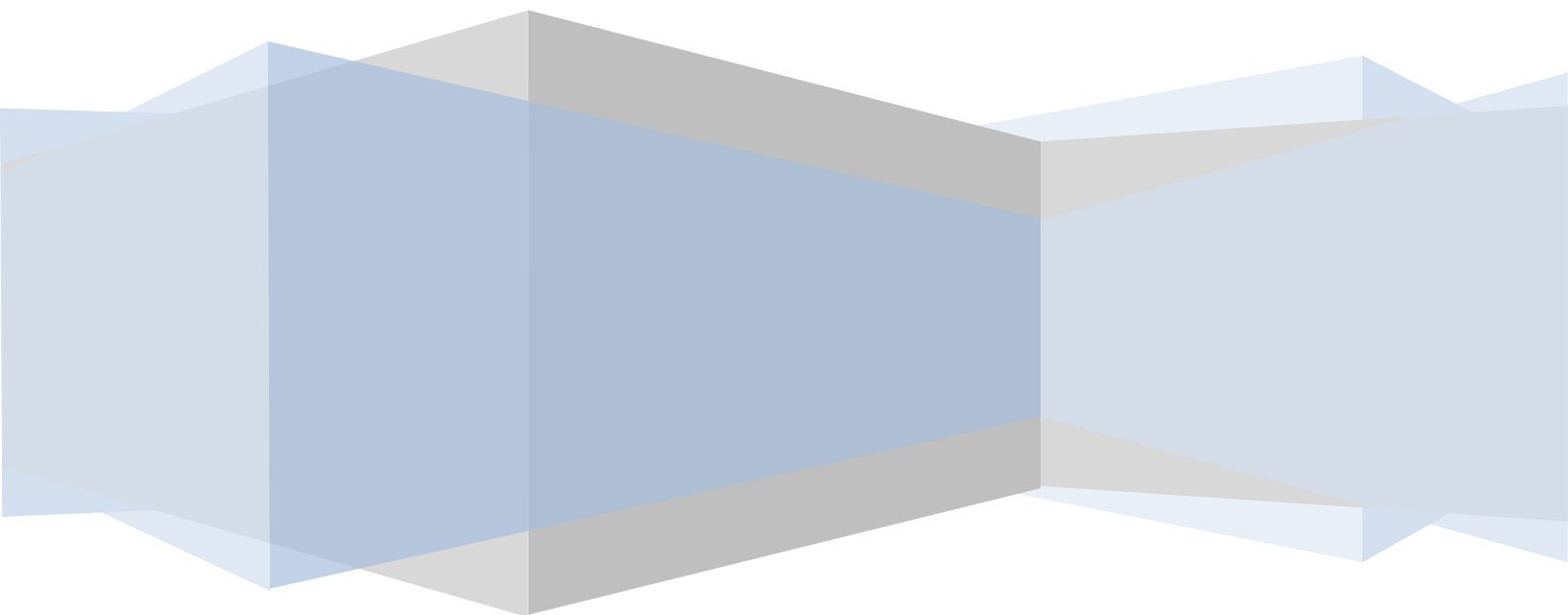


# Math Fax

## Teacher User's Guide

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## **Introduction**

Welcome teachers! Math Facts is a game where a student answers as many questions out of twenty as he or she can in the allotted time, usually sixty seconds. This software, MathFax, is an electronic adaptation of that game. This guide will help you understand the features available in MathFax and how to use them. If you have any further questions, please seek help from a MathFax administrator.

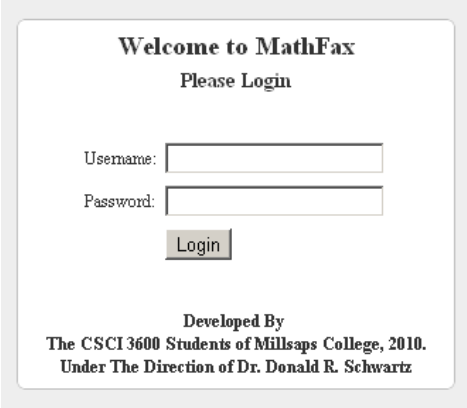
## **Creating an Account**

To create an account, contact a MathFax administrator. When you are added to the system, your username is created automatically with the following format: "FirstnameLastname" (i.e. JohnDoe). Your password is anything you choose. With this information, you have the ability to log in to MathFax at any time and take advantage of the features it offers.

If you wish to change your password at any time, contact a MathFax administrator.

## Logging In and Logging Out

To access the MathFax website, ask a MathFax administrator for the URL (web address) of the website. Once you type in this URL, the following screen should appear:



The login screen is a light gray rectangular box with a white border. Inside, the text "Welcome to MathFax" is centered at the top in a bold, black, sans-serif font. Below it, "Please Login" is centered in a smaller, regular black font. There are two input fields: "Username:" followed by a white rectangular box, and "Password:" followed by a white rectangular box. Below the password field is a small, gray rectangular button with the word "Login" in black. At the bottom, centered, is the text "Developed By The CSCI3600 Students of Millsaps College, 2010. Under The Direction of Dr. Donald R. Schwartz" in a small, black, sans-serif font.

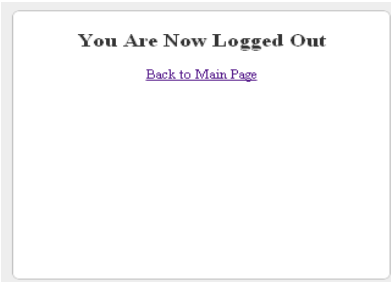
Enter your username and password in the correct boxes and click "Login". If your username or password is entered incorrectly, you will remain on the same screen.

To Logout, click the light blue button at the top right of your screen that says "Logout".



The logout screen is a gray rectangular box with a white border. At the top, the word "MathFax" is centered in a large, bold, black, sans-serif font. Below it, the text "Welcome, TeacherTeacher | Logout" is centered in a smaller, black, sans-serif font. The word "Logout" is highlighted in a light blue color.

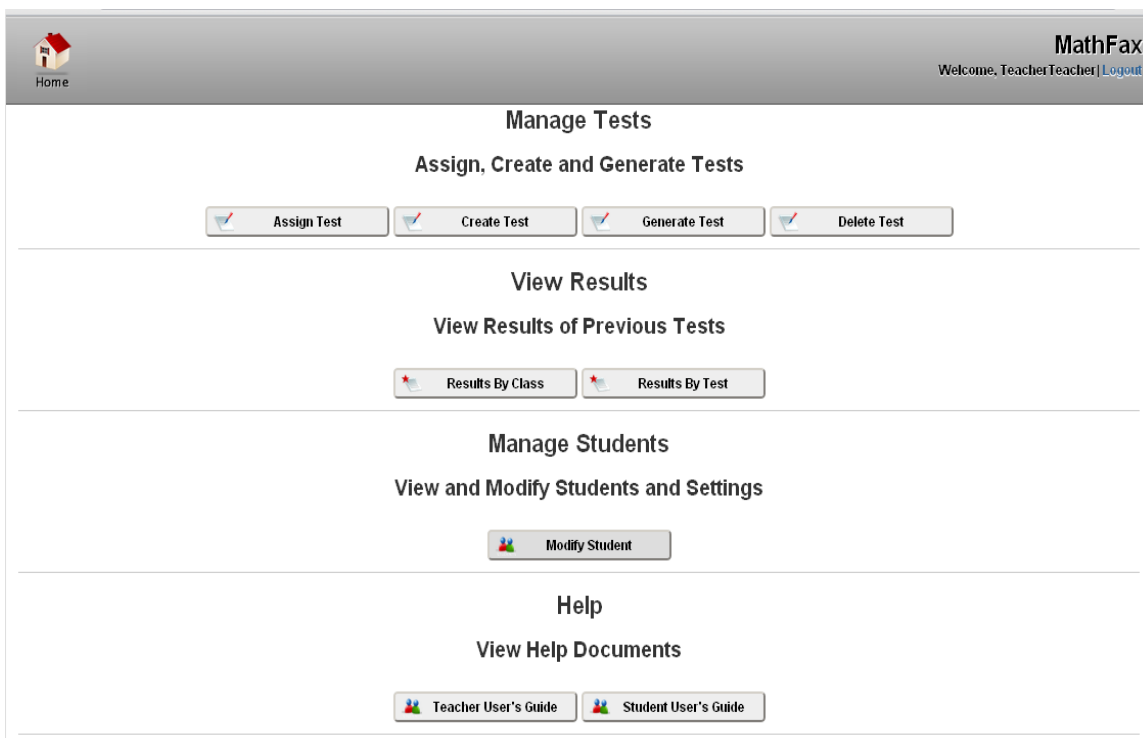
Once you click "Logout", you will be logged out and the following screen will appear:



The confirmation screen is a light gray rectangular box with a white border. At the top, the text "You Are Now Logged Out" is centered in a bold, black, sans-serif font. Below it, the text "Back to Main Page" is centered in a smaller, blue, sans-serif font, which is underlined.

## Main Menu and Side Menu

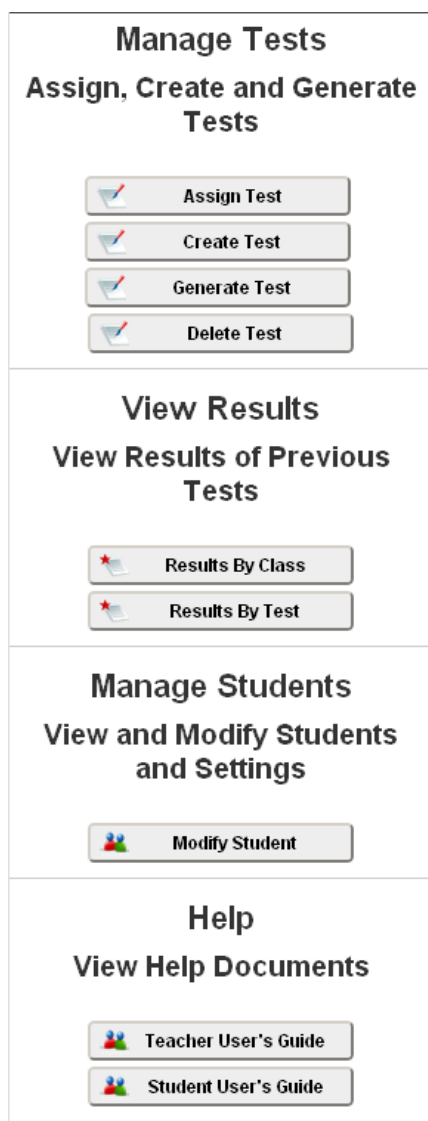
Once you have logged in, the following screen will appear:



To return to this screen from another page, click the button that looks like a house. It is located in the top left corner of the screen and says “Home”.

To access the Teacher User’s Guide or Student User’s Guide from this page, click on one of the buttons located at the bottom of the list of options in the “Help” section, as pictured above.

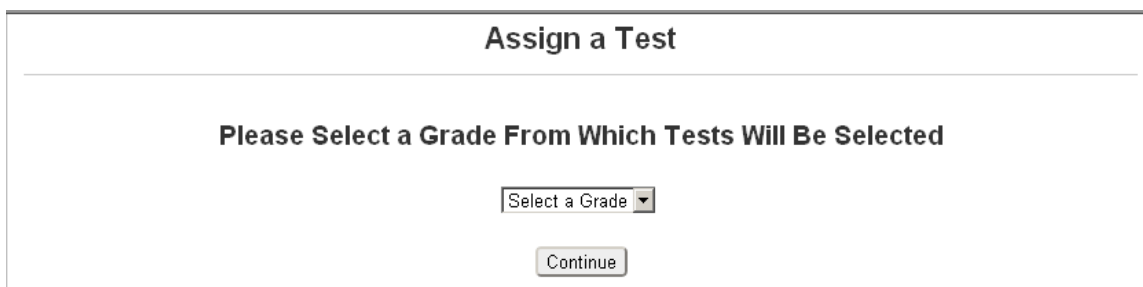
The following screen shot presents an image of the side menu:



The side menu is present on the left side of every screen within MathFax. It does not appear on screens where a student is taking a test. It offers the same options as the main menu and allows you to move directly to another screen without returning to the main menu.

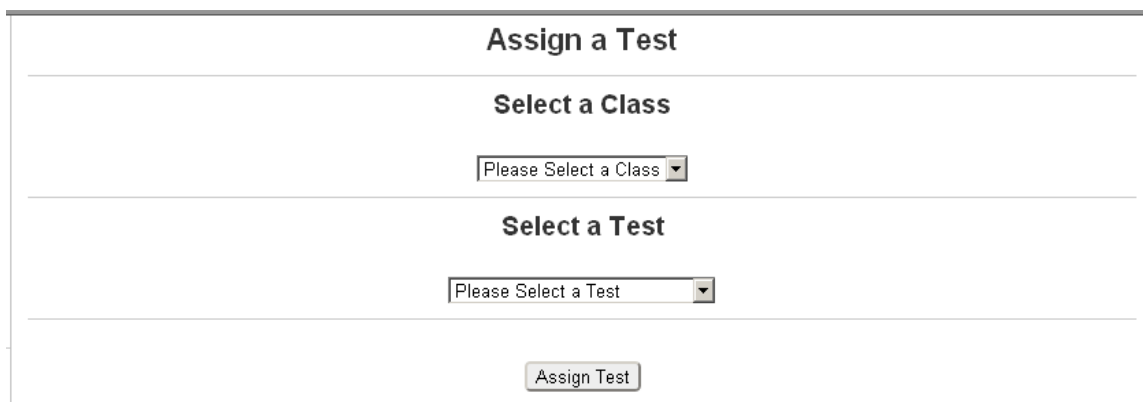
## Assign Test

From the main menu or side menu, clicking “Assign Test” will bring up the following screen:



The screenshot shows a web interface titled "Assign a Test". Below the title is a horizontal line. Underneath the line is the instruction "Please Select a Grade From Which Tests Will Be Selected". Below this instruction is a dropdown menu with the text "Select a Grade" and a downward arrow. Below the dropdown menu is a button labeled "Continue".

On this screen, you select a grade from which tests will be selected. Only tests created for the selected grade will appear on the following screen after clicking “Continue”:



The screenshot shows a web interface titled "Assign a Test". Below the title is a horizontal line. Underneath the line is the instruction "Select a Class". Below this instruction is a dropdown menu with the text "Please Select a Class" and a downward arrow. Below the dropdown menu is another horizontal line. Underneath this line is the instruction "Select a Test". Below this instruction is a dropdown menu with the text "Please Select a Test" and a downward arrow. Below the dropdown menu is another horizontal line. At the bottom of the screen is a button labeled "Assign Test".

Here, you select a class and a test. Only your classes will appear in the drop down box entitled “Please Select a Class”. This includes classes at any grade level you teach. Only tests created for the grade selected on the previous screen appear in the drop down box entitled “Please Select a Test”. This includes tests created by any teacher

specifically for the grade selected on the previous screen. An option from both drop down boxes must be selected. After clicking “Assign Test” the following screen appears:

### Assign a Test

---

**The test has been successfully assigned.**

Please Select an Option Below

 **Assign Another Test**

 **Main Menu**



## Create Test

Clicking “Create Test” will bring you to the following screen:

### Create a Test

Please Enter the Information Below

**Test Name**

**Grade**

**Description**  

For example: "This test contains addition, subtraction and multiplication problems and is horizontally aligned."

**Question Style**

**Time Limit (suggested value: 60)**

“Test Name”, “Grade” and “Description” are required fields. After entering the correct information click “Create Questions”. The following screen will appear:

### Create a Test

---

Please Enter the Questions Below

Question 1

+  =

---

Question 2

+  =

---

The screen completely displays twenty question inputs identical to and including the two displayed above. At the bottom of the screen is a button entitled “Create Test”.

This is the screen where you can manually create a test. You have the option of mixing and matching any operands, operators and answers. Also, you have the option of creating a test with as many questions as you like. However, be aware of all of your student’s goals.

Once you have entered the questions you wish to enter on this screen, click “Create Test” and the following screen will appear:



### Create a Test

---

### The Test Has Been Created!

---

Please Select an Option Below

## Generate Test

Clicking “Generate Test” will bring you to the following screen:

Generate a Test
Please Enter the Information Below
<b>Test Name</b>
<input type="text"/>
<b>Grade</b>
<input type="text" value="Please Select a Grade"/>
<b>Description</b>
For example: "This test contains addition, subtraction and multiplication problems and is horizontally aligned."
<input type="text"/>
<b>Type of Questions</b>
For example: select 'Addition' to solve only addition problems.
<input type="text" value="Please Select a Question Type"/>
<b>Question Layout Style</b>
<input type="text" value="Vertical"/>
<b>Time Limit (suggested value: 60)</b>
<input type="text" value="60"/>

**Max Addition and Subtraction Value**

This is the largest value that can appear in an addition or subtraction problem.

---

**Max Multiplication Value**

This is the largest value that can appear in a multiplication problem.

---

**Multiplication Fact Restriction**

The chosen value(s) will appear as the first number in a multiplication problem.

---

**Max Division Value**

This is the largest value that can appear in a division problem.

---

The options on this screen allow you to create a test according to the listed criteria. Once you have selected the criteria and entered your information, the software randomly generates a test based on those parameters. The following options are available:

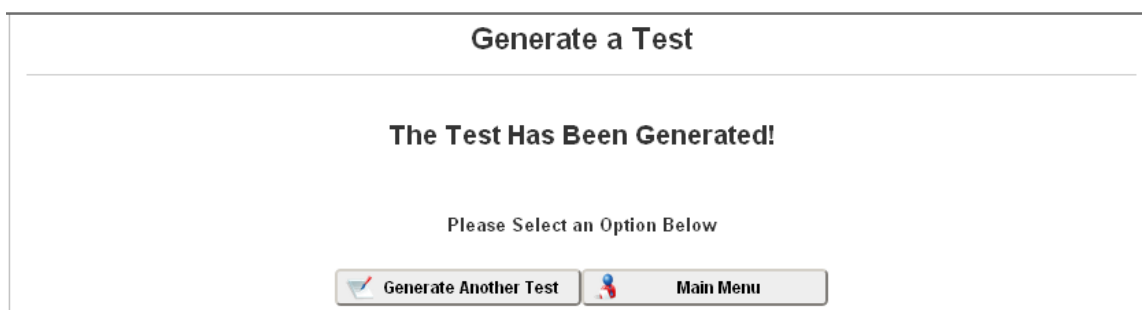
1. Type of Questions – Here you choose among addition, subtraction, multiplication, division or any combination of these four.
2. Question Layout Style – Here you choose between a vertical question alignment and a horizontal question alignment.
3. Time Limit – Here you determine your time limit. Any value greater than zero is accepted. The suggested value is sixty since it replicates the time given on the paper test.

4. Max Addition/Subtraction Value, Max Multiplication Value and Max Division Value – These fields allow you to choose the largest value that can appear as an operand when that question type is presented as a problem. Any value greater than zero is accepted.
5. Multiplication Fact Restriction – This field limits the first number in a multiplication problem to the choice selected in the drop down box.

Be aware of the following limitations while creating your test:

1. A generated test will always consist of twenty questions. This value can't be changed. To create a test with less than twenty questions, choose "Create Test" from the main menu or side menu.
2. When using a horizontal Question Layout Style, large maximum values (over 1000) can cause the test screen to appear out of alignment. This only affects the layout of the test. The timer, answer input and scoring all work normally.

When you click "Generate Test", the following screen will appear if no errors occur while generating your test:



## Delete Test

Clicking “Delete Test” will bring you to the following screen:

### Delete a Test

---

#### Select Grade Level

Please Select a Grade ▾

Search

Select a grade level from the drop down box. When you click “Search”, all tests for that grade level will be displayed on the following screen:

### Delete a Test

---

#### Tests For Grade 1

Please Select a Test ▾

Delete Test


Select a test from the drop down box and click “Delete Test”. The following screen will appear:


### Delete a Test

---

#### The Test, practice, Has Been Successfully Deleted

Please Select an Option Below

 Delete Another Test

 Main Menu

## Results By Class

Clicking “Results By Class” will bring you to the following screen:

### View Results By Class

---

**Please Select an Option Below**

**Textual Results**

**Visual Results**

Selecting either option will bring you to the following screen:

### Visual Class Results

---

**Please Select a Class**

Year: 2011 || Grade: 1 || Teachers Class || TeacherTeacher ▼

---

View Results

On this screen, all classes contained within the database are listed within the drop down box. They are listed using the following format:

Year || Grade || Class Name || Teacher ID

Once you have selected a class, clicking “View Results” will bring you to one of the following two screens (on the next page):

If you selected “Textual Results”:

### Textual Class Results

---

**Student Student**

2011-05-11 || Goal: 10 || Number Correct: 0 || Number Incorrect: 20 || Percentage of Goal: 0% || Time Taken (s): 23

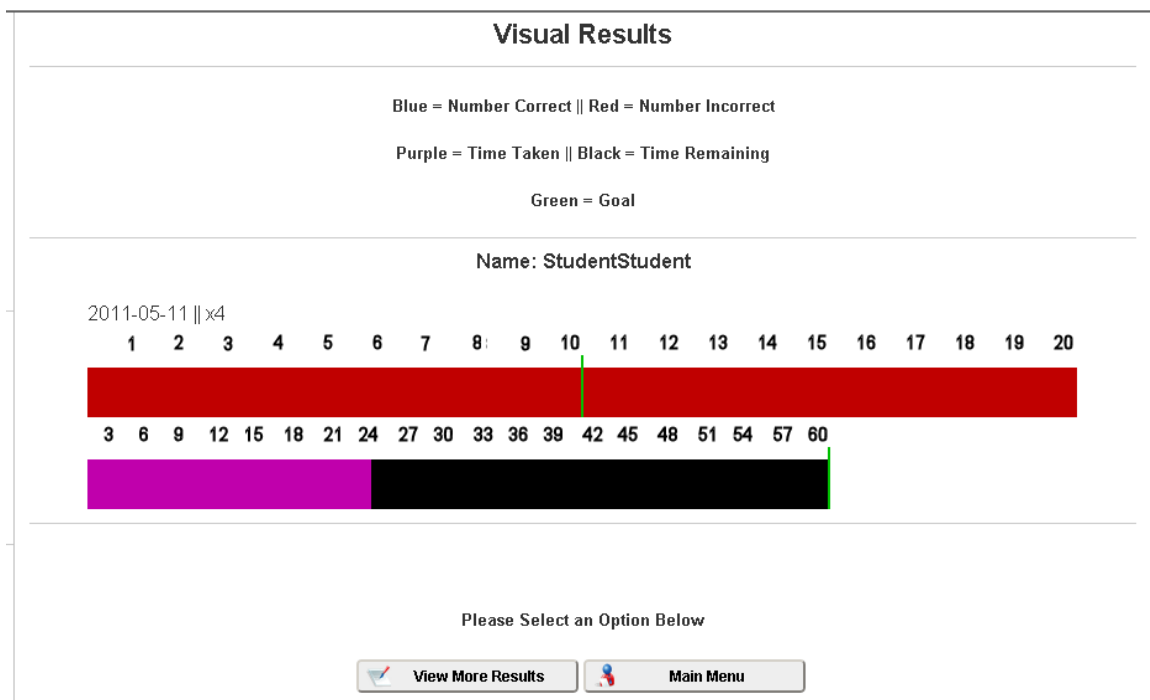
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Please Select an Option Below

[View More Results](#)
[Main Menu](#)

OR:

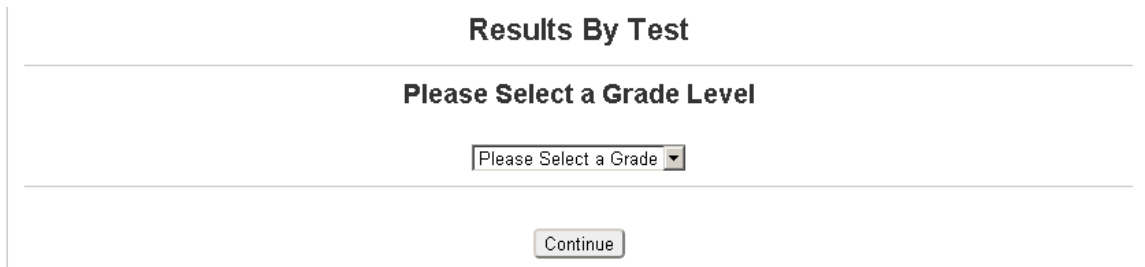
If you selected “Visual Results”:





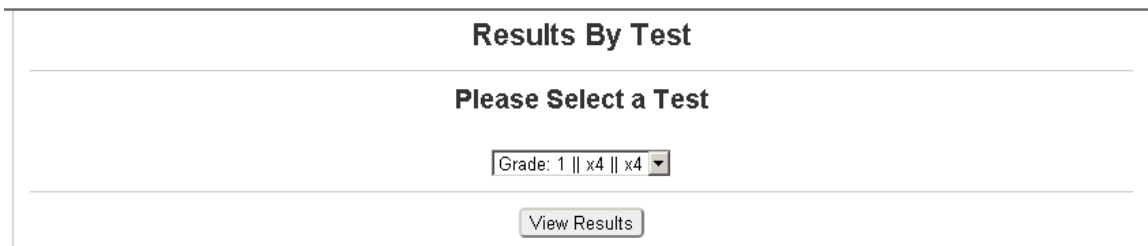
## Results By Test

Clicking “Results By Test” will bring you to the following screen:



The screenshot shows a web interface titled "Results By Test". Below the title is a horizontal line, followed by the text "Please Select a Grade Level". Underneath this is a dropdown menu with the placeholder text "Please Select a Grade". Below the dropdown is another horizontal line, and at the bottom is a button labeled "Continue".

On this screen, select a grade from the drop down box. Clicking “Continue” will bring you to the following screen:



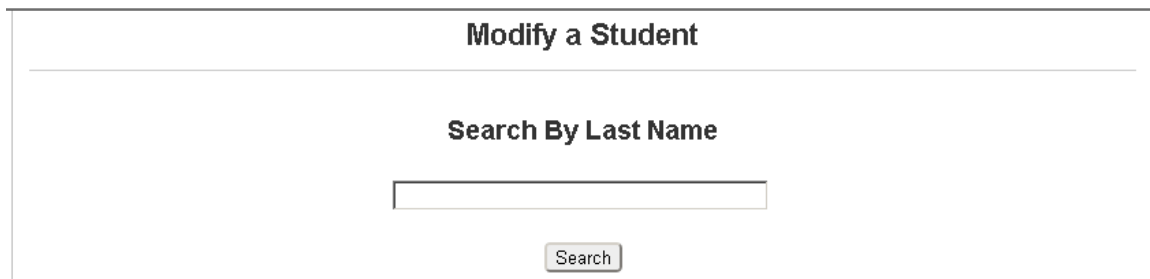
The screenshot shows a web interface titled "Results By Test". Below the title is a horizontal line, followed by the text "Please Select a Test". Underneath this is a dropdown menu with the placeholder text "Grade: 1 || x4 || x4". Below the dropdown is another horizontal line, and at the bottom is a button labeled "View Results".

Here, all tests created for the grade you selected on the previous screen will be listed in the drop down box. Once you have selected a test, click “View Results” to see a visual display, as seen on page 16, for all results on that test.

## Modify Student

Teachers have the option to modify any student in the system. However, they are unable to add students to the system. To add a student to the system, contact a MathFax administrator.

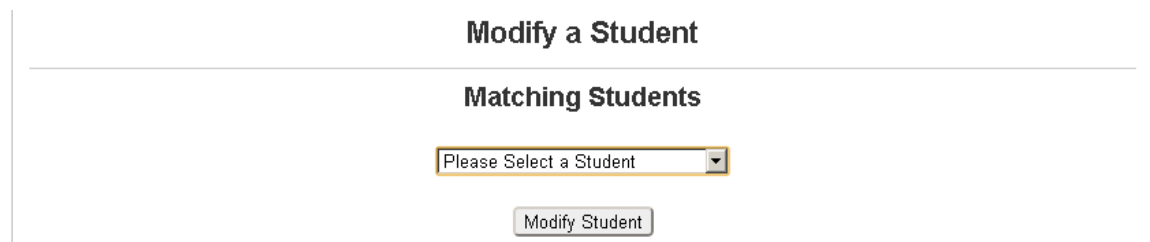
Clicking “Modify Student” will bring you to the following screen:



The screenshot shows a web interface titled "Modify a Student". Below the title is a horizontal line. Underneath the line, the text "Search By Last Name" is centered. Below this text is a text input field. Below the input field is a button labeled "Search".

This screen allows you to narrow your search for a student. Enter any phrase in the text box, and the system will search for all students whose last name contains that phrase. If the field is left blank, the system will simply list all students.

Clicking “Search” will bring up the following screen:



The screenshot shows a web interface titled "Modify a Student". Below the title is a horizontal line. Underneath the line, the text "Matching Students" is centered. Below this text is a dropdown menu with the text "Please Select a Student" and a downward arrow. Below the dropdown menu is a button labeled "Modify Student".

All students matching the search criteria entered on the previous screen will be listed in the drop down box. Selecting a student and clicking “Modify Student” will bring you to the following screen:

Modify a Student
Modify the Information Below as Necessary
<b>First Name</b>
<input type="text" value="Student"/>
<b>Middle Name</b>
<input type="text"/>
<b>Last Name</b>
<input type="text" value="Student"/>
<b>Number Goal</b>
<input type="text" value="10"/>
<b>Time Goal</b>
<input type="text" value="60"/>
<b>Gender</b>
<input type="text" value="Keep Current Gender"/>
<b>Grade</b>
<input type="text" value="Keep Current Grade"/>
<b>Yellow Screen</b>
<input type="text" value="No"/>

<b>Show Clock</b>
<input type="button" value="No"/>
<b>Edit Password?</b>
<input type="button" value="No"/>
<b>Password</b>
<input type="text"/>
<b>Confirm Password</b>
<input type="text"/>
<b>Class</b>
<input type="button" value="Keep Current Class"/>
<input type="button" value="Modify Student"/>

On this screen you can modify the selected student's information. Be aware that every time you come to this screen for any student, the options "Yellow Screen" and "Show Clock" will be set to "No" by default, even if the selected student is set for "Yes". These two options must be reselected every time you come to this screen for any student. Be aware that the "Edit Password?" option must be set to "Yes" to change a student's password. If you enter a password and confirm it, but do not select "Yes" for the "Edit Password?" option, the password will not be changed.

Clicking "Modify Student" will bring you to the following screen:

<b>Modify a Student</b>
<b>The Student, StudentStudent, Was Successfully Modified!</b>
Please Select an Option Below
<input type="button" value="Modify Another Student"/> <input type="button" value="Main Menu"/>

## Troubleshooting and Further Assistance

If you have any questions this guide has not answered, please ask a MathFax administrator for further assistance.

**IMPORTANT:** Entering apostrophes in any alphanumeric field (such as “Test Name”) will cause problems with the interface between the database and the software. The software will not report an error, but the item you are trying to create will not be saved to the database.

**IMPORTANT:** Use the back and refresh buttons as sparingly as possible. Whenever you alter (add, remove or update) the software’s database, using either of these buttons will cause duplicate information to be stored in the database. However, no problems will occur if you jump back to or refresh a screen that only displays information contained in the software’s database. If you are unsure, use the side menu or main menu to navigate through the software. Please make your students aware of this when they are taking an assigned test or a self-generated practice test.

## **About MathFax**

MathFax was developed by the Computer Science Department at Millsaps College in Jackson, MS, beginning in Spring 2010 and concluding in Summer 2011. The development team originally consisted of the ten students in the Software Engineering class during the Spring 2010 semester. Dr. Donald Schwartz presented the project idea to the Software Engineering class and coordinated their efforts with those of representatives from St. Anthony's Elementary School in Madison, MS, for whom the software was initially created. Final development, testing and installation were performed by Rexford Semrad III, Dr. Donald Schwartz and Nicholas R. Handelman.