Course Description of Math –Grade 3

By the end of grade three, students understand place value and number relationships in addition, subtraction, multiplication, and division of whole numbers. Students estimate, measure, and describe objects in space. Students use patterns to help solve problems. Students represent number relationships and conduct simple probability experiments.

1. Number Sense

- Students understand the place value of whole numbers
- Students calculate and solve problems involving addition, subtraction, multiplication, and division
- Students understand the relationship between whole numbers, simple fractions, and decimals

2. Algebra and Functions

- Students select appropriate symbols, operations, and properties to represent, describe, simplify, and solve simple number relationships
- Students represent simple functional relationships between two quantities ;Extend and recognize a linear pattern by its rules

3. Measurement and Geometry

- Students choose and use appropriate units and measurement tools to quantify the properties of objects
- Students describe and compare the attributes of plane and solid geometric figures and use their understanding to show relationships and solve problems

4. Statistics, Data Analysis, and Probability

- Students conduct simple probability experiments by determining the number of possible outcomes and make simple predictions
- Identify whether common events are certain, likely, unlikely, or improbable.
- Record the possible outcomes for a simple event (e.g., tossing a coin) and systematically keep track of the outcomes when the event is repeated many times.
- Summarize and display the results of probability experiments in a clear and organized way (e.g., use a bar graph or a line plot).
- Use the results of probability experiments to predict future events (e.g., use a line plot to predict the temperature forecast for the next day).

5. Mathematical Reasoning

- Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
- Determine when and how to break a problem into simpler parts.
- Use estimation to verify the reasonableness of calculated results.
- Apply strategies and results from simpler problems to more complex problems.
- Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
- Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
- Indicate the relative advantages of exact and approximate solutions to problems and give answers to a specified degree of accuracy.
- Make precise calculations and check the validity of the results from the context of the problem.
- Students move beyond a particular problem by generalizing to other situations