TI TestGuard 2.0™

TEXAS INSTRUMENTS

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Where to Find Installation Instructions

You can find detailed instructions on installing Flash applications at education.ti.com/guides.

Introduction

The TI TestGuard 2.0™ application is a tool that teachers can use to gain more control over their testing environments. Previously, teachers have asked students to manually reset their calculators before an exam. However, some students learned how to display phony memory reset screens, allowing them to keep data on their calculators. With TI TestGuard 2.0™, teachers can either clear or disable programs and applications and delete other data stored on students' calculators. Teachers have the option to leave specific applications on students' calculators. In addition, teachers can use the confirmation code feature to confirm that the calculators have been cleared or disabled.

Note: The disable option only works on TI-84 Plus calculators with OS 2.40 or higher.

Overview

What Is TI TestGuard 2.0™?

TI TestGuard 2.0™ allows teachers to quickly remove or disable unwanted data from students' calculators before they take tests. Unlike other TI applications, TI TestGuard 2.0™ is designed as a tool for teachers, not students. Therefore, sharing the software with students could result in compromised functionality and effectiveness.

TI TestGuard 2.0™ can either disable programs and applications, or it can *delete* them from a student's calculator. You should instruct students to back up their calculators to a computer or to another calculator before you use TI TestGuard 2.0™. All data that is deleted from the students' calculators will be *completely erased*.

The disable feature works only on TI-84 Plus calculators with OS version 2.40 or higher. If TI TestGuard 2.0™ is set up to disable programs and/or applications and the student has a TI-83 Plus or a TI-84 Plus with an earlier OS, the programs and/or applications will be deleted.

Note: Any application (free or purchased) that students have downloaded from TI's Web site can be downloaded again free of charge at any time.

Be aware that other teachers may require students to have certain applications on their calculators on the same day that you use TI TestGuard 2.0™ to clear the calculators. Talk to your students and other teachers to avoid a conflict. For example, you would not want to clear all

applications from students' calculators for your exam if they need to use the Periodic Table application in chemistry class after your exam.

What Are TI TestGuard 2.0™ Features?

TI TestGuard 2.0™ runs on a teacher's TI-83 Plus or TI-84 Plus. The application clears data from TI-83 Plus calculators and clears or disables data from TI-84 Plus calculators.

When you set up TI TestGuard 2.0™, you determine if you will remove or disable data and then specify which kinds of data will be affected. If you choose to clear or disable applications, you can specify which applications remain on the student's calculator.

After you have set up TI TestGuard 2.0™, you simply attach a unit-to-unit cable between the teacher's and the student's calculators, then start the application to clear the calculator. When the student's calculator has been cleared, a message displays **Clear** and a confirmation code on the student's calculator. The same confirmation code is displayed on the teacher's calculator. Clearing a student's calculator takes less than 10 seconds.

The confirmation code is one of the TI TestGuard 2.0™ security features. It is a four-character code that is randomly generated by TI TestGuard 2.0™ each time the application is run. When you exit the application and run it again, a new confirmation code is generated.

Notes:
- The teacher's calculator must have at least 1500 bytes of free RAM to run TI TestGuard 2.0™ after set-up is complete.

- TI TestGuard 2.0™ must use the I/O unit-to-unit cable, *not* the USB unit-to-unit cable.

The following table describes these TI TestGuard 2.0™ set-up options:

- the kinds of data that will be cleared

- application names that can remain on the student's calculator

You do not have to complete the set-up in this order. You can set up or change any setting at any time without affecting the other settings.

TI TestGuard 2.0™ feature	Options
Delete Mode	• Select **ALL** to delete all data stored in RAM, and archived data, including variables, programs, and applications (excluding those specified to be saved). Mode settings (excluding Angle and Stat) are reset to factory defaults.
	• Select **RAM/ARC** to delete *only* data stored in RAM and archived data, including variables and programs. Mode settings (excluding Angle and Stat) are reset to factory defaults.
	• Select **APPS** to delete *only* Apps (except those specified to be saved).

Disable Mode	• Select **BOTH** to disable programs and APPS (excluding those specified to be saved). Variables stored in RAM and archive memory are deleted. Mode settings (excluding Angle and Stat) are reset to factory defaults.
	• Select **PROGRAMS** to disable *only* programs. Variables stored in RAM and archive memory are deleted. Mode settings (excluding Angle and Stat) are reset to factory defaults.
	• Select **APPS** to disable *only* Apps (excluding those specified to be saved).
Angle	• Select **RADIAN** or **DEGREE** to set the angle mode on the student's calculator. The student can still change this option in the calculator's mode settings.
Stat Diagnostics	• Select **ON** or **OFF** to determine whether the r and r^2 correlation coefficients are turned on or off. (This option runs the DiagnosticsOn or DiagnosticsOff command.) The student can still change this option by running the appropriate command.
APPS to Keep	• Select **NONE** to delete or disable all Apps on the student's calculator.
	• Select **CHOOSE** to specify Apps that students will be able to use.

Quick Start Instructions

This page provides instructions for quickly preparing students' calculators for use in an examination. Teachers used to using the [2nd] [MEM] **[Reset]** menu will find TestGuard 2.0™ an easy alternative.

1. Select and run the TI TestGuard 2.0™ app.

2. Select **1: Setup Calcs**.

3. Either choose **DELETE**, then choose **ALL**, or consider using **DISABLE**, then **BOTH**. Note that these two options are "equivalent" for the purposes of student equity within an exam. The advantage of Disable is that students with TI-84 Plus calculators and OS 2.40 can have functionality disabled rather than deleted. The functionality can be re-enabled once the exam is over.

4. Set the initial angle to your preference. **DEGREE** is the factory default. If the exam is for higher grade levels, you may want to consider setting the angle to **RADIAN**. Whatever you choose as an initial setting can still be changed by the students.

5. Select the initial setting for Stat Diagnostics, which offers the ability to view the r and r^2 values in statistics. The factory default for this setting is ON.

6. Select **NONE** for APPS TO KEEP.

7. Press **OK**.

8. Connect your calculator to the first student's calculator using an I/O unit-to-unit cable. (TI TestGuard 2.0™ does not work with the USB cable!) Make sure the student calculator is on the Home screen.

9. Press **2:Start Transfer**.

10. When you see the confirmation code on the student's calculator, disconnect the student calculator and connect to the next student calculator. Press **2:Again**.

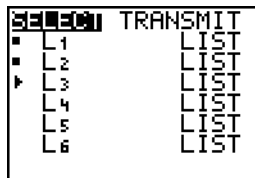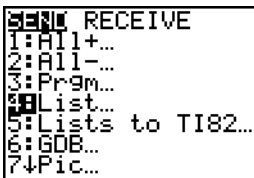11. Repeat for all students in the examination.

Note: Localized calculators are automatically reset to English by TI TestGuard 2.0™. Students with localized calculators will have to reset their calculator's language even if the language app was excluded from the disable list. The need to restart some retained apps also applies to Catalog Help (CtlgHelp), Inequality Graphing (Inequal), and Transformation Graphing (Transfrm).

The following page is intended to be printed and duplicated so that you can give it to students as they exit an examination. It instructs them on how to re-enable their calculators.

How to re-enable your calculator

To restore disabled apps and programs that have been disabled for an exam:

1. Connect your calculator to another student's calculator with a unit-to-unit cable and transfer any file between them. To transfer a file:

   a) On the receiving unit, press [2nd] [LINK] and then select **RECEIVE**.

   b) On the sending calculator:

      – Press [2nd] [LINK].

      – Select a file to send by selecting a category, and then selecting a file.

      – Select **TRANSMIT** to send the file.

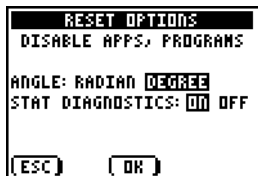2. Download a file to your calculator from a computer.

Press-to-Test (A TI-TestGuard 2.0 Alternative)

All new TI-84 Plus and TI-84 Plus SE calculators with OS 2.40 or higher have a special key sequence that students and teachers can use to prepare a student calculator for exams where flash applications, programs and other files are not allowed. This feature is not a part of TI TestGuard 2.0.

The feature is called Press-to-Test, and it is similar to the [2nd] [MEM] **[Reset]** menu for deleting files from the calculator before an exam. The main difference is that Press-to-Test temporarily *disables* flash applications, rather than *deleting* them. After the exam, applications and programs can be restored easily for classroom use.

1. With the TI-84 Plus turned off, press and hold down the ◄ and ► keys, and press [ON] (all three keys must be pressed at the same time).

    The Reset Options screen displays.

    By default, the angle mode is set to **Degree**, and Stat Diagnostics are **On**.

2. To change the default settings, move the cursor over the desired setting and press [ENTER].

---

3. Press $\boxed{\text{ZOOM}}$ (beneath OK on the screen) to select **OK**. The Reset Complete screen displays the options you have selected.

```
   RESET COMPLETE
DISABLE APPS, PROGRAMS

ANGLE: DEGREE
STAT DIAGNOSTICS: ON


Press any Key...
```

4. Press $\boxed{\text{APPS}}$ to verify that Apps have been disabled.

```
    APPS HAVE BEEN
       DISABLED

LINK-RECEIVE L1 (OR ANY
    FILE) TO RESTORE

Press any Key...
```

Other variables, excluding AppVars, stored in RAM and in archived memory are deleted.

Student calculators disabled using the Press-to-Test method can be re-enabled using TestGuard 2.0, or by using the link-receive method described on page 11.

Starting and Quitting the Application

To start the application:

1. Press [APPS]. The Applications menu is displayed.

```
APPLICATIONS
↑Portug
:StudyCrd
:Suomi
:Svenska
█TestGrd2
:TImeSpan
:Transfrm
```

   Note: To select a menu option, press the number or letter corresponding to the option or press [▼] to highlight the option, then press [ENTER].

2. Select **TestGrd2** from the menu. The TestGuard Home screen is displayed.

```
   TESTGUARD HOME
1█Setup Calcs
2:Start Transfer
3:Setup Summary
4:Re-enable
5:About
            [HELP][QUIT]
```

To quit the application:

▶ From the TestGuard Home screen, select **QUIT** (press [GRAPH]).

Navigating

To select an item from a numbered menu:

- Press the number or letter corresponding to the menu option.

  —or—

- Press �â–¾ to highlight the option, then press ENTER.

To select options on the Setup Calcs screen, use the arrow keys to highlight the option, and then press ENTER to select it. The selected option remains highlighted when you move the cursor.

Note: To select options that appear at the bottom of most screens, press the calculator key that is below the option.

Clearing Students' Calculators with TI TestGuard 2.0™

Keep the following precautions in mind:

- Programs and applications cannot be disabled on TI-83 Plus calculators or TI-84 Plus calculators with OS 2.30 or lower. Therefore, if you set up TI TestGuard 2.0™ to disable programs and applications, they will be deleted from these units, instead.

- Coordinate clearing calculators with other teachers to avoid removing data that students have to use in other classes after your exam.

- If you have left your calculator unattended, check your TI TestGuard 2.0™ set-up to make sure that your settings are current.

- Make sure that the student's calculator is on the home screen before you begin. TI TestGuard 2.0™ will not run correctly if any program or application is running on the student's calculator or if it is in Link/Receive mode. If the student's calculator displays Waiting... it is in Link/Receive mode. If you see moving vertical lines in the top right corner of the calculator, a program is running.

- The student's calculator must have at least 2500 bytes of free RAM for TI TestGuard 2.0™ to operate. If the student's calculator does not have enough free RAM, TI TestGuard 2.0™ displays a memory error. In that case, you must manually remove data from RAM before you can run TI TestGuard 2.0™.

Setting Up TI TestGuard 2.0™

Note: The teacher's calculator must have at least 1500 bytes of free RAM after set up is complete to run TI TestGuard 2.0™.

The following sections show you how to set up the

- kinds of data that will be cleared or disabled
- angle and stat diagnostics settings
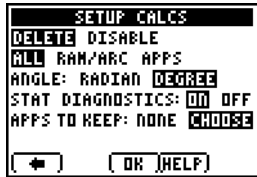- applications that can remain on students' calculators.

You do not have to complete the set-up in this order. You can set up or change any setting at any time without affecting the other settings.

Your set-up is saved in an application variable (AppVar) named AppList. You can share this AppVar (and thus your set-up) with another teacher who has TI TestGuard 2.0™ installed on a TI-83 Plus or TI-84 Plus.

Note: If a teacher's calculator contains an AppVar named AppList and TI TestGuard 2.0™ cannot read it, the AppVar will automatically be deleted.

Deleting Data from Student's Calculators

1. Select **DELETE**.

2. Select the type(s) of file to delete:

   - **ALL**: (default setting) deletes all unspecified applications *and* all files stored in RAM and in archived memory, including programs, AppVars, and variables. Mode settings (excluding Angle and Stat) are reset to factory defaults.

   - **RAM/ARC**: deletes data stored in RAM and in archived memory, including programs, AppVars, and variables. Mode settings (excluding Angle and Stat) are reset to factory defaults.

   - **APPS**: deletes all applications, excluding those that you specify to be saved. Mode settings are unaffected.

Disabling Programs and Applications

Programs and applications can be disabled on TI-84 Plus calculators with operating system (OS) version 2.40 or higher, but not on TI-83 Plus calculators or on TI-84 Plus calculators with a lower OS. If TI TestGuard 2.0™ determines that programs and applications cannot be disabled on the student's calculator, the programs and applications will be

deleted, instead. A message displays on the teacher's calculator indicating that the files are being deleted rather than disabled.

1. Select **DISABLE** (this is the default setting).

2. Select the type(s) of files to disable:

- **BOTH**: (default setting) disables all applications (excluding those specified to be saved) *and* all programs stored in RAM and in archived memory. Other data stored in RAM and archived memory is deleted, including AppVars and variables. Mode settings (excluding Angle and Stat) are reset to factory defaults.

  Note: A special situation exists when you select Disable, Both and save NO applications. For this one configuration, AppVars are saved.

- **PROGRAMS**: disables programs that are stored in RAM and in archived memory. Other data stored in RAM and archived memory are deleted, including AppVars and variables. Mode settings (excluding Angle and Stat) are reset to factory defaults.

- **APPS**: disables only applications (excluding those specified to be saved) Mode settings and RAM are unaffected. Note: When applications are disabled, ASM programs are also disabled.

On the student's TI-84 Plus, disabled programs and Apps are marked with the ≠ symbol.

```
RAM FREE      24252
ARC FREE     331810
▶≠ALG1CH5     32768
 ≠ALG1PRT1   65536
 ≠AreaForm   16384
 ≠CSheetEs   49152
 ≠CSheetFr   49152
 ≠CabriJr    65536
```

Notes:

- If you use a local language app, this app will be disabled by TI TestGuard 2.0™ even if it is excluded from the disable list. The calculator's language will revert to English. This behavior maintains the calculator's security. Re-start the localization app to restore the local language.
- A special situation exists between the Fundamental Topics in Science (FunSci) and Science Tools (SciTools) apps. If you disable SciTools but do not disable FunSci, when FunSci calls SciTools, the SciTools app will be successfullly launched (and thus re-enabled.)

The tables on the following page describe the various TI TestGuard 2.0™ set-up options. You can set up or change any setting at any time without affecting the other settings.

Note: In the following tables, the "Keep Cabri® Jr." comment is used to indicate a situation where one or more apps are marked to be kept and not deleted or disabled.

DELETE APPS (only)

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Deleted	Saved	Saved	Saved	Saved	Maintained
84+ with OS 2.40	Deleted	Saved	Saved	Saved	Saved	Maintained

DELETE APPS, Keep Cabri® Jr.

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Deleted, except Cabri Jr.	Saved	Saved	Saved	Saved	Maintained
84+ with OS 2.40	Deleted, except Cabri Jr.	Saved	Saved	Saved	Saved	Maintained

DELETE RAM/ARC

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Saved	Deleted	Deleted	Deleted	Deleted	Reset to factory
84+ with OS 2.40	Saved	Deleted	Deleted	Deleted	Deleted	Reset to factory

DELETE ALL

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Deleted	Deleted	Deleted	Deleted	Deleted	Reset to factory
84+ with OS 2.40	Deleted	Deleted	Deleted	Deleted	Deleted	Reset to factory

DELETE ALL, Keep Cabri Jr.

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Deleted, except Cabri Jr.	Deleted	Deleted	Deleted	Deleted	Reset to factory
84+ with OS 2.40	Deleted, except Cabri Jr.	Deleted	Deleted	Deleted	Deleted	Reset to factory

DISABLE APPS (only)

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Deleted	Saved	Saved	Saved (similar to Delete Apps only)	Saved	Maintained
84+ with OS 2.40	Disabled	Saved	Saved	Saved (similar to Delete Apps only)	Saved	Maintained

DISABLE APPS (only), Keep Cabri Jr

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/Stat Diagnotics)
83+, 84+ with old OS	Delete except Cabri Jr.	Saved	Saved	Saved	Saved	Maintained
84+ with OS 2.40	Disable except Cabri Jr.	Saved	Saved	Saved	Saved	Maintained

DISABLE PROGRAMS

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Saved	Deleted	Deleted	Deleted	Deleted	Reset to factory
84+ with OS 2.40	Saved	Disable	Deleted	Deleted	Deleted	Reset to factory

DISABLE BOTH (Apps and Programs)

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Deleted	Deleted	Deleted	Deleted	Deleted	Reset to factory
84+ with OS 2.40	Disable	Disable	Deleted	Saved for later use	Deleted	Reset to factory

DISABLE BOTH (Apps and Programs), Keep Cabri Jr

	Apps	Programs	RAM	AppVars	Other Archive variables	Mode Settings (except Angle/ Stat Diagnotics)
83+, 84+ with old OS	Delete except Cabri Jr.	Deleted	Deleted	Deleted	Deleted	Reset to factory
84+ with OS 2.40	Disable except Cabri Jr.	Disable	Deleted	Deleted	Deleted	Reset to factory

Enabling Disabled Programs and Applications

The TI TestGuard 2.0™ Re-enable option (on the TestGuard 2.0™ home screen) allows the teacher to enable disabled files. Students can also re-enable their calculators by transferring any file to or from another calculator.
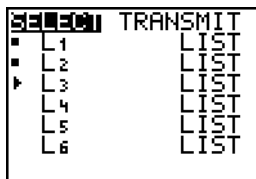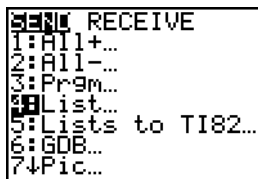
To enable files using TI TestGuard 2.0™:

1. Connect the teacher and student calculators using an I/O cable. Remember that the USB cable does not work with TI TestGuard 2.0™.

2. From the TestGuard 2.0™ home screen, select **Re-enable**.

Students can quickly enable files by connecting two student units with a unit-to-unit cable and transferring any file between them. Note that a successful file transfer between two disabled calculators will re-enable both units. To transfer a file:

▶ On the receiving unit, press [2nd] [LINK] and then select **RECEIVE**.

On the sending calculator:

1. Press [2nd] [LINK].

2. Select a file to send by selecting a category, and then selecting a file.

3. Select **TRANSMIT** to send the file.

```
SELECT TRANSMIT
1:Transmit
```

Setting Angle Measurements and Stat Diagnostics

In addition to clearing or disabling files on students' calculators, you can also set the way angle measurements are displayed and determine whether the r and r^2 correlation coefficients are turned on or off. (If your students do not need to use these features, simply accept the default settings.) Students will still be able to change the angle measurements display in the Mode settings and run DiagnosticsOn or DiagnosticsOff to change the stats diagnostics setting.

1. Select **RADIAN** or **DEGREE** to specify how angle measurements are displayed.
2. Select **ON** or **OFF** for the stat diagnostics setting.

Setting Up Applications Allowed on an Exam

If you allow students to use certain applications during an exam, you specify them in the TI TestGuard 2.0™ set-up. These specified applications remain on the students' calculators; all others are erased or disabled when the Delete mode is set to ALL or APPS and when the Disable mode is set to BOTH or APPS.

Notes:

- Coordinate clearing calculators with other teachers to avoid removing applications that students have to use in other classes after your exam.
- You should include any appropriate language applications in the application name list so that students who use another language on their calculators will still have access to the translated text.

When you specify the application names, you give TI TestGuard 2.0™ the application's file name. TI TestGuard 2.0™ will not delete or disable those applications. Many file names contain upper and lowercase letters and may contain special characters, such as , -, or /.

Warning! If you do not use the correct character case or special characters or if you add a space at the end of the name when you add it to the application list, TI TestGuard 2.0™ will not recognize the name, and the App will be deleted or disabled.

Example: You allow students to use the Periodic Table application on an exam. The application file name is PERIODIC.

If you type this as the application name in TI TestGuard 2.0™	TI TestGuard 2.0™ takes this action when it finds the Periodic Table application on the student's calculator:
periodic	Deletes or disables
Periodic	Deletes or disables
PERIODIC	Does not delete or disable

To find the application file name, press [APPS] on a calculator that contains that application. A list of application file names is displayed.

To set up applications allowed on an exam:

1. Select **NONE** to erase *all* applications.

   —or—

   Select **CHOOSE** to select applications that students can use during the exam.

2. Select **OK** (press [ZOOM]).

3. If you selected **CHOOSE** in step 1, the YOUR APPS LIST screen is displayed. This is the list of applications currently on your calculator.

4. Using [▲] and [▼], scroll through the list of applications and select each application that students can use (press [GRAPH] to use the check button or press [ENTER]).

5. Select **OK** (press [ZOOM]) to return to the main menu.

To enter the name of an application that is not currently on your calculator:

1. Select **NEW** from the YOUR APPS LIST screen to display the ADD TO APP LIST screen.

2. Type the name of the application.

   Notes:

   • To enter special characters, select **CHARS** to display characters you can choose from. Move the cursor to the desired character and select **OK** to copy the character into the application name.

- Remember, you can find the application file name by pressing APPS on a calculator that contains that application.

Warning! You must spell the application name correctly. Misspelling the application name will result in that application being deleted from or disabled on the students' calculators.

3. Select **OK** to add the application name to your list.

```
┌──────────────────────┐    ┌──────────────────────┐
│   ADD TO APP LIST     │    │   YOUR APPS LIST      │
│ TYPE IN THE NAME OF THE│    │ PLACE ✓ FOR APPS TO KEEP│
│ APP AND PRESS OK TO ADD.│    │ ┌──────────────────┐ │
│                       │    │ │✓ AreaForm        │ │
│                       │    │ │✓ CBL/CBR         │ │
│                       │    │ │✓ SciTools        │ │
│ App=SciTools▓         │    │ │  ALG1CH5         │ │
│ (←)    (OK)(HELP)(CHAR)│    │ │  ALG1PRT1       │ │
└──────────────────────┘    │ (←)(NEW)(OK)(HELP)(✓)│
                            └──────────────────────┘
```

4. To add another application name, repeat steps 1 and 2.

Note: To uncheck an application in the list, use ▲ or ▼ to highlight the application name and press GRAPH.

Set Up Summary

From the TestGuard 2.0™ Home screen, select **SETUP SUMMARY** to display a summary of the options you have chosen. An example of a summary is shown below.

```
┌──────────────────────┐
│     Setup Summary     │
│ DISABLE:  APPS, PROGRAMS│
│ APPS TO KEEP:   1     │
│ ANGLE:  DEGREE        │
│ STAT DIAGNOSTICS:   ON │
│                       │
│      (OK)(HELP)       │
└──────────────────────┘
```

Clearing Students' Calculators with TI TestGuard 2.0™

Before you clear students' calculators, make sure you have done the following:

- Coordinate clearing calculators with other teachers to avoid removing data that students have to use in other classes after your exam.

- Check your TI TestGuard 2.0™ set-up to make sure that your settings are current (especially if you have left your calculator unattended).

- Make sure that your calculator (the one with TI TestGuard 2.0™ on it) has at least 1500 bytes of free RAM.

1. Make sure that the student's calculator is on the home screen before you begin.

   Note: TI TestGuard 2.0™ will not run correctly if any program or application is running on the student's calculator or if it is in Link/Receive mode. If the student's calculator displays Waiting... it is in Link/Receive mode. If you see moving vertical lines in the top right corner of the calculator, a program is running.

2. Select **TestGrd2** on the teacher's calculator.

3. Connect the teacher's calculator to the student's calculator using an I/O unit-to-unit cable. (TI TestGuard 2.0™ does not work with the USB unit-to-unit cable.)

4. Select **Start Transfer** to run TI TestGuard 2.0™.

The teacher's calculator displays Transferring…. When the transfer is complete, the teacher's calculator displays Transferring...Complete with the options to quit or run TI TestGuard 2.0™ again.

5. Verify that the student's calculator has been cleared. The student's calculator displays a confirmation code to confirm that the calculator has been cleared. (The code disappears after a few seconds.)

   Notes:

   - When you clear RAM/ARC or BOTH, the calculator displays a RAM Cleared screen.

   - When you clear RAM/ARC or BOTH, the calculator's contrast may change.

   - If you disable the Science Tools (SciTools) App, you should also disable the Fundamentals Topics in Science (FunSci) App. If FunSci is used, it can successfully launch SciTools even though SciTools was disabled.

   - Localized calculators are automatically reset to English by TI TestGuard 2.0™. Students with localized calculators will have to reset their calculator's language even if the language app was excluded from the disable list. The need to restart some retained apps also applies to Catalog Help (CtlgHelp), Inequality Graphing (Inequal), and Transformation Graphing (Transfrm).

6. To clear another student's calculator, disconnect the I/O cable from the student's calculator and connect it to the next student's calculator.

7. Select **Again** to run TI TestGuard 2.0™ again.

8. To quit TI TestGuard 2.0™, select **Quit**, then select **Quit** (press GRAPH) on the TI TestGuard 2.0™ home screen.
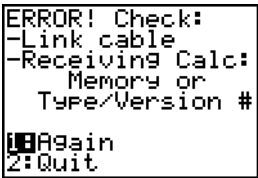
Deleting TI TestGuard 2.0™ from the TI-84 Plus

Note: If you choose to reset All RAM or Arc Vars, the application is unaffected. If you reset Apps or All Memory, the application is deleted.

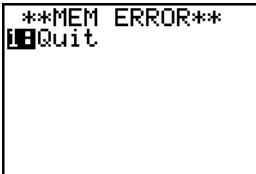## To delete TI TestGuard 2.0™ from your calculator:

1. Press [2nd] [MEM] to display the MEMORY menu.
2. Select **Mem Mgmt/Del**.
3. Use [▲] or [▼] to select **Apps**.
4. Use [▲] or [▼] to highlight **TestGrd2**.
5. Press [DEL].
6. Select **Yes** to confirm the deletion.
7. Press [2nd] [QUIT] to return to the home screen.

Error Recovery Instructions

TI TestGuard 2.0™ Application Errors

Error Message	Description
| ```
ERROR! Check:
-Link cable
-Receiving Calc:
    Memory or
  Type/Version #

1:Again
2:Quit
``` | Check the following:<br><br>• The student's calculator must be either a TI-83 Plus or a TI-84 Plus.<br><br>• The I/O link cable must be securely attached to both the teacher's and the student's calculators. Try disconnecting the cable and reconnecting it to both units. Also, verify that you are using an I/O cable and not a USB cable to connect the calculators. TI TestGuard 2.0™ does NOT work with a USB cable.<br><br>• The student's calculator must have at least 2500 bytes of memory free. If it does not, manually delete some items from RAM and run TI TestGuard 2.0™ again.<br><br>On the TI-83 Plus, press [2nd] [MEM], then select **Mem Mgmt/Del** to display RAM FREE. You can delete items to free RAM from this screen. Select a data type (for example, **Prgm**), highlight an item to delete, and press [DEL]. |

	• A program named testasm may already be on the student's calculator. Delete the program and run TI TestGuard 2.0™ again.
| ```
**MEM ERROR**
1:Quit
``` | This error occurs when the teacher's calculator does not have enough free RAM. It can occur during TI TestGuard 2.0™ set up or upon an attempt to run TI TestGuard 2.0™ to clear a calculator. |
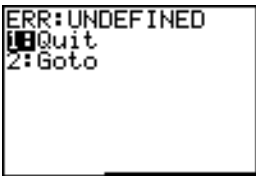
To correct the problem:

- Quit TI TestGuard 2.0™.

- Delete or archive items from your calculator's memory until you have at least 1500 bytes free.

- Start TI TestGuard 2.0™ and continue set up or clearing calculators.

Note: This error only occurs on a student's calculator if TI TestGuard 2.0™ is set to delete or disable Apps. It is seen only by students with a TI-83 Plus calculator.

```
ERR:UNDEFINED
1:Quit
2:Goto
```

The student pressed ENTER when TI TestGuard 2.0™ finished running. The calculator is designed to run the last program in memory when ENTER is pressed. However, the program that executes when TI TestGuard 2.0™ runs is no longer on the student's calculator.

To clear the error:

- Select **Quit** to return to the TI TestGuard 2.0™ Calculator Clear screen.

- Press any number, a series of numbers, or enter an equation.

- Press ENTER.

Downloading Errors

Low Battery Condition

Do not attempt a Flash download if the low-battery message appears on the calculator. Low battery indication is shown on the Home screen. If you

receive this error during an installation, change the batteries before trying again.

Archive Full

This error occurs when the TI-83 Plus or TI-84 Plus does not have sufficient memory for the application. In order to make room for another application, you must delete an application and/or archived variables from the calculator. Before deleting an application from the TI-83 Plus, you can back it up to a computer by using TI Connect™. Once saved, you can reload it to the calculator later using TI Connect™.

Communication Error

This error indicates the Flash installer is unable to communicate with the TI-83 Plus or TI-84 Plus. The problem is usually associated with the cable and its connection to the calculator and/or to the computer. Make sure the cable is firmly pushed in to the calculator and the computer.

If this does not correct the problem, try a different cable and reboot your computer. If you continue to get this error, please contact education.ti.com/support for assistance.

Validation Error

Either this calculator does not have a certificate to run the application, or electrical interference caused a link to fail. Try to install the application again. If you continue to receive this error, contact education.ti.com/support.

Checksum Error

The Flash™ installer was not able to verify that the application was fully installed. Exit the installer and try to install the application again. If this problem persists, contact education.ti.com/support.

Other Errors

See pages B6 through B10 in the TI-83 Plus or TI-84 Plus guidebook (education.ti.com/guides) for information about the specific error or contact eduation.ti.com/support.

Miscellaneous

Verify Maintenance Upgrade Version and Serial Number

1. Press [2nd] [MEM].
2. Select **ABOUT**.

The version number has the format x.yy. The serial number appears on the line beneath the product ID number.

Verify Flash Application Version

1. Press [APPS].
2. Select **TestGrd2**.
3. Select **About** to display the About screen

The version number appears on the About screen below the application name.

Check Amount of Flash Application Free Space

1. Press [2nd] [MEM].
2. Select **MEM MGMT/DEL**.

TI TestGuard 2.0™ requires at least 32,768 bytes of ARC FREE to load the application. For more information about memory and memory management, refer to the TI-83 Plus or TI-84 Plus guidebook (education.ti.com/guides).

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Phone (not toll-free):	(972) 917-8324

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