them for technical and other vocations where mathematics is applied.

10. **INTER-DISCIPLINARY AIM** – To give them insight into the application of mathematics in other subjects.

11. **SELF-EDUCATION AIM** – It is to help them to become independent in learning.

12. **EDUCATIONAL PREPARATION AIM** - It is to prepare them for higher education in sciences, engineering, technology, etc.

13. **DEVELOPMENT OF POWERS AIM** - It pertains to the development of powers of thinking, reasoning, concentration, expression, discovery, etc.

14. **HARMONIOUS DEVELOPMENT AIM** - Ultimately the overall aim of teaching all the subjects including mathematics is to ensure all-round and harmonious development of the personality of the child.

OBJECTIVES OF TEACHING AT THE ENTIRE SCHOOL STAGE

The objectives of teaching mathematics at the entire school stage or secondary stage may be classified as-

- a. Knowledge and understanding objectives
- b. Skill objectives
- c. Application objectives.

KNOWLEDGE AND UNDERSTANDING OBJECTIVES

The students acquires knowledge and understanding of-

1. Language of Mathematics, i.e. the language of its technical terms, symbols, statements, formulae, definitions, logic, etc.
2. Various Concepts, i.e., concept of number, concept of direction, concept of measurement.
3. Mathematical Ideas, like facts, principles, processes and relationships.
4. The development of the subject over the centuries and contributions of mathematicians.
5. Inter- relationship between different branches and topics of mathematics, etc.
6. The nature of the subject of mathematics.

SKILL OBJECTIVES

The subject helps the student to develop the following skills-

1. He acquires and develops skill in the use and understanding of mathematical language.
2. He acquires and develops speed, neatness, accuracy, brevity and precision in mathematical calculations.
3. He learns and develops technique of problem-solving.

4. He develops the ability to estimate, check and verify results.
5. He develops the ability to perform calculations orally and mentally.
6. He develops ability to think correctly, to draw conclusions, generalisations and inferences.
7. He develops skills to use mathematical tools, and apparatuses.
8. He develops essential skill in drawing geometrical figures.
9. He develops skill in drawing, reading, interpreting graphs and statistical tables.
10. He develops skill in measuring, weighing and surveying.
11. He develops skill in the use of mathematical tables and ready references.

APPLICATION OBJECTIVES

The subject helps the student to apply the above mentioned knowledge and skills in the following ways –

1. He is able to solve mathematical problems independently
2. He make use of mathematical concepts and processes in everyday life.
3. He develops ability to analyse, to draw inferences and to generalize from collected data and evidence.
4. He can think and express precisely, exactly and systematically by making proper use of mathematical language.
5. He develops the ability to use mathematical knowledge in the learning of other subjects especially sciences.
6. He develops the students' ability to apply mathematics in his future vocational life.

