

# CurrTech Integrations

## *Spiral Reviews*

### *In*

## *Mathematics*



*“Practice doesn’t make perfect it makes permanent” – Madeline Hunter, ASCD 2007*  
*“Use it or lose it” – Judy Willes, M.D., ASCD 2007*

# CurrTech Integrations

## Philosophy of Mathematics

### Project Narrative

CurrTech Integrations philosophy program is based on the research of Jay McTighe and Grant Wiggins: Understanding By Design, Renzulli and Reis: Schoolwide Enrichment Model and Jay McTighe and Carolyn Tomlison: Integrating Differentiated Instruction and UBD. The key ideas from the research have been aligned with CurrTech's Differentiated Mathematics Program (CDMP).

These key ideas are:

- Focus the curriculum on the “big ideas” through the use of milestone assessment.
- Include type 1, 2, and 3 Renzulli experiences within the CDMP program design of Enrichments, Performance Tasks and Tiered Instruction and Assessment. The milestone assessments contain at least 3 extended response items that are score using rubrics.
- Focus on training in the construction and use of tiered instruction and assessment for all learners. The milestone assessments blueprint requires at least three score points on each standard that are written using level assessments model.
- The goal of both the milestones and the higher level questions in instruction is based upon the research that learners should be challenged by using items “slightly too difficult”.
- The identifying and mapping of items into daily spiral reviews and milestones assures increased retention and increased access to a broader range of higher level questions.
- True understanding is demonstrated when learners can do and explain. The extended constructed response items in all milestones, enrichments, tiered instruction and assessment require explanation and application of concepts.

## CurrTech Integrations Spiral Reviews in Mathematics

Teachers have struggled to meet the needs of all students in mathematics classrooms. Teachers are also dismayed by poor performance on State Assessments by students who have been successful on local unit tests and received passing grades in mathematics.

### **What do we know?**

“Practice does not make perfect, it makes permanent” – Madeline Hunter ASCD, 2007.  
“Use it or lose it” – Judy Willes, M.D. ASCD, 2007.

CurrTech Integrations Spiral Reviews are an essential teaching tool in developing student’s **long term memory**. Each day CurrTech Integrations Spiral Review items are linked to standards, curriculum and assessment for the grade/course. These items are related to concepts and skills that experts believe are essential for that grade/course and prepare students for the big spiral review; the state assessment.

### **How can I use the Spiral Reviews in my classroom?**

Instructionally spiral reviews help teachers provide opportunities for students to review, extend, refine and to use their knowledge of concepts and skills learned during the year in a specific grade/course.

CurrTech Integrations Spiral Reviews offer teachers several models for use in the classroom. It is important that any model chosen must support “regular practice” over the course of the year. Students need the benefit of practice over time to maintain and to improve mathematics concepts and skills.

## What does a Spiral Review Module include?

- 180 days of spiral reviews based on standards and benchmarks for a specific grade/course.
- At least 5 problems per day.
- Problems for a given day are either all selective response questions or all extended response questions.
- Selected response questions are designed for use with a student response system that allows teachers to collect data overtime.
- Selected response distracters have been designed by math teachers based on most common errors students make.
- The teacher's edition often identifies for teachers the most common student errors for the choice of a specific distracter.
- Teacher's edition includes exemplary responses for both selective response and extended response questions.

## Spiral Reviews may be used in the following formats:

### A. One-A-Day

In this model, teachers provide students daily practice. Teachers often begin class with a Spiral Review. Student's pick-up their Spiral Review for the day when they enter the classroom. Teachers with electronic systems project the questions for the day and have students record their answers to selective response questions using the student response system.

Some teachers have students display their answers using electronic boards, chalkboards, dry erase boards or document cameras.

Teachers try to keep selected response questions days 5 – 10 minutes including the check of answers. Questions that present great difficulty are reviewed carefully and monitored over time. Similar questions will appear again on another day. Also, important concepts and skills will appear in both select response and extended response questions.

## **B. Stations – Rotating Group**

Some teachers use spiral reviews as a station/group activity on days when teachers divide the class into groups and rotate each group throughout the period, one station will be a spiral review station. If students have access to a student response system, the data for that station is collected for the whole class and becomes part of a ticket-out or exit question.

## **C. One-A-Day – End of class**

In this model, teachers provide students daily practice. Teachers often end class with a spiral review. Student's pick-up their Spiral Review for the day when they enter the classroom. Teachers with electronic systems project the questions for the day and have students record their answers to selective response questions using the student responders.

Some teachers have students display their answers using electronic boards, chalkboards, dry erase boards or document cameras.

Teachers try to keep selected response questions days 5 – 10 minutes including the check of answers. Questions that present great difficulty are reviewed carefully and monitored over time. Similar questions will appear again on another day. Also, important concepts and skills will appear in both select response and extended response questions.

## **D. One-A-Day – Begin/Ending/Homework**

Some teachers use model A, B and a homework model. These teachers use a homework model on some days because of their lesson plans or shortened periods.

## **E. Friday – Check for Success**

Some teachers have their students use their notes from spiral reviews M – R to complete five questions based on spiral reviews for the week. These teachers usually record a grade for Friday.