



What is the Quantile Framework?

The Quantile Framework is a rigorous methodology for measuring a student's level of achievement in mathematics relative to the level of difficulty associated with specific mathematical skills and concepts. A major artifact in the Quantile Framework is the *Quantile Map*. A major output from the Quantile Framework is a student's *Quantile measure*. The Quantile Framework assists teachers in targeting and improving mathematical instruction, predicting student comprehension, and differentiating instruction.

What is the Quantile Map?

The Quantile Map illustrates the five major strands in mathematics as described by the National Council of Teachers of Mathematics (NCTM): (1) geometry; (2) measurement; (3) numbers and operations; (4) algebra/patterns and functions; and (5) data analysis and probability. Each strand includes a list of topics at Quantile measures of increasing difficulty. A copy of the Quantile Map is available [here](#).

What is a Quantile measure?

A Quantile measure is a number derived from a student's most recent TAKS test in mathematics. In conjunction with the Quantile Map, it provides three significant indications regarding a student's mathematical ability: (1) the skills and concepts the student has mastered, (2) the skills and concepts about which the student may need more instruction, and (3) the new skills and concepts the student is now ready to learn.

What do Quantile measures look like?

A Quantile measure is a number followed by letter "Q." Quantile measures are in the range 0Q or below to 1400Q or higher. A higher number indicates mathematical ability at a higher level. Some Quantile measures include one of the following codes: EM, NMQ or HMC. For an explanation of these codes, click [here](#).

How does grade level mesh with Quantile measures?

A student's grade level and most recent Quantile measure *taken together* are needed to determine the most appropriate mathematical instruction for that student. The grade level identifies the typical range of Quantile measures for that grade as shown [here](#). A student's Quantile measure with respect to that range indicates the student's readiness to handle the mathematical topics in that range as illustrated in the Quantile Map.

Where are a student's Quantile measure reported?

The Texas Education Agency (TEA) provides standardized mathematics tests for students in grades 3-11. The results from these tests include a Quantile measure, which can be found on a student's Confidential Student Report in the lower left corner of the Mathematics section.

What is a QTaxon?

With respect to the Quantile Framework, a QTaxon describes a particular mathematical topic, concept or skill. QTaxons are used to annotate the Quantile Framework. They can also be associated with individual items in the Texas Essential Knowledge and Skills (TEKS) specification.

What are the three types of QTaxons?

The Quantile Framework distinguishes three types of QTaxons: (1) *prerequisite*, (2) *supplemental*, and (3) *foundational*. Prerequisite QTaxons indicate skills and concepts that a student must master before learning a given topic. Supplemental QTaxons may be applicable in a given lesson but are not essential. Foundational QTaxons indicate a concept or skill that requires only the assessment of a student's readiness to learn rather than a specific mathematical skill.

The Quantile Framework uses the three types of QTaxons to define knowledge clusters consisting of a primary QTaxon and its related supplemental, prerequisite and foundational QTaxons. The knowledge clusters constitute an interconnected chain and progression through a given strand in the Quantile Map. Additional information on this topic can be found by clicking [here](#).

Where can I find QTaxons?

The Quantile Framework provides a searchable QTaxon database that includes specific skills and concepts aligned to a state's curriculum standards. Texas is one of the states so registered. Access to the database is through QTaxon Search which is available [here](#). Instructions for teachers using the QTaxon Search Engine can be found by clicking [here](#).

From the results page of a QTaxon Search, a teacher can find the knowledge cluster for that QTaxon. A teacher will also find links that lead to worksheets, web sites, and games and textbook lessons apropos to the topic at hand.

How can I use Quantile measures to differentiate instruction to my students?

One of the primary goals of the Quantile Framework is to help teachers deliver directed differentiated instruction in mathematics as needed in their classrooms. To help teacher plan and deliver such differentiated instruction in a timely manner, the Quantile Framework provides a tool called Quantile Teacher Assistant. Information about and instructions for using the Quantile Teacher Assistant can be found by clicking [here](#).

For those with access to an internet browser with Macromedia Flash installed, you can find a useful introduction to Quantile measures by clicking [here](#).

Click [here](#) for the Quantile Framework for Mathematics home page.

Click [here](#) for the TEA site on Quantile Measures.