

## SDFAS Middle School – Dual lingual Math Program

### 6th Grade Mathematics

The program builds a strong base for combining both the American and French mathematics, since areas of study need to be harmonized to fulfill standards expected to complete both curricula. The main areas of study are:

- **Number Sense** : Whole and decimal numbers, Operations: Addition, subtraction, multiplication, division, Multiplying and dividing fractions and decimals, Factor and multiple, Equivalency, Integer and rational numbers, Number lines, Graphing, absolute value.
- **Algebra - Expressions and Equations** : Write and translate expressions and equations with variables, Apply properties and order of operations, Solve one step single variable equations
- **Statistics and probability** : Summarize and analyze numerical data sets, Determining proportionality, Percentage, Summarize and analyze numerical data sets, Distribution, Variability, Displays of data graphically
- **Measurement** : Unit conversions; Average speed, Rate of flow; Angles; Perimeters and Areas, Volume of regular figures.
- **Geometry** : Use vocabulary and trace geometric objects, Parallel and perpendicular lines (trace and properties), Angles: Vocabulary, measurement, trace, Triangles and quadrilateral, Study of complex geometric figures
- **Problem solving and multiple representations**

## 7th Grade Mathematics

In 7th Grade the students continue to develop their skills and competencies that are essential for mastering the areas of study begun in 6th Grade. These now include:

- **Number Sense** : Calculating with positive numbers and integers, Fractions (Comparisons, Equivalency, Conversions, Operations), Rational numbers, Arithmetic properties, Operations with rational, real number
- **Algebra** : Using algebraic terminology, Expressions and equations (Multiple representations: patterns, tables, graphs, and equations), Simplifying and solving equalities, Linear equations
- **Measurement** : comparing weights, geometric measures, times, and temperatures; constructing and interpreting drawings made to scale; perimeter, area, and volume of standard figures.
- **Geometry** : Transformations (symmetries), Triangles (existence, properties), Parallelograms (properties, demonstrations), 3D geometry, Area and volume.
- **Statistics and Probabilities** : Relative frequency and data measure, Random sampling, Measurement precisions, Graphs, Events / outcomes with probabilities, Tables / trees/calculations
- **Problem solving**
- **Coding** : Algorithm and program, Event off and action, simple loops, conditional loops.

## **8th Grade Mathematics**

In eighth grade the students are well prepared for ninth grade mathematics for whichever school to which they transition. Algebra and Geometry comprise a greater part of the curriculum. Areas of study are:

- **Number Sense** : Integers, Fractions (Calculations and problems), Exponents(Standard notation, scientific notation, Calculations), Radicals and absolute value, Rational and irrational number
- **Algebra** : Algebraic expressions (Distribution, factoring), Proportional relationships, lines and linear equations, Solve multi-step equations, inequalities and systems of equations, functions (define , evaluate and compare), Use functions to model relationships between quantities
- **Measurement** : quotients involving speed; compound measurements.
- **Geometry** : Pythagorean theorem, Geometry with proofs, Transformations, Congruence and similarity, Area and volume (cylinders, cones, spheres and balls), Intercept theorem
- **Statistics and Probabilities** proportionality and graphic representation; weighted average, Investigate patterns of association in bivariate data.
- **Problem solving**
- **Coding** Use of “for” loops ; Use of “while” loops ; Different types of variable ; Assign variable.