

TCS D Comprehensive Math Program Components

The following is a sample template of the components a typical math lesson should include. The template is based on the Mathematics Framework for California Public Schools and Five Easy Steps to a Balanced Math Program. There is a short Implementation Guide for each component.

Component: Concept Development (30-45 minutes each day)

Implementation Guide: This is the instructional part of the math lesson designed to explore, develop, and teach the mathematics concept that is the learning goal for the lesson. Any of several sources may be used for this component (e.g., textbook, workbook, bby materials, Thinking Maps, teacher generated materials). Instruction should follow the **Launch, Explore, Summarize**

Instructional Model. Every concept development lesson should include formative assessment to monitor student progress. Formative assessment can be formal or informal, stand-alone or embedded in the lesson. The results should inform future instructional decisions.

Component: Math Review (10-15 minutes each day)

Implementation Guide: This is a simple system for reviewing previously taught concepts and skills. Students who consistently revisit material have a much deeper understanding and ability to recall concepts. Formative assessment should be used to determine the content of the Math Review problems. This assessment should include prerequisite skills necessary to address key standards.

Component: Facts Practice (30 minutes per week)

Implementation Guide: The mastery of “basic facts” is essential to developing mastery of the Big Ideas of Arithmetic at each grade level. Fact mastery is based on teaching increasingly sophisticated strategies to students so they move beyond counting strategies (evidenced by fingers, tapping, nodding) to automatic recall. Students don’t move along this continuum without direct instruction focused on **developing strategies**. Use of triangular flash cards and **mental math** is very important. Timed tests are used to assess growth toward mastery and should not be used as instructional tools.

Component: Homework (daily, with time determined by the age of the students)

Implementation Guide: Homework may take on many forms, but as practice for skills taught, these **skills must be independent** before being sent home. It is not the job of parents to teach math concepts at home. The amount of time spent on homework should be based on the age of the students. A rule of thumb is “age + 5” minutes per night. Teachers are cautioned that using substantial time in class to complete or correct homework is “not effective use of instructional time.”

Component: Intervention (daily, as determined by grade level plan)

Implementation Guide: The purpose of the intervention component in a balanced math program is to quickly fill in the conceptual/procedural gaps in understanding some students may have developed during their math formation. An effective intervention component has a process in place to identify gaps in need of remediation; determine the nature of the remedy (conceptual or procedural); isolate the specific skill or knowledge piece and address it; and evaluate the results. The intervention component should provide support for students in meeting grade level standards and should not be the math program by itself.