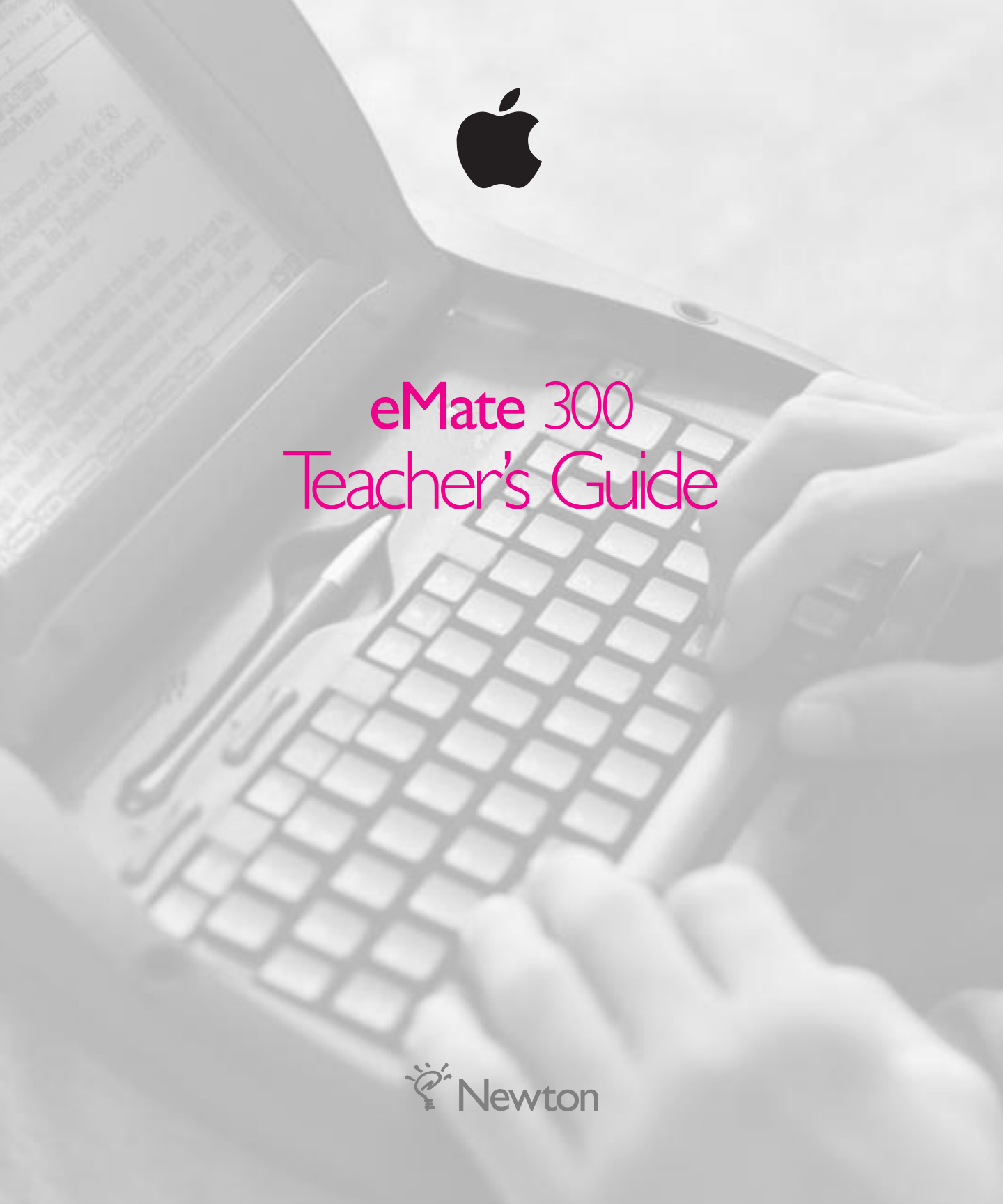

# eMate 300
# Teacher's Guide

Newton

Apple Computer, Inc.

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## Communications regulation information

### FCC declaration of conformity

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. See instructions if interference to radio or television reception is suspected.

### Radio and television interference

The equipment described in this manual generates, uses, and can radiate radio-frequency energy. If it is not installed and used properly—that is, in strict accordance with Apple's instructions—it may cause interference with radio and television reception.

This equipment has been tested and found to comply with the limits for a Class B digital device in accordance with the specifications in Part 15 of FCC rules. These specifications are designed to provide reasonable protection against such interference in a residential installation. However, there is no guarantee that interference will not occur in a particular installation.

You can determine whether your computer system is causing interference by turning it off. If the interference stops, it was probably caused by the computer or one of the peripheral devices.

If your computer system does cause interference to radio or television reception, try to correct the interference by using one or more of the following measures:

- Turn the television or radio antenna until the interference stops.
- Move the computer to one side or the other of the television or radio.
- Move the computer farther away from the television or radio.
- Plug the computer into an outlet that is on a different circuit from the television or radio. (That is, make certain the computer and the television or radio are on circuits controlled by different circuit breakers or fuses.)

If necessary, consult an Apple-authorized service provider or Apple. See the service and support information that came with your Apple product. Or, consult an experienced radio/television technician for additional suggestions.

**Important** Changes or modifications to this product not authorized by Apple Computer, Inc., could void the FCC Certification and negate your authority to operate the product.

This product was tested for FCC compliance under conditions that included the use of Apple peripheral devices and Apple shielded cables and connectors between system components. It is important that you use Apple peripheral devices and shielded cables and connectors between system components to reduce the possibility of causing interference to radios, television sets, and other electronic devices. You can obtain Apple peripheral devices and the proper shielded cables and connectors through an Apple-authorized dealer. For non-Apple peripheral devices, contact the manufacturer or dealer for assistance.

*Responsible party:* Robert Steinfeld, Apple Computer, Inc., 1 Infinite Loop, Cupertino, CA 95014-2084, 408-974-2618.

### Industry Canada statement

This Class B device meets all requirements of the Canadian Interference-Causing equipment regulations.

Cet appareil numérique de la Class B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

### VCCI Class 2 statement

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取扱説明書に従って正しい取り扱いをしてください。

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# 1 Getting Started Using the eMate in Your Classroom

If your school just purchased an Apple eMate 300—whether it's an eight-pack, several eight-packs, or a single eMate—start here, with the *eMate 300 Teacher's Guide*.

The *eMate 300 Teacher's Guide* is designed to help you use the eMate in your classroom. While the longer *eMate 300 User's Manual* is a complete reference source for using the eMate, the teacher's guide will help you integrate the eMate 300 into your classroom environment.

## Learning to use the eMate

If you've never used an eMate, you should become thoroughly acquainted with it before you introduce it to your students. To do so, you'll want to use three features designed to get you up and running quickly:

- **Chapters 1 and 2 of the eMate 300 User's Manual**

  These chapters tell you about the main features and parts of the eMate, show you how to start the eMate Tour, and teach you the basics of using the eMate.

- **eMate Tour**

  This interactive electronic tour, which you use on the eMate, helps you become familiar with the eMate's features. You don't have to take the whole tour—you can go through just the first few sections, leaving more advanced topics (such as faxing) for later.

- **Works Practice**

  This electronic tutorial, which you use on the eMate, teaches you and your students to use the word-processing and drawing components of Newton Works, the built-in productivity application.

## Reading this book

Before you start using the eMates in the classroom, read this book, which guides you through planning to use the eMates in class. First, you'll learn how to set up the eMates for student use. Then, you'll get checklists and activities for teaching your students to use the eMates. You'll also see tips and suggestions for storing, recharging, and using the eMates in class and at home, and will read suggestions for managing students' documents. In later chapters, you'll see activities that will help you integrate the eMate into your curriculum, get ideas for expanding the eMate's capabilities, and learn answers to frequently asked questions.

## Using the other books in this set

The eMate comes with several other books to help you use your new eMate:

- **eMate 300 User's Manual**

  In addition to helping you get started and learn the basics, this handbook is a complete reference source on the eMate 300. It teaches you how to use all eMate features, including Newton Works and other built-in software.

  Use this handbook when you have a specific question about how to do something on the eMate 300.

- **Documentation for the connection software**

  With your eMate, you received a CD-ROM disc. This CD contains software that allows you to transfer files between the eMate and a desktop computer; it also contains electronic documentation on using this software.

  Use this documentation when you want to learn how to back up, restore, and transfer files between the eMate and other computers.

  To open or print the electronic documentation, see the instructions in the CD booklet.

> **By the way** The CD also contains other software, including Newton Press and demonstration versions of Newton products that you might find useful in your classroom. It also includes backup copies of the RAM-based software for the eMate. For more information about any of the software on the CD, see the CD booklet or open the CD on a Mac OS– or Windows software–based computer.

- **Newton Works Graphing Calculator User's Manual**

  This manual tells you how to use the graphing calculator included in Newton Works.

- **QuickFigure Works User's Guide**

  This manual tells you how to use the spreadsheet program included in Newton Works.

## Staff development workshop

You can also participate in Apple Computer's onsite workshop, eMate: Discover Mobile Computing. In this two-day workshop, you'll explore the eMate's hardware and software, learn strategies for managing classroom use of the eMates, and see curricular projects appropriate for a variety of grade levels.

For more information about this workshop, call 800-800-APPL.

## Web site

You can visit the eMate World Wide Web site to find more information about the eMate. This site contains the most current information about the eMate, such as answers to frequently asked questions and information about add-on products for the eMate.

The URL (Uniform Resource Locator) for the eMate Web site is: http://www.newton.apple.com/eMate.html.

# 2 Setting Up the eMates for Student Use

Before you let students begin to use the eMates, you should set up each eMate for student use.

## Why you should set up the eMates

Setting up the eMates lets you accomplish several classroom goals:

- **make it easier for students to share eMates, if necessary**

  In the course of a class, day, or week, it's likely that more than one student will use a single eMate. If you have more than one student per eMate per class period, several students will probably have to share or take turns using the eMate. Even if your typical class has 24 students and you have 24 eMates, you may teach more than one class period, with different students in each period.

  All this sharing means you have to think about privacy and security. How do students find their own files? How do you make sure that students can't view the files created by other students who use the same eMate? How do you prevent them from accidentally deleting or tampering with the work of a student in another class? If such questions are important to you, you need to set up the eMates in a way that gives you control over privacy and security.

  To identify individual students' files and keep them secure, you can require user names and passwords for students to access the eMate.

- **help students to stay on task**

  When you give students a new, fun-looking learning tool, you run the risk of distracting them from their assigned activity. If you make all the eMate's features available to your students, they may spend the class period playing with their electronic address book instead of collaborating on a history report.

  To provide a simplified interface and prevent students from using features they don't need, you can put the eMates into Classroom Mode and choose exactly which applications they have access to.

- **enable students to find the same eMate they used last time**

  If students store all their documents on the eMates, they must return to the same eMate each time. In that case, you'll want to distinguish the eMates from one another, so that at the beginning of each class or each activity involving the eMate, students can quickly find the same eMate they were using last time.

> **By the way** If students always move their eMate work to a desktop computer or to a storage card—as described later in this guide—then their files aren't stored on any eMate; in that case, they can use any eMate at any time.

The eMate has features to help you deal with all these issues. This chapter tells you how to use these features to set up the eMates so they're best suited to your classroom environment.

## Understanding your setup options

To set up the eMate for student use, you will use an application called Teacher Setup. Before you use Teacher Setup, you should decide which of the eMate's two modes you want to use in your classroom.

### Classroom Mode versus Full Newton System

The eMate can operate in one of two modes:

- **Full Newton System**

  In this mode, all features and applications of the eMate are available to all users. You cannot limit which applications students can open. Furthermore, the eMate only perceives one user, so even if more than one person uses the eMate, all the users' documents get stored together.

  In Full Newton System, users can also file their documents into folders.

- **Classroom Mode**

  In this mode, students can open only those applications that you choose to make available to them. Also, you can create a separate user name for each user of the eMate, so each student's documents are stored separately. As an option, you can also protect each user's work by setting passwords.

  Classroom Mode presents a simplified interface in which all documents belonging to a particular user get stored at one level. Users cannot file documents into folders.

The following table summarizes the differences between the two modes:

| Full Newton System | Classroom Mode |
|---|---|
| all applications are available to all users | you can choose which applications are available |
| perceives just one user | can perceive one or more users |
| does not protect work through passwords | offers password protection as an option |
| allows filing | has a simplified interface that does not allow filing |

## Deciding on a mode

For most classroom settings, Classroom Mode is the more appropriate mode because it separates and protects individual students' work, can make available as many or as few applications as you want, and is easy to use for students of all levels.

Under what circumstances, then, might you choose to use Full Newton System? Consider using Full Newton System if one of the following is true for your classroom:

- **Students never have to share a unit, not even with students from another period.**

  If an eMate contains documents for only one student, there is no need to allow more than one user to log in to the eMate. Therefore the eMate can be used in Full Newton System mode.

- **Students do have to share the eMate, but each student stores his or her documents on a storage card.**

  A storage card, which is not included with the eMates but can be bought separately, can store all the student's documents, so student documents never have to stay on the eMate. Since there's no risk of students' getting into each other's documents, the eMate can be used in Full Newton System mode.

- **Students do have to share the eMate, but students move their work to a desktop computer after each use.**

  If students routinely move their work to a desktop computer (using one of the connection utilities), then their documents do not stay on the eMate. As with a storage card, then, there's no risk of students' getting into each other's documents; therefore, the eMate can be used in Full Newton System mode.

Remember, though, that in Full Newton System, students have access to all the built-in applications and see a more complex interface than that of Classroom Mode. So, Full Newton System may not be appropriate for your students.

## Examples of modes in different classrooms

Suppose you have 16 eMates, which you're setting up for a 3rd-grade classroom. Even though you have the same set of students all day, there are more students than eMates, so students have to share. Your school did not buy storage cards and you don't have a Macintosh to which you can transfer student work. You should use the eMates in Classroom Mode.

Now suppose you're setting up eMates for a high-school math class that will be using the Newton Works graphing calculator. The classroom has 32 eMates, allowing each student to have one for the whole period. Students back up their work after each use, so no students' documents are stored on the eMates. In this classroom, you can use the eMates in either Full Newton System or Classroom Mode. In either mode, you won't have to specify user names, so the only question is whether you want to make all the applications available.

## Once you've decided on the mode

The next section suggests how to distribute eMates among students. If you want to get started with Teacher Setup, read the instructions in the section "Using Teacher Setup to Set the Mode and Other Options," later in this chapter.

## Distributing eMates among students

### If you decided to use Full Newton System

If you decided to use the eMates in Full Newton System mode, distributing the eMates among your students is easy.

#### One student per eMate

If each student is lucky enough to have his or her own eMate for the entire day, your only challenge is making sure the eMate and the student stay together. For example, if students leave the eMates in your classroom at the end of the day, make sure students can quickly find their eMates next time they come to class. Here are some suggestions:

- Assign names or numbers to the eMates that correspond to student names or numbers on your class roster.
- Label each eMate with its owner's name or student number:
  - Slip a card into the ID card holder at the base of each eMate. Any card the size of a business card will work.
  - Attach a tag to each eMate's handle.
  - Create adhesive labels and place one on top of each eMate. If you're using this somewhat permanent method of identifying the eMates, use generic labels (such as numbers or letters) that can be reassigned to a new set of students the following year.
- Arrange the eMates in the classroom in alphabetical or numeric order.
- Establish a routine for students to follow for putting away and picking up their eMates.

#### Several students per eMate

If several students share an eMate and the eMate is in Full Newton System mode, each student probably has his or her own storage card. If this is the case, you don't need to assign each student to an eMate because the students' documents do not stay on the eMate—they all remain on the storage card.

If each student does not have a storage card, think twice about your decision to use Full Newton System. Read "Understanding Your Setup Options," earlier in this chapter, to understand the consequences of using this mode in this classroom environment.

### If you decided to use Classroom Mode

If you decided to use the eMates in Classroom Mode, you'll probably have several students sharing each eMate. Because you'll want each student to use the same eMate every time, you need to assign a group of students to each eMate.

For each class period that will be using the eMate, follow these steps to assign groups of students to the eMates:

1. Divide the number of students in the class by the number of eMates to determine how many students should be assigned to each eMate group.

   For example, if you have 25 students and 8 eMates, you'll have 7 groups of 3 students and 1 group of 4 students.

2. Write down the names of the students that you want to be in each eMate group. Consider the following ways to group the students:

   - Arbitrarily, such as assigning the first three names on your class roster to the first group, the second three names to another group, and so on.
   - Based on your seating arrangement, so that students won't have to move far from their assigned seats to get into their eMate groups.

   *Tip:* If you've already divided your students into small groups for other classroom activities, be sure to assign each student in each small group to a different eMate group. This way, each member of the small group will have his or her own eMate when the group does an eMate activity together.

   When you're done, you'll have a list of all the students who'll be assigned to each eMate.

3. Give each eMate group a name or number. You and the students will use this name to identify both the group and the eMate that the group is assigned to.

   You might want to choose names around a theme, such as colors or animals. Using numbers or names that are in alphabetical order (Aardvark, Bear, etc.) will make it easier to store and retrieve the eMates later.

4. Label each eMate with its group's name.

   Now that you've decided which students will be in each group (and given each group a name), label each eMate with its group's name to make it easy for students to find the eMate that contains their work.

   Here are some suggestions:

   - Slip a card that identifies the eMate's group into the ID card holder at the base of each eMate. Any card the size of a business card will work.
   - Attach a tag to each eMate's handle.
   - Create adhesive labels and place them on top of each eMate.

## Using Teacher Setup to set the mode and other options

Once you've decided which mode to use, you're ready to use the Teacher Setup utility to set the mode and other options.

*Tip:* You don't have to go through Teacher Setup on each eMate. Follow these instructions for using Teacher Setup on one eMate. Later, you'll see instructions for transferring the settings to other eMates.

### Opening Teacher Setup

Before you use Teacher Setup, you need to go through Setup. Setup allows you to calibrate the eMate with the eMate pen and enter information such as your name, address, and date.

#### If you have not gone through Setup

If you have *not* gone through Setup, follow these steps to go through Setup and open Teacher Setup:

1. Open the eMate to turn it on.

   If you're opening this eMate for the first time, the eMate will ask you to calibrate the eMate with the pen.

2. Follow the onscreen instructions to go through Setup.

3. In the Congratulations screen, tap Teacher Setup.

### If you have gone through Setup

If you *have* gone through Setup, follow these steps to open Teacher Setup:

1. Open the eMate to turn it on.
2. Press the Extras key to open the Extras Drawer.
3. Tap the Unfiled Icons tab that's near the middle of the screen.
4. In the pop-up list that appears, tap Setup to go to the Setup folder.
5. Tap Teacher Setup .

## Setting the teacher password

When you open Teacher Setup for the first time, you'll be prompted to set a teacher password.

*Note:* If a teacher password is already set, skip to the next section, "Entering the Teacher Password."

Although you don't have to set a password, doing so is highly recommended because it prevents students from using Teacher Setup. If you don't specify a teacher password, any user will be able to open Teacher Setup and use it to switch modes, change user names, and even lock you out of Teacher Setup by setting a teacher password!

The first time you open Teacher Setup, the following slip, or window, appears:

**By the way** A slip is like a dialog box on a Macintosh: it contains a message requesting more information from you.

To set the teacher password, follow these steps:

1. Type the desired password on the first line.

   The caret, or insertion point, appears where your typing will be placed. Make sure you write your password down and keep it in a safe place, in case you forget it.

2. Press the Tab key to go to the next line (or tap the second line with the pen).

   The caret now appears on the second line.

3. Type your password again to confirm it.

4. Press Return (or tap Set).

> **By the way** If a button on the screen has a line above and below it, it is the "default" button. Pressing Return is the same as tapping the default button.

## Entering the teacher password

Once you set the teacher password, the Password slip appears each time you open Teacher Setup.

Type the teacher password, then press Return (or tap ☒).

The Teacher Setup application opens.

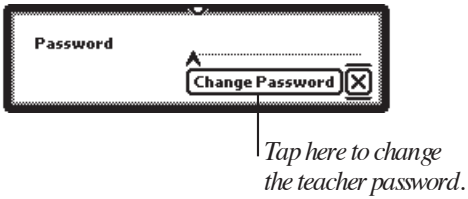
## Changing the teacher password

You can change the teacher password at any time, as long as you know the existing teacher password.

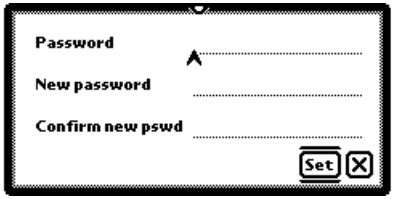
To change the teacher password, follow these steps:

1. Open Teacher Setup.

   The Password slip appears.




2. Tap Change Password.




3. Type the old password on the first line, then press the Tab key to go to the second line (or tap the second line with the pen).

4. Type the new password, then press the Tab key to go to the third line (or tap the third line with the pen).

5. Type the new password again to confirm it, then press Return (or tap Set). Make sure you write down the new password and keep it in a safe place.

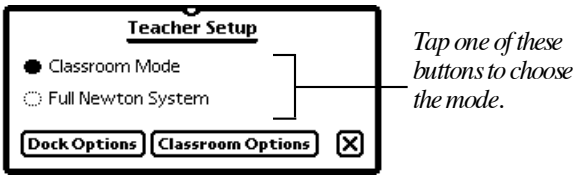
   The Password slip appears.

6 Do one of the following:

- If you *want* to use Teacher Setup right now, type your new password and press Return (or tap ☒).
- If you *don't* want to use Teacher Setup right now, press Return (or tap ☒) to close the slip.

## Setting the mode

After you enter the teacher password, the Teacher Setup slip appears:




When you first open the Teacher Setup application, Full Newton System is selected.

- If you've decided to use Full Newton System mode, you don't need to change anything in the Teacher Setup slip. If you want to set options for connecting to a desktop computer (docking), go on to the next section, "Setting Dock Options." If you don't want to set dock options, press Close (or tap ☒) to close Teacher Setup.
- If you've decided to use Classroom Mode (as described earlier in this chapter), tap the button labeled Classroom Mode. After you tap that button, the button becomes darkened to indicate that it is selected.

  You can now set options for connecting to a desktop computer (dock options) and options that affect how the eMate will work when it's in Classroom Mode (classroom options). To set these options, follow the instructions in the next two sections.

## Setting dock options

Dock options determine how your eMate will connect to a desktop computer to transfer information between the eMate and the computer.

There are two dock options you can set:

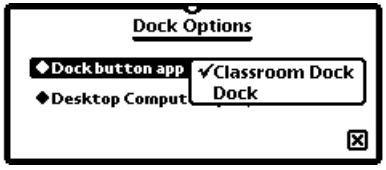
- the default application you'll use to connect to a desktop computer
- the default desktop computer that you'll connect the eMate to

To set dock options, follow these steps:

1. In the Teacher Setup slip, tap Dock Options.

   The Dock Options slip appears.

2. To set the default connection application you want to use to connect to a desktop computer, tap "Dock button app."



3. If necessary, in the menu that appears, tap your choice.
   - *If you tap Classroom Dock,* you'll be able to connect several eMates to a single desktop computer using the eMate Classroom Exchange software.
   - *If you tap Dock,* you'll be able to connect one eMate at a time to a desktop computer using the Newton Connection Utilities software.

   A checkmark appears next to the selected application. Whenever you press the Dock key on the keyboard, you'll automatically use the application selected to connect to the desktop computer.

   Once you choose the application, you don't have to change this setting unless you change the software that you use to make connections.

4. To set the default computer you want to connect to the eMate, tap Desktop Computer.

   This option lets you choose the computer you'll connect to each time you press the Dock key.

   **Important** To set this option, you need to connect the eMate to the computer you want to specify as the default; also, that computer needs to be running the connection software you just specified as the default connection application. For more information, see the documentation that came with the connection software.

5. In the menu that appears, tap your choice.
   - *If you tap None,* you won't be automatically connected to a desktop computer when you press Dock. (None is the default setting.)
   - *If you tap Choose Other,* a slip appears showing you the computers to which you can connect. In the slip that appears, tap your choice and tap ☒.

   Once you choose the computer, you won't have to change this setting unless you change the computer that you want to connect to.

6. When you are finished setting these options, tap ☒ or press the Close key.

   *Tip:* If you're using the eMate in Full Newton System mode, you're done setting options. If you want, you can back up these settings, then transfer them to other eMates. For more information, see the section "Transferring Settings From One eMate to Another," later in this chapter.

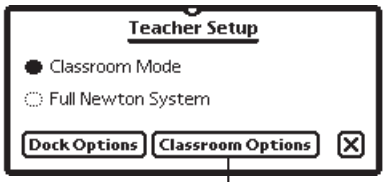
## Setting classroom options

Teacher Setup lets you set various options that affect how the eMate will work when it's in Classroom Mode. You can

- select a default printer
- enable or disable spell-checking
- allow multiple users to log in to the eMate
- choose which applications you want users to be able to access

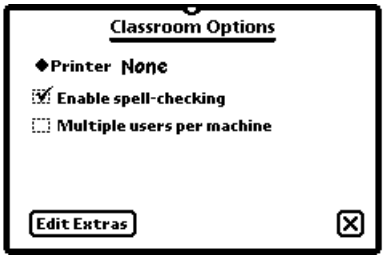
**Important** Any classroom options you set take effect only when the eMate is in Classroom Mode.

To set any of the above options, tap Classroom Options in the Teacher Setup slip.




*Tap here to set classroom options.*

The Classroom Options slip appears. See the following sections for instructions on setting each classroom option.



### Selecting a default printer

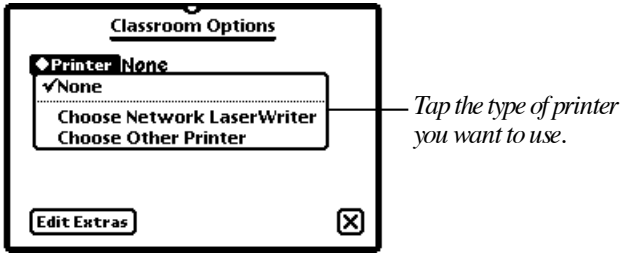
This option lets you set the printer you'll use as the default with your eMate.

**Important** If you want to use a printer that is on a network, you need to connect the eMate to the network before you can select the desired printer. For instructions, refer to Chapter 14, "Printing," in the *eMate 300 User's Manual*.

To set or change the default printer, follow these steps:

1 Tap Printer.

A list appears.



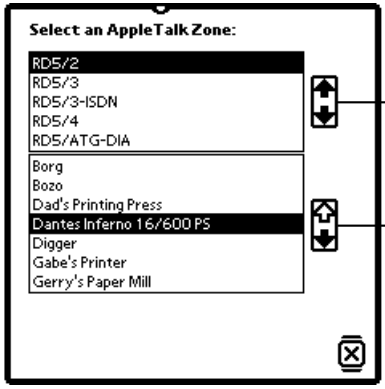
**2** Do one of the following:

- Tap None if you don't want to set a default printer.

  Each time you print something, you'll need to choose a printer.

- Tap Choose Network LaserWriter to select a printer that's on a network (that is, a printer that's shared by more than one computer).

  In the slip that appears, tap the zone where the printer you want is located, then tap the printer. Press Close or tap ☒.

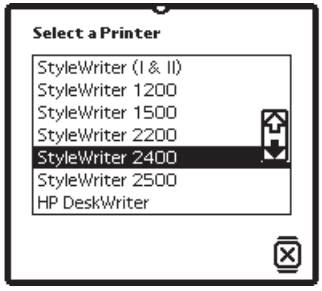



*Tap the scroll arrows to move up and down in the list of zones in the network.*

*Tap the scroll arrows to move up and down in the list of printers in the selected zone.*

- Tap Choose Other Printer to select a non-networked printer (that is, a printer that's connected to only one computer).

  In the slip that appears, tap the printer of your choice, then press Close or tap ☒.



### Enabling and disabling spell-checking

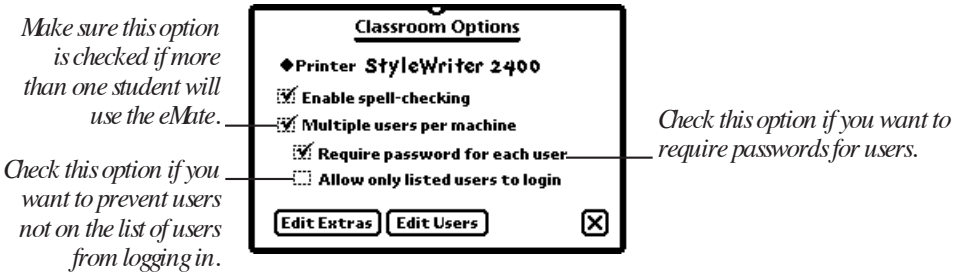
This option lets you enable or disable spell-checking. By default, spell-checking is enabled (has a checkmark in the checkbox). To disable spell-checking, tap the checkbox to remove the checkmark.

### Specifying multiple users

You've probably chosen Classroom Mode because you will have more than one student using a single eMate. If so, follow the instructions in this section to set how multiple users can log in to the eMate.

1 Tap the checkbox labeled "Multiple users per machine."

The checkbox now has a checkmark in it, and two checkboxes appear below the multiple user option. (Also notice that a new button, Edit Users, appears.)




You now have some choices for users and passwords:

- Require password for each user
- Allow only listed users to login

You can choose neither, one, or both of these options.

2. If you want to require users to enter a password to use the eMate, tap the checkbox labeled "Require password for each user" to put a checkmark in it.

   If you select this option, anyone who tries to start the eMate will be prompted to enter a password; without the correct password, the student will not be able to use the eMate.

   Selecting this option keeps students from viewing or tampering with each other's documents. However, it also requires the students to remember their passwords.

3. If you want to allow only listed users (user names that you enter in Teacher Setup) to use the eMate, tap the checkbox labeled "Allow only listed users to login" to put a checkmark in it.

   If you select this option, only those users that you explicitly list in Teacher Setup will be able to use the eMate.

   Selecting this option gives you control over which eMate a student can use. But it also reduces your flexibility, forcing students to use the same eMate each time, even if they don't store their files on it. Selecting this option also forces you to enter all the user names for each eMate in Teacher Setup. (If you don't select this option, students can register themselves when they first log in.)

   **Important** After setting these options, you may be tempted to start creating user names and passwords. Do not create user names and passwords right now. Instead, follow the instructions in the next section to choose which applications are available to users. Those choices, along with those you already made, make up the "base" classroom state—the settings that are common to all eMates in your classroom. Once you set a base classroom state on a single eMate, you'll be able to transfer it to other eMates. Since user names and passwords are different for each eMate, you'll want to add those only after you've set each eMate to the base classroom state.

### Choosing which applications are available to users

Since your eMates will be in Classroom Mode, you can choose which applications will appear in the Extras Drawer, and therefore be available to users.

### Descriptions of applications

The following table gives a brief description of all the built-in applications on the eMate. The applications listed in color are available by default: if you don't specify which applications you want, the default applications will appear in the Extras Drawer. The default applications work well in Classroom Mode because they store data separately for each user. Other applications, even when used in Classroom Mode, store all data together.

*Note:* Help and Teacher Setup always appear in the Extras Drawer.

| Application | Description |
| --- | --- |
| **Calculator** | for simple arithmetic calculations (This basic calculator is different from the graphing calculator included in Newton Works.) |
| **Calls** | for making and logging telephone calls |
| **Card** | for choosing what information to store on a storage card and for backing up and restoring information (You won't need this application unless you are using storage cards to back up data.) |
| **Classroom Dock** | for connecting to a desktop computer using the eMate Classroom Exchange software |
| **Clock** | for setting the time and date, a daily alarm, and a timer |
| **Dates** | for scheduling appointments, meetings, and other events and for entering To Do tasks (You might use it to create a class calendar with homework assignments, project milestones, and other class and school events. Keep in mind that all this data will be shared by all users of the eMate.) |
| **Dock** | for connecting to a desktop computer using Newton Connection Utilities |
| **eMate Tour** | for learning the basics of the eMate |
| **Formulas** | for conversions (between metric and imperial units, between currencies of different nations, etc.) and other specialized calculations (loan payments, net present value, number of days between two dates) |
| **Help** | for viewing onscreen help |
| **InOut** | includes the In Box, for receiving beamed information, electronic mail, and other items; and the Out Box, for storing items waiting to be printed or sent as beamed information, faxes, and electronic mail |
| **Names** | for creating an address book of names, addresses, and other information for individuals, companies, and groups (You might use it to create a class phone book of students, parents, school clubs, and so on. Keep in mind that all this data will be shared by all users of the eMate.) |

*(continued)*

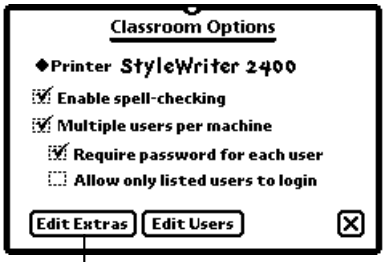
| Application | Description |
| --- | --- |
| **Notes** | for creating quick notes and outlines using either the eMate pen or the keyboard (You can use it for note-taking, brainstorming, outlining, typing practice, collaborative writing, and journal writing. Keep in mind that all this data will be shared by all users of the eMate; for private writings, use the Newton Works word processor instead of Notes.) |
| **Owner Info** | for setting owner and worksite information; not recommended for student use unless the student owns the eMate |
| **Prefs** | for setting preferences for sound effects, handwriting recognition, the backlight, and other features of the eMate |
| **Setup** | for calibrating the eMate with the pen and entering information about the owner |
| **Styles** | for choosing font size and style in all areas other than Newton Works |
| **Teacher Setup** | for choosing the mode, choosing the type of default printer, choosing a desktop computer to connect with, setting spell-checking, entering users and passwords, and choosing applications to make accessible to users |
| **Time Zones** | for setting your location and determining times around the world |
| **Newton Works** | for using Newton Works, an integrated software application that contains a word processor, draw program, spreadsheet program, and graphing calculator (For suggested uses, see the activities in Chapter 6 of this guide.)<br><br>*Note:* Because Newton Works is the default backdrop application, its icon does not show up in the Extras Drawer unless you change the backdrop. |
| **Works Practice** | for learning the basics of using the word-processing and drawing components of Newton Works |
| **Writing Practice** | for practicing your handwriting so that the eMate can transform it to text |

For detailed information about the built-in applications, see the *eMate 300 User's Manual*.

### Changing available applications

To change the applications that are available in the Extras Drawer, follow these steps:

1 Tap Edit Extras.




*Tap here to change or view the applications accessible to users.*

A slip appears listing the applications that are stored in the Extras Drawer. Those that have a checkmark in the checkbox (the default applications) are currently available to users.

*Applications that appear in the Extras Drawer have a checkmark next to them.*

*Tap the scroll arrows to move up and down in the list.*

*Tap here or press the Close key when you are finished.*

*Tap here to use the default applications.*

2 Select the applications you want to make available to all users of the eMate.

- If you want to select the recommended, or default, applications, tap the Select Recommended Apps button.

  *Note:* All the default applications work well in Classroom Mode because the eMate stores files created in those applications in a separate area for each user.

- Tap the checkbox next to each checked application that you do *not* want to make available to users. (Tapping a checked checkbox removes the checkmark, indicating that you don't want to select that application.)
- Tap the checkbox next to each additional application you want to make available to users.

**Important** You can add applications that are not part of the recommended set. However, be aware that documents and data created in these applications will be shared by all users. For example, if you make Dates available to all users, any user can modify the one calendar that's shared by all the users.

3 When you are finished choosing applications, press Close (or tap ☒).

Congratulations! You are done setting the "base" classroom options for this eMate. At this point, decide what you prefer to do next:

- copy these base classroom options to other eMates

  To do so, follow the instructions in the next section, "Transferring Settings From One eMate to Another."

- create a set of users and passwords for this eMate

  You can do so by following the instructions in the section "Setting Users and Passwords," later in this chapter.

  *Note:* Do not create a unique list of users for this eMate before you copy the eMate's settings to other eMates. If you do so, you'll copy both the base settings and all the users to the other eMates.

## Transferring settings from one eMate to another

You can transfer the information you've entered in the Setup and Teacher Setup applications on one eMate to other eMates. Doing so saves you from manually entering the same information into more than one eMate.

*Note:* This process transfers all data from Teacher Setup, including the names and passwords of any users you've entered.

The easiest way to transfer information from one eMate to another is by using a 5-volt storage card.

**Important** If you're not using a 5-volt card, you can't store information on the card—you can only read information. For more information on using storage cards, see Chapter 11, "Storing and Backing Up Information," in the *eMate 300 User's Manual*.

Transferring information using a storage card is a two-step process: first backing up the data from the first eMate to a storage card, then restoring that data from the storage card to the other eMates. The following two sections describe how to perform this process.

### Backing up data from the first eMate to a storage card

1 Insert a storage card into the card slot of the first eMate (the one on which you've already completed Setup and Teacher Setup).

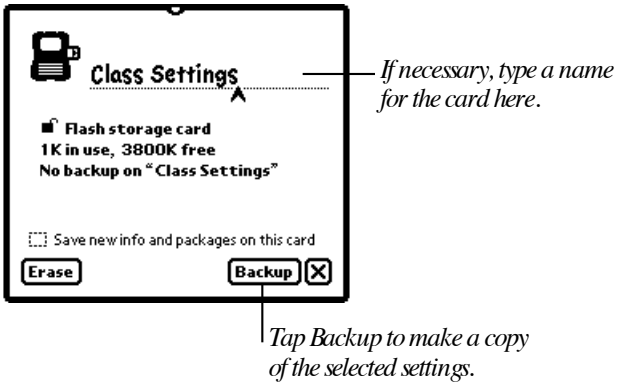
The card fits only one way; don't force it. Once you insert it, apply some extra pressure at the end to push the card all the way in, so that it's connected properly.

The eMate takes a few seconds to examine the card. When the eMate is ready to use the card, a card slip appears with information about the card.

What you see next depends on what type of card you inserted.

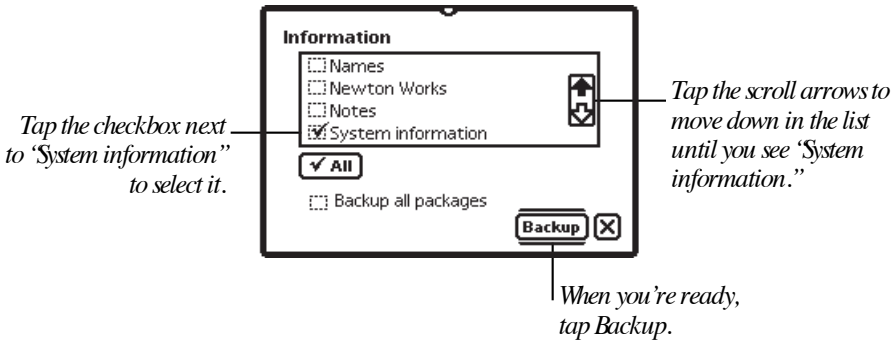
- If you inserted a new storage card, a card slip appears with the name "Card 1."
- If you inserted a previously used storage card, a card slip appears showing you the name of the card.
- If you inserted a card that is not a 5-volt card, a message appears telling you that writing is not supported on this type of card.

2 Type a name for the card. Use a name such as “Class Settings,” so you know what information is stored on the card.




3 Tap Backup.

A backup slip appears.




4 In the list, tap the checkbox labeled “System information” to put a checkmark in it.

5 Tap Backup.

A slip appears showing the progress of the backup. When the backup is finished, the status slip disappears. A Restore button now appears on the card slip.

6 Press Close or tap ☒ to close the card slip.

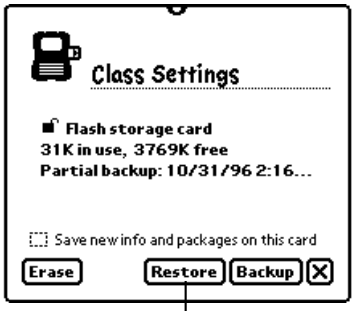
7 Press the push button on the right side of the eMate to remove the storage card.

## Restoring data from the storage card to other eMates

Follow these steps to copy the data on the storage card to another eMate:

1. Insert the storage card into the card slot of the second eMate.

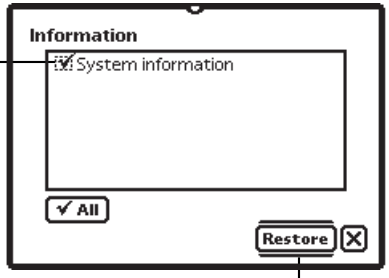
   The eMate takes a few seconds to examine the card. When the eMate is ready to use the card, a card slip appears with information about the card.




*Tap Restore to transfer data from the card to the eMate.*

2. Tap Restore.

   A slip appears showing the information that is stored on the card.




*Make sure this checkbox is selected.*

*Tap Restore to transfer the settings to the eMate.*

3. Tap the checkbox labeled “System information” to put a checkmark in it.
4. Tap Restore.

   A message appears asking if you want to replace the information on this eMate with the information from the card.
5. Tap Restore.

   A message appears showing the progress of the restore. When the eMate is finished restoring the information, a slip appears telling you to restart your eMate.
6. Tap Restart.
7. Press Close or tap ☒ to close the card slip.
8. Press the push button on the right side of the eMate to remove the storage card.

   Put this card in a safe place, so you can find it when you need it again. You’ll find this card useful in preparing the eMates for a new set of students.

## Setting users and passwords

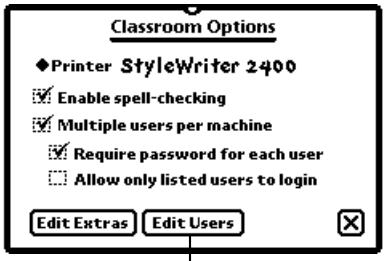
You can now enter, edit, and delete users and passwords. Registering each student as an individual user keeps each student's items stored in a separate area under his or her name. Requiring passwords prevents users from accessing items in another user's area.

*Note:* Instead of setting user names and passwords yourself, you can allow students to log in themselves. For more information about this option, see the section "Specifying Multiple Users," earlier in this chapter.

To enter, edit, or delete users, follow these steps:

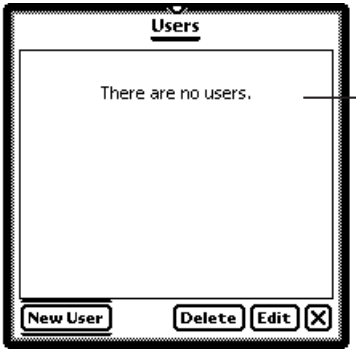
1. Open Teacher Setup, if it's not already open.
2. Tap the Classroom Options button, if the Classroom Options slip is not already open.

   There should be a checkmark in the checkbox labeled "Multiple users per machine."
3. Tap Edit Users.




*Tap here to add, edit, or delete users and passwords.*

The Users slip appears. If you haven't entered any users, none are listed.




*The first time you use Teacher Setup, no users are listed.*

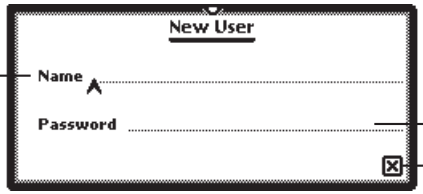
## Entering a new user and password

Earlier in this chapter, you created a list of students to be assigned to each eMate group. (See "Distributing eMates Among Students.") Now you can enter those students' names into the eMates.

For each eMate, follow these steps for each student you've assigned to the eMate:

1. Tap New User.

   A New User slip appears.




*Type the name of the user here.*

*If you selected the option to require passwords, type this user's password here.*

*Tap here or press Close when you are finished.*

2. Type the name of the user on the first line.

   You can type just the first name, just the last name, or both—as long as you don't have duplicate names on one eMate.

3. Press Tab (or tap the second line with the eMate pen) to move the caret to the next line.

4. Type the password you want the user to enter each time he or she logs in.

   Make sure the password you choose is appropriate for your students. For example, some very young students may have trouble remembering a password that contains more than three characters. Older students, on the other hand, may be able to crack a password that's so short. Regardless, it's a good idea to choose passwords that contain a combination of letters and numbers. You'll want to make each password unique so that students cannot guess each other's passwords.

5. When you're done, press Close (or tap ☒).

   *Tip:* You can also let students register themselves by entering their own names and passwords when they open a new eMate to use it. To do so, you need to select these options in the Classroom Options slip:

   - "Multiple users per machine"
   - "Require password for each user"

   Do *not* select the option "Allow only listed users to login."

### Editing a user's name or password

1. In the Classroom Options slip, tap Edit Users.

   The Users slip appears.

2. Tap the checkbox next to the user you want to edit, then tap Edit.

3. If you want to change the user name, type the revised name.

   A warning message appears. If this user stores data on a storage card, you should insert the card. The eMate will change the user name of the data on the card. If you don't insert the card, you will no longer be able to access that user's data on the card.

4. Tap OK or press Return.

5. Press Tab (or tap the next line with the pen) to move the caret to the second line.

6. If you wish, type a new or revised password.

   If you didn't change the user name and simply want to change the password for the existing user, type a revised password.

   If you changed the user name and also want to change the password, type a new password.

7. When you're done, press Close (or tap ☒).

### Deleting one or more users

1. Tap the checkbox next to the user or users you want to delete, then tap Delete.

   A slip appears asking you if you really want to delete the user or users and all of their associated data (documents, reports, drawings, etc.).

2. Press Return (or tap OK).

3. When you are finished, press Close (or tap ☒).

# 3 Teaching Your Students to Use the eMate

This chapter shows you how to introduce your students to the eMate. It gives you checklists for a guided walk-through of the eMate and suggestions for activities that will help students of every age get acquainted with the eMate.

It's a good idea to start by taking students on a "guided walk-through" of the product. During this tour, students will follow along individually or in groups as you demonstrate and teach them about the following key aspects of using the eMate:

- physical parts and properties
- safety and care
- software

This chapter contains a section on each of these major topics, with a checklist of items to cover for that topic.

Even though students will have the eMates in front of them as they follow you on the guided walk-through, they probably won't be ready to start using the eMate effectively until they've had more hands-on time with it. Therefore, after the guided walk-through, you should have students do an activity suitable to their age level. This guide contains several such activities (the projects in Chapter 6). In addition, the eMate includes two electronic tutorials—Works Practice and the eMate Tour. These tutorials cover different aspects of the eMate and are designed for different age levels.

Try using the following activities, in this order, to introduce students to the eMate:

- Take students on a guided walk-through.
- Have students do hands-on activities.
- Have students do an age-appropriate project from Chapter 6 of this guide, "Ideas for Using the eMate."

## Guided walk-through

The first step in teaching students to use the eMate is to take them on a guided walk-through. During the tour, you'll stand before the class demonstrating features and tasks as students follow along with their eMates. On the following pages, you'll find checklists of topics to cover, along with suggestions for what you should tell the students about using the eMate.

### Preparing for the guided walk-through

Before you start the walk-through, do the following:

1. Familiarize yourself with the eMate.

   For tips on how to quickly learn about the eMate, read Chapter 1 of this guide.

2. Prepare the eMates for student use.

   Chapter 2 of this guide, "Setting Up the eMates for Student Use," tells you how to set up the eMates for your students.

3. Decide which topics you want to cover.

   The checklists in this chapter include basic information about the eMate. Even so, you may not need to teach your students about all the topics on the checklists. Also, you might choose to divide the guided walk-through into several lessons.

4. Photocopy the checklists.

   Feel free to make copies of the pages in this guide that contain checklists. You can either make handouts or enlarge the checklists to poster size.

### Topics for the guided walk-through

The guided walk-through consists of the following checklists:

- physical parts and properties
- safety and care
- using the Newton operating system and built-in software

## Physical parts and properties

This checklist explains the physical aspects of the eMate.

### Mobility and portability

- ☐ You can easily move the eMate. For example, if two or more people are using the same eMate, move the eMate to face the person who's typing.
- ☐ When the eMate is closed, carry it using the handle.

### Turning the eMate on and off

- ☐ To turn on the eMate, do this:
  - With one hand, hold one of the corners or sides of the eMate.
  - With the other hand, press in the locking tab in the center of the eMate and lift the lid.

  *Note:* The lid has been designed to be stiff to make working with the eMate pen easier, so you'll need to apply some force to lift it.
- ☐ To turn off the eMate, close the lid so the locking tab snaps shut.

### The keyboard

- ☐ The keyboard contains three kinds of keys: character keys (such as letters and numbers), function keys (which do special things, such as closing a slip), and modifier keys (such as Shift and Option).
- ☐ Most of the function keys are in the top row and are a different color from the rest of the keyboard.
- ☐ Some function keys that you should know about are these:
  - the Power ⏻ key, which restarts the eMate after it has gone to sleep or puts the eMate to sleep to save energy while you're not using it
  - the Overview ● key, which shows all the documents that belong to the user
  - the scroll ⬆⬇ keys, which move the image on the screen up and down
  - the Light ☼ key, which turns backlighting on and off
  - the Extras key, which opens the Extras Drawer
  - the Close ☒ key, which closes the active slip

### The pen

- ☐ The eMate uses a pen-based interface. This means that in addition to using the keyboard, you can tell the eMate what to do by tapping the eMate pen on the screen. For example, you tap an item to choose it from a list of items that appears on the screen. You can also use the eMate pen to write or draw on the screen. In other words, the eMate pen is much like the mouse on other computers.
- ☐ To write or tap on the screen, use only the eMate pen. Any other type of pen or sharp object will damage the screen.
- ☐ When you're using the eMate pen, pretend you're writing with a felt-tip pen on a piece of paper. Don't press too hard or too lightly—just hard enough to make things happen.
- ☐ The tray above the keyboard is the eMate pen's storage area. Before you close the eMate, put the eMate pen back in the tray.
- ☐ The holes on the left and right side of the eMate are pen holders. As you switch back and forth between typing and tapping, place the eMate pen with the writing tip down in one of these pen holders. Using the pen holders keeps the eMate pen from rolling away and lets you get to it quickly.

### The battery

- ☐ The eMate is battery-powered.
- ☐ The battery lasts 16–24 hours, depending on how the eMate is being used.
- ☐ The following activities wear the battery out more quickly:
  - using the backlight
  - using a modem (for example, for sending e-mail or browsing the Internet)
  - frequent beaming
  - printing many long documents
- ☐ You can recharge the battery using the power adapter that came with the eMate.
- ☐ You can use the eMate while its battery is being recharged.
- ☐ The charging status light (on the upper-right corner of the eMate, near the handle) tells you the status of the battery when the eMate is plugged into the adapter.
  - Orange means the battery is recharging.
  - Green means the battery is fully charged.

  If the light is off, the battery is not getting any power from the adapter.

### Adjustable screen

- ☐ The angle of the screen can be anything between 0 degrees (when the eMate is closed) and 180 degrees (when the screen is flat and facing up).
- ☐ Adjust the screen angle for whatever task you're performing.
  - If you're drawing, open the screen all the way so you're writing on a flat surface.
  - If you're typing and reading text on the screen, adjust the angle so that glare doesn't make it hard for you to see what's on the screen.

### Making the screen easier to read

- ☐ If the screen is hard to read and you've tried adjusting its angle, try adjusting the contrast. To adjust the contrast, move the contrast control ◑ on the left side of the keyboard.
- ☐ If it's dark and the screen is hard to see, turn on backlighting. To turn backlighting on, press the Light key ☼. Remember, though, that backlighting uses extra battery power, so turn off backlighting when you don't need it. (By default, the eMate automatically turns backlighting off if the eMate is idle for 30 seconds.)

### Adjusting the volume

- ☐ To adjust the volume, move the volume control ◢.

### Cable ports

- ☐ The eMate has a sliding door on its left side. Depending on its position, the door reveals either the serial port or the Newton InterConnect port.
- ☐ The serial port is the round 9-pin port used for inserting a serial or AppleTalk cable to connect the eMate to a desktop computer or to a printer. Before you try to insert the connector into the port, make sure the connector's pin pattern matches the port's pattern of holes. (As you insert the connector into the eMate's serial port, the arrow or other icon on the connector faces up.)
- ☐ The Newton InterConnect port is the rectangular slit that, in the future, will be used to connect the eMate to some peripheral devices. (You cannot use this port for now.)

### Power adapter port

- ☐ The eMate has a port (an opening on its left side, near the serial port) for inserting an AC adapter, which makes it possible for the eMate to get power from a standard electrical outlet.
- ☐ If the battery is low, plug in and connect the power adapter. This way, you'll be able to use the eMate and recharge the battery simultaneously.

### PC card slot

- ☐ The right side of the eMate has a horizontal slot for inserting PC cards.
- ☐ Like a floppy disk, a PC card (sometimes called a PCMCIA card) can hold either applications or data (such as student documents). A PC card that's used only for storing data is called a *storage card*.
- ☐ Unlike a blank floppy disk, a storage card is very durable and quite expensive—40 to 70 times the price of a diskette!
- ☐ If you have a PC card, do the following:
  - Push it into the PC card slot to insert the card; you'll need to apply some extra pressure at the end to push it all the way in.
  - Press the button to the left of the PC card slot to eject the card.

## Safety and care

This checklist only tells you what you need to know to use the eMate without hurting yourself or the eMate. In addition, eMates require some routine maintenance. For information, see the *eMate 300 User's Manual*.

### Treat it like a computer

☐ Even though the eMate may not look like other computers, it is an electrical device with some delicate parts. The eMate is designed to withstand the type of wear it's likely to experience in a school environment. However, it's not indestructible. Treat it with care.

### Don't drop it

☐ Dropping the eMate can crack or shatter the eMate's screen. To make sure that doesn't happen, follow these rules:

- *Do not* toss the eMate to another person.
- When using or storing the eMate, always place it on a flat, horizontal surface to prevent it from sliding. For example, *do not* put an eMate on top of a binder or on top of another eMate.
- *Do not* put the eMate on the floor or other place where someone might step on it or sit on it.
- When you're carrying the eMate on a bus or in a car, hold it by its handle so that a sudden stop won't fling it.
- If you're carrying the eMate in your backpack, treat the backpack with extra care.

### Don’t get it wet

- ☐ If the eMate gets wet, its circuits may become damaged. Furthermore, if it’s plugged in when it gets wet, you may get an electric shock. To prevent that, follow these rules:
  - *Do not* drink or eat while using the eMate.
  - Keep the eMate as far as possible from containers of liquid such as beakers, test tubes, and graduated cylinders.
  - *Do not* use or store the eMate near a sink.
  - *Do not* take the eMate outside when it’s raining or snowing. If you must carry it on a rainy day (for example, to bring it back to school after taking it home), store it in a waterproof backpack.

### Use the pen properly

- ☐ To write, draw, or tap on the screen, use only the pen that came with the eMate. *Do not* use a ballpoint pen, felt-tip pen, pencil, crayon, or magic marker with your eMate. These objects can damage the screen.
- ☐ When you write or draw on the screen, don’t press too hard. Press hard enough to make your mark, but no harder. Pressing too hard can damage the screen.

### Treat the eMate like a very valuable object

- ☐ The eMate is a valuable object. It costs money to replace and may contain irreplaceable data, such as other students’ work.
- ☐ Take responsibility for the eMate that your teacher entrusts you with. Follow the safety and care rules listed above and don’t let the eMate leave your sight. If your eMate gets lost, stolen, or damaged, you may be held responsible for its repair or replacement.

## Using the Newton operating system and built-in software

This checklist assumes the teacher has set up the eMates in Classroom Mode and has created a list of users.

*Tip:* Some teachers may prefer to use this checklist only after students have completed the eMate Tour or Works Practice.

### Logging in

- ☐ To start using your eMate after you turn it on, identify yourself by tapping your name in the list of users.
- ☐ If your teacher has required passwords, you have to enter the password that your teacher has assigned for you. Typing your password "proves" to the eMate that you are who you said you are.
- ☐ After you've entered your user name and password, tap ☒ or press the Close key.

### Using Newton Works

- ☐ Newton Works is an application program in which you can create different types of documents—drawings, letters and reports, spreadsheets, and graphs and equations.
- ☐ Newton Works is the eMate's default *backdrop*. The backdrop is the background application you see when other applications are closed. Therefore, unless your teacher has made another application the backdrop, the eMate assumes that when you open the eMate you want to use Newton Works.
- ☐ To create a new Newton Works drawing, tap New; in the pop-up list that appears, tap Drawing to open a new drawing document.

  A slip appears asking you to title the document you are about to create.
- ☐ Type a title for the drawing.

  A good title is descriptive and contains your name. For example, "Susanna's cat" is a better title than "Susanna's drawing." And both are much better than "Untitled Drawing."

  The title doesn't print; it's used to help you find your documents later.

- ☐ Notice the two short horizontal lines above and below the ☒. These lines indicate that ☒ is this slip's default button—the button the eMate assumes you want to choose when you press Return. If you want to work quickly with the eMate, take advantage of the default button—instead of tapping or hunting for the right key on the keyboard, simply press Return to choose the default button.
- ☐ Press Return or tap ☒ to close the slip.

  A blank drawing document appears with a row of tools at the top, under the title. The row of tools is called the *toolbar*.
- ☐ Experiment with the different tools on the toolbar to create various objects. What happens when you
  - use the straight-line tool?
  - use the squiggly shaped tool?
  - tap the stamp tool?
  - tap the circle tool, then drag the pen across the screen?
  - tap the circle tool, then hold down the Shift key as you drag the pen across the screen?
  - tap the pointer tool and then draw a four-segment zig-zag line over an object you've drawn?
- ☐ When you're done, do not close the document. Just go on to the next step.
- ☐ Tap New; in the short list that appears, tap Paper to create a new word-processing document.

  A title slip appears.
- ☐ Type a title for your paper. (If you're not sure what to call your paper, just type your name for now.) This title doesn't print; it's used to help you find your document later.
- ☐ Press Return to close the slip. (Remember, pressing Return works as a shortcut because the Close button is the default button in this slip.)

  A blank word-processing document appears.

- ☐ Type your name at the top of the document.

  Whatever you type into the document will appear on paper when you print out the document. It's always a good idea to type your name at the top of your document so your teacher will know the paper is yours.

- ☐ Press Return twice to skip two lines. Then type the following sentence:

  "I am quickly learning to use Newton Works."

- ☐ Select "quickly." To select it, hold the pen on the word until you hear a squeak. The selected word has a darkened box around it. (After selecting the word, you can lift the eMate pen off the screen.)

- ☐ Selecting text tells the eMate that you want to do something with the selected text. For example, you can delete it, copy it, change its size, and so on.

- ☐ Make the selected word bold. To do that, tap the Style button at the bottom of the screen; in the list that appears, tap Bold.

- ☐ Tap the paper icon in the upper-left corner. This is called a Picture button.

  The title slip appears, allowing you to rename your document.

- ☐ Enter a new, more descriptive document name on the selected line. "Learning" or "Practice," along with your name, are descriptive names for the document you're creating.

- ☐ Press Return or tap ☒ to close the slip.

  The same document appears, but with the new name in the title area.

- ☐ Deselect "quickly." To deselect a word, tap anywhere on the screen.

- ☐ Quickly type three or four more lines of text. Even gibberish will do because you'll soon erase it!

- ☐ Select the lines you've just typed. To select multiple lines of text, hold the pen on the first word. When you hear a squeak (unless volume is turned down), drag the pen to the end of the last line. When you see a darkened box over all the lines, lift the eMate pen off the screen.
- ☐ Delete the selected text. To do that, just press the Delete key on the keyboard.
- ☐ View a list of the documents you've created. To do that, press the Overview ● key.

  When you're in Newton Works (as you are now), the Overview key shows all the Newton Works documents you've created—including drawings and papers.
- ☐ To see the document you were working on, press Overview ● again.
- ☐ Notice the ☒ icon in the lower-right corner of the screen. This is called the Routing button; you tap it to print or delete a document.

**Using the Extras Drawer**

- ☐ The Extras Drawer contains all the applications (other than the backdrop) you can use on the eMate. You don't need to open the Extras Drawer to get to Newton Works (because that's the backdrop), but you do need to open the Extras Drawer if you want to use another application.
- ☐ If the Extras Drawer does not appear on the screen, press the Extras key to make it appear.
- ☐ Tap an icon to open it.
- ☐ To close the application you've just opened, tap ☒.
- ☐ Notice that the backdrop reappears when you close the other applications.

### Beaming a document to another eMate

- ☐ Pair up with another student. Designate one person to send the beam (the sender) and the other to receive it (the receiver); then follow these steps along with your partner.
- ☐ If you are the receiver, do this:
  - Standing no more than three feet away from your partner, point the infrared window on your eMate toward the infrared window on your partner's eMate. (The window is the oval to the left of the handle.)
  - Press the Receive key. (Press it only once!)

    A slip with the message "Looking for sender" stays on your screen until your partner sends the beam.
  - If the beamed item does not appear on your screen, go to the application that the item was created in. For example, if your partner sends you a Newton Works drawing while you're in Notes, close Notes so that Newton Works appears.
- ☐ If you are the sender, do this:
  - Open the item you want to beam.
  - Standing no more than three feet away from your partner, point the infrared window on your eMate toward the infrared window on your partner's eMate. (The window is the oval to the left of the handle.)
  - Press the Send key. (Press it only once!)

    A slip with the message "Looking for receiver" stays on your screen until your partner presses Receive.

### Using onscreen help

- ☐ The eMate includes onscreen instructions for how to perform various tasks.
- ☐ Any time you need help, tap the ⓘ button. In the list that appears, tap Help.

  A "How do I" slip appears.
- ☐ Tap a topic that you want help with, such as "Use the drawing tools."

  A list of subtopics appears.
- ☐ Tap a subtopic to get instructions on how to perform the task described in the subtopic. For example, if you tap "Draw polygons," you'll get instructions for drawing shapes with three or more sides.
- ☐ Read the onscreen instructions.
- ☐ To see instructions for other topics, tap Topics. Once you've seen all the instructions you want, tap ☒.

## Hands-on work

After you're done taking your students on the guided walk-through, have them go on to hands-on work that's appropriate for their grade level:

- **Grades K–3:** a lower-elementary project from Chapter 6 of this guide
- **Grades 4–8:** Works Practice, the onscreen Newton Works tutorial
- **Grades 9–12:** the eMate Tour, the onscreen overview of the eMate software; also Works Practice

### Grades K–3

Turn to Chapter 6 of this guide. It presents several projects that let students practice using the eMate while providing an educational value in and of themselves. Projects that are particularly well suited to this age group are 1 and 2; feel free to modify either project (or one of the others) to adapt it to your students' needs and grade level.

### Grades 4–8

#### Works Practice

Every eMate includes an interactive online tutorial called Works Practice. This tutorial, which provides an introduction to Newton Works, gives instruction on using the word processor and drawing program and also teaches users how to erase, select, and move items on the screen.

Give each student the following directions for starting Works Practice:

1. Press Extras to open the Extras Drawer.

   The Extras Drawer appears.

2. Tap Works Practice.

   The introductory screen appears.

3. Follow the instructions on the screen to go through Works Practice.

### Other hands-on work

Turn to Chapter 6 of this guide. It presents several projects that give students practice with the eMate while providing an educational value in and of themselves. Consider starting with project 1, 2, or 3. Also look at the other projects—you can adapt almost all the activities to the needs of students in grades 4–8.

## Grades 9–12

### eMate Tour

Most students in these grades should be able to use the same online tutorial you used to become familiar with the eMate—the eMate Tour.

**Important** Keep in mind that this tour reviews the features in Full Newton System mode. In the tour, students will see an interface that's somewhat different from that of Classroom Mode. Also, because the eMate Tour is not one of the recommended applications for Classroom Mode, it won't appear in the Extras Drawer unless you've made it available to users.

Instead of having students share the eMates as they might normally do, give each student the opportunity to take the tour on his or her own. The part of the tour that's relevant to students (up to the part about faxing) takes only about 10 minutes to complete. Therefore, if you have fewer than 5 students per eMate, all the students can probably complete the eMate Tour in just one class period.

Give each student the following directions for starting the eMate Tour:

1. Press Extras to open the Extras Drawer.

   The Extras Drawer appears.

2. Tap eMate Tour.

   The opening screen appears.

3. Follow the instructions on the screen to go through the eMate Tour.

### Works Practice

Though Works Practice is designed for younger students, the lessons it teaches about using Newton Works are useful for all ages. Take a look at this electronic tutorial. If you like it, give your students the instructions earlier in this chapter for how to open Works Practice.

## Additional projects

After your students have become familiar with the eMate through the guided walk-through and the hands-on work, they can begin using the eMate in their regular assignments. For ideas on incorporating the eMate into your existing curriculum, see Chapter 6 of this guide.

# 4 Storing, Recharging, and Using the eMates in Class and at Home

This chapter gives you suggestions and other information to help you store and use the eMates in your classroom. It provides tips and suggestions for

- storing the eMates
- using the battery
- managing eMate settings
- handing out the eMates for home use

## Storing the eMates

One of the features that distinguishes the eMate from other computers is its mobility. The eMate's small size and light weight make it easy for even the youngest students to carry along wherever learning takes them. These very qualities, though, make eMates an easy target for thieves. Therefore, you cannot leave the eMates unattended for a long time. At the same time, you cannot use the cumbersome locking mechanisms you might choose for heavier equipment because you'll want to make the eMates easily available when students need them.

This section contains some suggestions for storing the eMates for easy but secure access.

### Use the storage/charging cart from Bretford Manufacturing, Inc.

To store and charge the eMates, you can buy a storage/charging cart. This cart, which stores up to 15 eMates, provides the ideal storage for a classroom for the following reasons:

- You use one lock to secure all 15 eMates, so at the start of each day or class period you only have to open one lock to make the eMates available to students.
- You can stack all your classroom's eMates in the same order every time, so each student or group of students can easily find the eMate they last worked on—something students need to do if they store their work on the eMates
- All the eMates get their batteries recharged while they're in the charging cart (if the cart is plugged into an outlet), so you don't have to spend extra time on recharging.

If you'd like more information about the storage/charging cart, contact Bretford Manufacturing, Inc., at 800-521-9614, or refer to your Apple price list.

### Store the eMates in a locked closet or cupboard

If you have decided not to purchase a charging cart, you can designate a closet or cabinet in your classroom to serve as the eMates' lockable storage area. Make sure the area you choose has the following characteristics:

- You can lock it.
- Only you and other staff have the key or padlock combination.
- It has enough empty shelves so that each eMate can stand directly on a shelf—that is, without being stacked on top of another eMate.
- It is not near a heater, so that the eMates are not exposed to high temperatures.

Once you've chosen the storage area, consider labeling parts of it to tell students which eMate belongs where. For example, if the top shelf will hold three eMates, you can label parts of the top shelf with the names you've assigned to those eMates.

Whenever the eMates will be unattended long enough for you to be concerned with their security, such as during recess or at the end of the school day, have students return the eMates to the appropriate place in the storage cabinet.

### Store the eMates in locked filing cabinets

You can store eMates in filing cabinets with dividers, placing the eMates vertically (much as you would file folders). Make sure the dividers are sturdy enough to protect the eMates from hitting each other as you open and close the cabinet drawer.

### Store the eMates in locked drawers

If you have decided not to purchase a charging cart and do not have a large lockable storage area, you might be able to use drawers to store individual eMates. Because a drawer usually cannot fit more than one or two eMates (you cannot stack eMates on top of one another), drawers aren't as convenient as cupboards or closets: chances are, you'll have to unlock several drawers to make the eMates accessible to students at the start of the day.

## Using the battery

### How long the battery lasts

The eMate uses a Nickel Metal-Hydride (NiMH) battery pack; because this battery pack gets charged and replaced as a unit, this guide refers to it as "the battery." The battery keeps the eMate running longer than you might expect for a device of the eMate's size.

Battery life varies depending on how the eMate is being used. For example, if you type or use the pen continuously, the eMate will use more battery power than it would if you pause once in a while. Similarly, using the eMate with a modem or with the backlight on uses up more battery power than using the eMate without a modem or backlighting. If you don't use the modem and backlighting more than 10 percent of the time, you can expect the battery to last 16 to 24 hours.

Although different eMates discharge at different rates (and therefore at different times) depending on how each one is being used, you don't have to recharge each one separately after it discharges. If it's more convenient for you to charge all units simultaneously, do so. Don't worry that some will be "overcharged" by being plugged in longer than necessary—the eMate has been designed so that it cannot receive excessive charge.

## How to recharge the battery

To recharge the eMate's battery, use the power adapter that came with your eMate.

▲ **Warning** Using another type of adapter may damage the eMate. ▲

To use the power adapter, simply insert one end of the adapter into the socket on the left side of the eMate, then plug the other end into a wall outlet or powerstrip.

## How to tell the battery's charge progress

The charging status light (on the upper-right corner of the eMate, near the handle) tells you the progress of charging the battery.

| If the charging status light is... | Then the batteries are... |
|---|---|
| green | fully charged. |
| orange | being charged. |
| off | not getting power from the adapter. |

Whenever the eMate is not plugged into the power adapter, the charging status light is off. You cannot use the charging status light to determine whether the battery is low.

To determine how much charge is left in the battery, look at the battery gauge in the lower-right corner of the Extras Drawer. (When you're using the power adapter, the label under the gauge is either "Adapter" or "Charging.")

## How long to recharge the battery

It takes one to two hours to fully recharge an eMate battery. The exact time depends on the following factors:

- how low the battery is when you start recharging

  A battery that's fully discharged takes longer to recharge than one that's only partially discharged.

- what the eMate is being used for as it's being recharged

  If you're using the eMate as you're recharging it, you're using up some of the power that's going into the battery. Therefore, an eMate that's being used takes longer to recharge than one that's idle. Furthermore, if the eMate is being used for power-intensive activities like browsing the Internet, beaming, or using backlighting, it uses battery power at a greater rate and therefore takes longer to recharge than if it's being used for activities that require less power.

Once the battery has been recharged, the charging status light turns green. Don't worry about leaving the eMate plugged in after the light turns green; you cannot overcharge the battery.

### Tips for keeping the battery charged

The following is a list of ways you can make sure each eMate's battery is charged and ready to use:

- Develop a daily or weekly routine for recharging the batteries.

  If you have a charging cart, keep the eMates in it overnight.
- Use a power strip to simultaneously charge several eMates.
- Teach your students to pay attention to the message, "The batteries are running low. You need to recharge them soon." When the eMate sends this message, it has about an hour of battery power left.

  Have students recharge the batteries on their own or notify you of the battery's charge status.
- Have students use the eMate with the adapter when they can.

  If an activity does not require mobility, have some students use the eMate while it's plugged into the adapter. If your classroom doesn't have enough outlets near student desks, consider rotating students through a desk that is near an outlet, so that on different days different students use the adapter.

## Managing eMate settings

Use the tips in this section to save yourself time in clearing or duplicating the eMate's settings, and preparing the eMate for use by a new group of students.

### Resetting an eMate to its original state

At times, you might want to restore the settings and other data an eMate had before you began to use it in the classroom. In this original state, the eMate contained no student data and no data from Setup or Teacher Setup.

▲ **Warning** This procedure, sometimes called a "hard reset" or "cold boot," deletes all the data from the eMate, including RAM-based software and data you entered in Setup and Teacher Setup. (Backup copies of RAM-based software are on the CD that came with the eMate.) Before you perform a hard reset, make sure you have a backup of all the data and applications that will be lost. ▲

To reset the eMate to its original state, follow these steps:

1. With the eMate open, find the Reset button on the underside of the eMate. It's the small, unlabeled button near the handle.
2. Using a pencil or ballpoint pen (*not* the pen that came with the eMate), gently press and release the Reset button.
3. Turn the eMate right side up, then press and hold the Power key ⏻.

   After a few moments, a message appears asking if you want to erase data completely.

   *Note:* If this message does not appear, you may have paused too long between steps 2 and 3. Try steps 2 and 3 again, this time more quickly.
4. Release the Power key.
5. Tap Yes.

   Another message appears reminding you that data will be lost and asking if you want to continue.
6. Tap OK.
7. If you want to bring the eMate back to its original state, restore the RAM-based software. You can find this software on the CD that came with your eMate or on the backup you made. For instructions, see the CD booklet.

   After resetting the eMate to its original state, you can restore any documents you wish from the backup you made. For instructions, see Chapter 11, "Using Cards and Backing Up and Restoring Information," in the *eMate 300 User's Manual*.

## Preparing the eMates for a new set of students

Before the start of a new school year, or whenever you want to prepare the eMates for a new set of students, you'll want to "clean up" each eMate. The steps you'll follow vary depending on which mode the eMates are in: Full Newton System or Classroom Mode.

### Full Newton System mode

Preparing eMates that are in Full Newton System mode for a new set of students is easy because data for all students is stored together and you do not need to set up user names on each eMate. All you need to do is delete old student documents. How you do this depends on whether you backed up the base classroom state on a storage card.

#### If you've backed up the base classroom state

If you created a storage card containing the "base" classroom state, simply transfer these settings to each eMate in your classroom. For instructions, see Chapter 2, "Setting Up the eMates for Student Use." Bringing all eMates back to the base classroom state ensures that the eMates do not contain any student data.

#### If you have not backed up the base classroom state

If you do not have a backup of the "base" classroom state, follow these steps to delete users' documents:

1. Press Overview ● from within Newton Works.
2. Tap the All button to select all the documents in the list.
3. Tap the Routing button ☑ and in the list that appears, tap Delete.
4. Repeat steps 1–3 for every application for which you want to delete documents. For example, to delete all Notes, press Overview ● from within Notes, then delete all the documents.

### Classroom Mode

To prepare eMates that are in Classroom Mode for a new set of students, you must do the following:

- remove old student documents
- remove existing user names and passwords
- specify dock options and classroom options (such as what applications you want to make available in the Extras Drawer)
- set up new user names and passwords (unless you want to allow students to set their own user names and passwords when they first log in)

You can accomplish these goals using one of the following options:

- Restore the eMate to its original state; then start over.

  *Advantage:* You can delete all the data in one step.

  *Disadvantages:* You have to go through the whole Teacher Setup procedure again. You have to reinstall any RAM-based applications.

- Manually delete all user names and users' files; then add new user names and passwords.

  *Advantage:* You don't have to specify Classroom Mode options again because each eMate is still set to the same options that were used by the last set of students.

  *Disadvantage:* Deleting data on each eMate can be time-consuming.

- Restore the eMate to a "base" classroom state; then add user names and passwords.

  *Advantages:* You can delete all student files in one step; you don't have to specify Classroom Mode options again; you only have to create new users—old ones get deleted automatically.

  *Disadvantage:* This option requires a storage card.

  If you have a storage card, this option is the best of the three.

The sections below describe how to prepare the eMates using these options.

**Option 1: Restore the eMate to its original state; then start over.**

To use this option, follow these steps for each eMate:

1. Restore the eMate to its original state, following the instructions earlier in this chapter.
2. Set up the eMate for student use, just as you did for the first set of students who used the eMate.

   For more information, see Chapter 2, "Setting Up the eMates for Student Use."

**Option 2: Manually delete all user names and users' documents; then add new user names and passwords.**

### Deleting user names

First, delete all user names and the users' documents by following these steps:

1. Open Teacher Setup.
2. Tap Classroom Options.
3. Tap Edit Users.
4. Tap the checkbox next to each user name to select it.
5. Tap the Delete button.

   A slip appears asking if you want to delete the selected users and all associated data.
6. Tap OK.

### Creating user names

If you want to create a list of new user names (and optional passwords), tap New User.

For detailed instructions, see the section on using Teacher Setup in Chapter 2, "Setting Up the eMates for Student Use."

### Option 3: Restore the eMate to a "base" classroom state; then add user names and passwords.

To use this option, you need a storage card that contains all the data for the "base" classroom state. In this state, the eMate contains all the settings that are common to all the eMates—such as the Setup information, the teacher password, and all Teacher Setup information except the names of individual users. By using a storage card, you can quickly restore each eMate to the same state; the only additional data you have to enter is data that's different for each eMate, such as user names.

*Tip:* If you don't have a storage card, you can create a backup of the data for the base classroom state on a desktop computer using the Newton Connection Utilities. For more information about these utilities, see Chapter 5, "Managing Student Documents."

Follow these steps for each eMate:

1. Insert the storage card that contains the information for the base classroom state.

   For instructions on creating this backup card, see "Backing Up Data From the First eMate to a Storage Card" in Chapter 2, "Setting Up the eMates for Student Use."

2. Restore all the data from the storage card to the eMate.

   This procedure overwrites all existing data on the eMate and brings the eMate back to the base classroom state.

3. If you want to create a list of user names, use Teacher Setup.

   The only Teacher Setup option you have to choose is Edit Users (in the Classroom Options slip). Other options, such as dock options and the available applications in the Extras Drawer, are already set because you restored them from the storage card.

## Handing out the eMates for home use

If you have enough eMates that students do not have to share them, you can let students take the eMates home. Even if students share eMates, you might want to let students take turns taking them home for special assignments. (Two of the projects in Chapter 6 are designed for students to do primarily at home; others include optional activities the students can complete at home.)

To make sure that the assignment is a success and that the eMates return to school safely, consider these suggestions:

- Before giving a homework assignment that requires the use of the eMates, wait until students can use the units without your help.
- If several periods have to share the same set of eMates, stagger the assignments so that each class takes the units home during different weeks or on different days of the week.
- Send a letter to parents explaining the purpose of the eMate and the nature of the homework assignment. A sample letter appears in the Appendix of this guide.
- Ask parents or students to sign a permission slip agreeing to take care of the eMate and to take financial responsibility in case of damage or loss. A sample permission slip appears in the Appendix of this guide.
- Review with the students the rules for taking care of the units, including proper handling and storage. (See Chapter 3, "Teaching Your Students to Use the eMate," for details.)

# 5 Managing Student Documents

This chapter contains information to help you keep track of, back up, and otherwise manage documents that students create using the eMates.

## Making documents easy to identify

The eMate, like any classroom computer, is likely to contain many documents. For this reason, it's important that student documents are easy to distinguish from one another. The need is even greater when more than one student stores documents on a single eMate.

### Document titles

When a user creates a document and closes the title slip without entering a title, the eMate supplies a default title for the document. For example, if the user creates a new drawing and does not give the drawing a title, the eMate assigns the title "Untitled Drawing" to the new document. If students routinely accept the default title, the eMate fills up with documents having titles such as "Untitled Drawing 1," "Untitled Drawing 2," and so on.

To prevent this type of confusion, get your students in the habit of giving their documents meaningful titles instead of accepting the default titles. Teach them that when they create a new drawing, word-processing document, or other type of document in Newton Works, they must type in a descriptive name before they start working in the document. This will help them find their documents later.

Also, give students specific guidelines for naming their documents so that document titles contain the information you and they will need to find a particular document. For example, if it's important to you that each document has the student's name, ask students to start the filename with their first or last name, depending on your preference. If you want the assignment name to be in the document title, tell students to specify that, too.

## Paper names

Keep in mind that the title a user enters in the title slip doesn't appear in the body of the document itself. For example, if a student names her document "Jenny's room sketch," the printout of the document only has the sketch—not the words "Jenny's room sketch."

To avoid receiving unlabeled printouts, teach students to create headers in documents that they plan to print and hand in, just as they do on worksheets, homework, and other papers. Even if students will not be printing their documents—but rather keeping them on the eMate or downloading them to a desktop computer—having student names at the top of the documents will be valuable as you read and assess students' work.

The following is a sample header that contains the student name and the name of the assignment:

## Saving students' work

As students edit documents on the eMate, the eMate automatically saves their work. In other words, there is no "Save" or "Save As" command, as there is on desktop computers. This means that you don't have to remind students to save often or worry that a pulled power adapter cord or weak battery will cause students to lose any work.

> **By the way** Instead of saving work on the eMates, students can have the eMate save work directly on a storage card, if one is available. For more information, see Chapter 11, "Using Cards and Backing Up and Restoring Information," in the *eMate 300 User's Manual*.

## Backing up students' work

Even though the eMate saves work automatically, it's still a good idea to back up files stored on the eMate. Backups enable you to restore data in case the eMate gets lost or damaged or in case somebody accidentally deletes a file.

You can back up data that's on an eMate

- to a storage card

  For more information and instructions, see Chapter 11, "Using Cards and Backing Up and Restoring Information," in the *eMate 300 User's Manual*.

- to a Mac OS–based computer, using connection software:
  - eMate Classroom Exchange
  - Newton Connection Utilities

  To help you decide which connection software to use, read the next section, "Transferring Documents To and From a Macintosh."

- to a computer running Windows software, using Newton Connection Utilities

  For more information and instructions, see the documentation that came with Newton Connection Utilities.

## Transferring documents to and from a Macintosh

This section describes the software available for transferring documents between an eMate and a Macintosh.

### eMate Classroom Exchange

The connection software, eMate Classroom Exchange, is designed specifically for the needs of the classroom environment. Students can use the software to connect one or more eMates to a single Macintosh computer and transfer documents from their eMates to the Macintosh—or the other way around—even as the Macintosh is being used for other tasks, such as printing. These simultaneous connections eliminate bottlenecks at the Macintosh, making for fast data transfer at the start or end of a class period.

*Tip:* To keep different students' documents organized and secure on the computer, you can use eMate Classroom Exchange with At Ease 3.0 or later or At Ease for Workgroups. If you use one of these programs to store data in separate users' folders on the Macintosh, you can transfer data between different users' areas on the eMate and the users' At Ease folders. For more information, see the documentation that came with eMate Classroom Exchange.

### Newton Connection Utilities

Newton Connection Utilities (NCU) is software that provides many transfer options. You can use it to transfer all the data on your eMate to a desktop computer—a Macintosh or a computer running Windows—to create a backup file. If you need to get information back onto your eMate, you can have NCU transfer the whole backup or just parts of it (such as all Newton Works documents) from the desktop computer to the eMate. However, you cannot transfer individual documents, as you can with eMate Classroom Exchange.

Unlike eMate Classroom Exchange, NCU is designed for one user at a time. In other words, you cannot use NCU to simultaneously transfer documents from several eMates to a Macintosh computer.

Another NCU feature is its ability to synchronize some types of data between computers. For data that's in one of several accepted formats, NCU makes sure that the data on the eMate matches the data on the desktop computer, regardless of which was updated last. This synchronization feature is useful if you're using the Names and Dates applications on the eMate or a personal information manager on the desktop computer.

### Using the connection software

For instructions on how to use these software applications to transfer files, see the documentation that came with the connection software.

# 6 Ideas for Using the eMate

This chapter provides ideas for different projects that use the eMate to support student learning. Regardless of the subject or grade you teach, it's recommended that you read all the projects to get a sense of the range of possibilities available to you, and to find ideas or kernels of ideas that you can use.

## Overview of the projects

Most of the projects in this chapter follow a similar format. The following sections describe the elements you'll find in most projects.

### The icons

Above the title of each project, you'll see icons that let you find out at a glance what eMate features students will use in the project. The icon bar will help you browse through the projects to find those that are appropriate for your students. For example, if you want to find activities that use the Newton Works word processor, you can look for the paper icon ▤.

The table on the following page shows you each icon and the feature it represents.

| Icon | eMate feature |
|---|---|
| | word processing |
| | drawing |
| | spreadsheet |
| | graphing calculator |
| | printing |
| | beaming |
| | docking (Classroom Dock) |
| | docking (Dock) |
| | Notes |
| | Names |
| | Dates |
| | Newton Press |

## The project

At the beginning of each project, an introductory section titled "The Project" identifies the overall task that students are asked to accomplish and provides ideas and information that help create a context for the students' work. This section also notes the tools students will use in the project and suggests questions you should ask to guide students in their initial work.

## The phases of the project

Every project is described in phases that outline the major steps students will take to complete and present their work. These phases—usually there are three—might include class discussion to give students a context for the project; research using the eMate, library resources, and other data; and writing, graphing, mapping, drawing, and compiling information and ideas for presentation.

## Preparation

This section includes ideas for class discussion, materials you'll need to collect, and other steps you'll want to consider as you lay the groundwork for a project.

## Options

This section features ideas for extending and adapting projects. Variations offered here include activities for different grade levels; alternative uses of classroom resources and technology; additional activities or ways of modifying projects; and classroom management suggestions.

## The home-school connection

Every project features a section offering you specific ideas to help connect family members to the work in your class. In some cases, family members will be able to provide important support and encouragement as the students carry out parts of the projects at home. In other cases, family members can serve as valuable sources of information, telling about their lives, their work, and the lives of their ancestors.

Many of the activities described in the "Home-School Connection" sections can be used as introductory activities, stirring students' imaginations and setting the stage for the project. Other activities include families at the conclusion of projects by describing ways students can share their completed work.

## Resources

In these sections you'll find a few ideas for fiction and nonfiction books or other resources that will enrich your students' work on their projects.

The projects themselves will bring to mind many more ideas for books, videos, music, and other materials—your favorites and those of your students—that will transform each project into a rewarding educational experience.

## Technical tips

Check this section before your class begins work on a project: it gives tips for using the eMate and related software to complete the tasks in the project.

# Ice Breaker

*Recommended Grades: 3–6*

## The project

At the beginning of the school year, give students a chance to learn about each other and about the eMate by conducting interviews and writing articles based on them. Tools for the project include the Newton Works word-processing program, and desktop publishing software. This project will help students develop questioning, listening, writing, and observing skills.

### Phase 1

Discuss with the class the types of questions that an interviewer can ask. He or she might begin by asking basic questions—the subject's name and age, for example—but a good interviewer will also ask questions that bring out interesting information. One such question might be, "Can you tell me something about yourself that most people don't know?" With the class, develop a list of good questions for use in the interviews. Ask students to copy the questions from the board onto their eMates, which they will use as they conduct their interviews.

Divide the class into teams of two, then have each pair take turns interviewing each other and recording their notes in the Newton Works word processor. If possible, pair students who do not know each other.

### Phase 2

Ask students to write articles about the students they have interviewed, using the responses from the interviews and their own impressions. Then, invite them to print their articles and read them aloud to the class or a small group. Based on the information that they learn from the article, the other students can ask the interview subjects additional questions. The interviewers should note the new information on the eMates, then revise their articles based on this additional information. When their revised drafts are finished, students can use the spell checker to correct spelling and typing errors.

### Phase 3

Ask each team to transfer their interviews to a desktop computer, using the eMate's docking capabilities. Students can then import their articles into a template (which you or they have designed beforehand) created in a desktop application such as ClarisWorks. Ask the teams to add any graphics or photos they have found or created to their articles.

Combine the students' documents and print them as a class newsletter that students can take home to share with their families.

### Preparation

Think of interview questions to suggest to the students during the class discussion in Phase 1, such as: "What's the best adventure you've had in your life?"; "If you could go anywhere in the world, where would it be?"; "What's the best idea you've ever had?"

Model interviewing techniques by interviewing a student or another teacher. You may also want to ask the class to watch TV interviews, either live or recorded.

Prepare a page template for the newsletter. Or, prepare several template options and discuss and modify them with the class.

### Options

If a digital camera is available, students can include photos of the interviewees in the newsletter.

With younger children, you may wish to do only Phases 1 and 2 of this project. At the end of Phase 2, ask students to print their reports directly from the eMate.

If this is the first activity your class has done using the eMate, include your own letter in the class newsletter introducing families to the eMate. You may wish to use the "Letter to Families" included in the Appendix of this guide.

If your school has a Web server, include the interviews on the school's Web site. Students can also interview and exchange articles with another class in your school or elsewhere.

### The home-school connection

Ask students to interview adult family members or neighbors. First, ask each student to identify an adult in their family or neighborhood who is willing to be interviewed by another student. (Younger children can interview an adult they know.) Before the interviews, discuss in class questions that are appropriate and interesting. Ask students to copy the questions onto an eMate, then use the eMate to record their notes from the interviews. When their interviews are complete, students can write articles about the adults they've interviewed for inclusion in a second edition of the newsletter. Many of the adults they interview will be curious about the eMate, so student interviewers should be prepared to offer a demonstration of the machine. (Again, this can be practiced in class before the interviews.)

### Resources

Copies of interviews published in newspapers or magazines, or transcripts of television interviews.

### Technical tips

Make sure students have completed the Works Practice tutorial before they undertake this project.

# One Square Foot

*Recommended Grades: 3–6*

## The project

Investigate a small part of the world—just one square foot—to understand more fully what is in it, and to imagine what it might be like to be part of that microcosm. Fascinating worlds that we may never have noticed exist within our own world. Looking at these tiny worlds can lead students to use math and measuring skills, develop understanding of ecosystems, biology, and botany, and use imaginative language to capture the mini-dramas of their observed squares. Tools for the project include the Newton Works word processing, drawing, and spreadsheet programs, desktop publishing software, and online and offline information resources.

### Phase 1

Choose an appropriate area, such as the school grounds or a nearby park, forest, or wetland. Then, invite each student to select and study one square foot of that area—or a "microworld." Working individually, students can begin by measuring and marking off their areas using rulers and masking tape or other marking tools. Ask them to conduct their preliminary investigations in detail (using magnifying glasses if necessary) and to record their observations on the eMate. Ask students to record at least ten details about their microworlds, using the Newton Works word processor and drawing programs. Drawings can be simple maps showing relative locations of creatures and objects in the microworld. Have the students leave their microworlds marked off.

Invite the students to form teams of three, then ask team members to beam their observations to each other and discuss the differences and similarities between what they've seen. Ask the teams to begin reports on their findings. Students can use the eMate spreadsheet as a tool for cataloging their observations and discovering which observations are parallel or unique. (For example, each row in the spreadsheet can indicate an observed fact, and each column can represent one of the team's three microworlds. Cells would then contain the number of occurrences of each observed fact. For example, the "Ant" row could have entries of 10, 3, and 9 for microworlds 1, 2, and 3 respectively.)

Return the next day for a second round of observation. Ask each student to find ten new details about his or her square foot. Ask the teams to compare their observations again and to update their team report. (They can also update their spreadsheets to show the new information; if they do this, they should save the first spreadsheet under a separate name so they don't lose the information in it.)

**Phase 2**

Have teams print and share their reports with the entire class. Ask each team to summarize the reports of the other teams and turn their summaries in to you for review. When the summaries are complete, discuss with the class the experiences of observation and analysis, and list and discuss the elements that are common to the various microworlds and those that are unique.

Ask each student to choose a topic in his or her microworld—such as nettles or beetles—for further research. Then, invite them to go to other sources of information to learn more. New questions will arise as students observe the microworld more closely and investigate other resources. For example, a student observing ants carrying objects might do an investigation to find out the strength of an ant relative to its body weight. Students can turn to printed or electronic encyclopedias or to Internet resources for this information. Ask them to add the information gathered from their research to the observations they've entered in the eMate.

**Phase 3**

Based on their own observations and on what they have learned from further research, ask students to write an imaginative story, poem, play, or movie script set in their own microworld. Print and share these stories in class. As a class, brainstorm one or more story outlines that link three or more of the microworlds. Invite students to write stories based on these outlines.

### Preparation

Look for appropriate sites at or near your school for observing one square foot. Be sure to get permission to use the property from the owner, if necessary.

Conduct a practice observation in class to give students an idea of the types of information and level of detail you would like to see in their reports and stories. For example, look closely at and report on a plant or a fish tank in your classroom.

Read poems or stories to the class that take place in a microworld or that closely observe a microworld, then discuss the stories. (See the "Resources" section, later, for some suggestions.) Encourage students to include excerpts from their own reading in their reports.

### Options

If there's not an eMate available for each student, Phase 1 of the project can be carried out by teams of two or three students, each team working with a single eMate. In this case, a team might mark off a square meter for observation and take turns recording observations on the eMate. Then teams can beam their results to each other for comparison.

If the microworlds are in an area where a naturalist might be available to work with the class, use this resource to stimulate questions and to help guide observations. Or, invite a naturalist to your class after the first round of observations.

With older students, you can ask them to use formulas in the spreadsheet developed in Phase 1 to calculate the total or average number of observations for a particular category.

If a digital camera or video camera is available, students can make visual records of their sites for inclusion in the team report.

If a group of students wants to write a movie script or a play about the microworlds, their work can be performed in class. Invite another class or the students' families to attend.

### The home-school connection

If possible, students can choose microworlds in or around their homes to observe with help from their family members.

### Resources

*Nature Walk* by Douglas Florian

"Design" by Robert Frost or "The Fly" by William Blake

*Wind in the Willows* by Kenneth Graham

*Stuart Little* by E.B. White

*One Small Square Backyard* by Donald M. Silver; illustrated by Patricia V. Wynne

*One Small Square Pond* by Donald M. Silver; illustrated by Patricia V. Wynne

*Quiet* by Peter Parnall

*The Gift of the Tree* by Alvin Tresslet; illustrated by Henri Sorensen

*Nature Hide & Seek, Rivers & Lakes* by John Norris Wood; illustrated by John Norris Wood and Kevin Dean

*Watership Down* by Richard Adams

*Gulliver's Travels* by Daniel Defoe

### Technical tips

As students use the drawing software to create a map of their microworlds in Phase 1, remind them of these points:

- The grid can help you draw the square foot to scale. If the grid isn't showing, you can use the Tools button to turn it on. If each grid square represents two square inches, an entire one-by-one foot area can appear on the screen at once.
- You can use the Rectangle tool to draw the boundaries of the microworld. To let the grid show through what you draw, first choose Transparent from the list of Fill options in the upper-left corner.
- To create a square, hold down the Shift key as you draw with the Rectangle tool; to create a a vertical, horizontal, or diagonal line, hold down the Shift key and draw with the Line tool; to create a circle, hold down the Shift key and use the Oval tool.
- The grid does not print, so if you want to have a grid on your map when you print it, you need to draw the lines yourself using the Line tool.

Students might want to indicate relative locations of objects in their microworlds by using symbols on the map, then creating a legend or key.

To copy and paste the map into a word-processing document, students can choose Select All from the Edit pop-up list, then choose Copy from the Edit pop-up list. To switch quickly to their word-processing document, they can press Overview ● and select the document in the list that appears.

Before they use the spreadsheet program, help students understand data entry techniques for spreadsheets: tapping a cell while in data entry mode puts the label for that cell in the data. To get out of data entry mode, press Return, Tab, or Enter. When you're not in data entry mode, tapping the arrow keys, Return, or Tab will move you to another cell.

If you want to create a master spreadsheet report for the class, you need to help students transfer their spreadsheets from the eMates to a desktop spreadsheet application such as Excel 5.0. Use the QF Exchange function in the Newton Works spreadsheet program to do this. (For more information, refer to the ***QuickFigure Works User's Guide***.)

# It's My Bag

*Recommended Grades: 3–8*

## The project

We live in a consumer society, where much of the packaging used for the products we buy goes into landfills. What are the implications of this fact for our communities and the world? How does each of us contribute to what many experts contend is a "worldwide solid-waste emergency"? What alternative forms of packaging could help alleviate the growing waste problem? How can we become more thoughtful, informed consumers? In this project, students examine packaging and waste and design environment-friendly packaging for their favorite items. Students will use the Newton Works word-processing, drawing, and spreadsheet programs, desktop multimedia authoring software, and online and offline information resources.

### Phase 1

Discuss with the class the issues of product packaging and landfills. Discuss and show samples of various types of packaging, including some pieces that are biodegradable. Present information and statistics about the landfill problem. Ask students to form research teams to investigate and report back to the class on key facts and issues such as the following: What are the various categories of packaging? What is the landfill situation in your community? in your state and country? in the world? What consumer attitudes make the problem worse or less threatening? (More than one team can work on a single topic.) Ask the teams to use online and offline resources for their research, and to take notes on the eMates. Afterward, they will use a desktop publishing program to prepare a multimedia report to share and discuss in class.

### Phase 2

Based on the research in Phase 1, discuss the different types of packaging with the class. Write these types on a board or on chart paper. Then, ask the student teams to create an empty spreadsheet form on the eMate, labeling each row as a different category of trash and each column as a day of the week. (Students should leave the cells empty.) Ask students to print this spreadsheet form and to fill in the blank cells each day to note what they do with different types of trash. In class, every day for a week (or longer), students can enter their "trash behavior" data into the eMate. Teams can then beam their reports to each other and compare and discuss them. Ask the student teams to transfer the spreadsheets to a desktop computer. Create a single spreadsheet for the entire class, print it, and discuss it in class.

Ask individual students to write essays on the eMate or on a desktop computer, reflecting on their own consumption patterns and the patterns they observe in their community. As a result of what they've learned about the issue and their own behaviors, do they plan on doing anything differently in the future? Ask students to incorporate these individual essays and their spreadsheet reports into a whole-class report based on the reports prepared in Phase 1.

### Phase 3

Is it possible to create alternative packaging for popular consumer products that has a less harmful effect on the environment? Ask students to work in teams and to redesign a product's packaging so that it is more environmentally friendly. The team can brainstorm a list of products, then choose one to redesign. What materials will they use? How can they minimize packaging waste? Ask students to use the word-processing and drawing software on the eMate to make their designs. If possible, they can also create simple mock-ups. When they're finished, students may want to communicate their designs to the company that makes the product.

Collect the student-designed packaging alternatives (and any responses from the companies) into a project report for the class, refine it with desktop publishing software on a desktop computer, and print it for distribution to the class, families of the class, and local agencies and people concerned with improving the environment.

### Preparation

Find appropriate resources, information, and sample trash that will help you conduct the initial class discussion in Phase 1.

List or research categories of packaging before the discussion in Phase 2, so that you can help students refine their understanding of the key distinctions among different packaging types.

### Options

Is there a landfill problem in your town or area? If so, students can research the issue and, if appropriate, conduct interviews with local leaders and other citizens involved in the issue. They can interview them, use the eMate to take notes, then write a report. Alternatively, invite these individuals to visit your class and explain the local situation from their perspective. Ask students to take notes on the eMate and write a report on the presentation.

As they investigate categories of trash, students can look into the origins of various types of packaging. Which companies make what type of packaging? Students can write to selected companies asking for those companies' perspective on how their packaging products affect the environment. (They may be able to reach company representives over the Internet.)

In Phase 2, student teams can visit a local supermarket or convenience store to survey the types of packaging on the shelves, recording the information on the eMate. They might use the Quick Sketch feature in the word processor to illustrate the items they're inspecting.

In Phase 2, ask students to use the charting capabilities in the Newton Works spreadsheet program to create graphic representations of the data. Which type of chart is most informative? When the whole-class spreadsheet report is ready, experiment with and discuss various charting options for displaying the data.

### The home-school connection

Ask students to observe consumption and "trash behavior" in their homes and to include this information in their research.

### Resources

*Garbage* by William Rathje and Cullen Murphy

*The Lorax* by Dr. Seuss

*Going Green: A Kid's Handbook to Saving the Planet* by John Elkington, Julia Hailes, Douglas Hill, and Joel Makower

*Recycle! A Handbook for Kids* by Gail Gibbons

*Window* written and illustrated by Jeannie Baker

*Brainstorm! The Stories of Twenty American Kid Inventors* by Tom Tucker; illustrated by Richard Loehle

The Elements series by Ken Robbins

*The Green Encyclopedia: An A-to-Z Sourcebook of Environmental Concerns and Solutions* by Irene Franck and David Brownstone

*Brother Eagle, Sister Sky* illustrated by Susan Jeffers

### Technical tips

Before they use the spreadsheet software, help students understand data entry techniques for spreadsheets: tapping a cell while in data entry mode puts the label for that cell in the data. To get out of data entry mode, press Return, Tab, or Enter. When you're not in data entry mode, tapping the arrow keys, Return, or Tab will move you to another cell.

To create the whole-class spreadsheet report on "trash behavior" in Phase 2, you need to help students transfer their spreadsheets from the eMate to a desktop spreadsheet application, such as Excel 5.0. Use the QF Exchange function in the Newton Works spreadsheet application to do this. (For more information, refer to the *QuickFigure Works User's Guide*.)

# Family Tree

*Recommended Grades: 3–6*

## The project

How much do you know about your family's origins and your heritage? How many different cultural backgrounds are represented in your class? Students use the eMate at home to gather information about their families and prepare reports based on this information. Then, working as a class, they combine these reports into a whole-class report on family origins. Tools for the project include the eMate word-processing, drawing, and spreadsheet programs and desktop publishing software.

### Phase 1

In class, discuss family origins, perhaps providing details about your own background as an example of the information that students will be gathering. What countries did your family come from? Use a wall map to identify these countries and list them on a board or on chart paper. Talk about how to create a family tree using the eMate drawing function. Draw a sample family tree on the board, then ask students to copy it on the eMate. (If the students share eMates, allow them to take turns so that everyone has a chance to use the drawing program.)

Families also tell favorite stories, often about interesting incidents from the past. Point out examples of such stories—older family members' memories of their countries of origin, stories of immigration to the United States, funny stories about grandparents or great-grandparents, anecdotes about good or bad luck, or parents' memories of childhood. Offer examples from your own family, and with the class, list questions that might elicit stories like these in conversation. Write these questions on the board, or on chart paper, and ask students to copy them onto the eMate for future reference.

### Phase 2

Ask students to take the eMate home and initiate a family meeting during which they can gather information, create their family trees, and write down family stories and traditions. Students can use the drawing function to create the tree and the word-processing function to make notes about the family stories.

When students have completed their research, ask them to work individually to create reports on the eMate that integrate their family trees and family stories. (They can combine these elements by copying their family trees into their word-processing documents.) Then, have them print, share, and discuss these reports with the class or in small groups. Students can take home their reports to share with their families.

### Phase 3

Ask students, working in teams of two or three, to use the Newton Works spreadsheet program to analyze information about the countries of origin of everyone in the class. Teams can begin by looking at the printed collection of reports from the class and tallying the number of family members from each country. Columns can represent countries; rows can represent generations (parents, grandparents, great-grandparents). Cells will then contain the number of people in a category, such as "grandparent," who come from a given country, such as Japan. Teams beam their completed spreadsheets to each other for comparison and checking.

What patterns emerge in the data? For example, what percentage of the students' ancestors are from Europe, Asia, or Africa, or are Native American? Do any patterns indicate that people tended to emigrate from some cultures at specific times?

Teams can also explore different ways of displaying spreadsheet results. Ask teams to experiment with different charts. How can the numbers in the spreadsheet be translated into charts (pie charts or bar graphs)? Which type of chart is more informative? Why?

Ask each team to prepare a report on the family origins of the class, using a desktop computer. Their reports should include a world map indicating family origins, a table showing the number of relatives from each region or country, and charts comparing the percentage of relatives from various regions. Reports can also include explanations of the team's choice of chart, and at least one family story for each region or country represented in the report (for example, a story about the region or a story told by a family member from that place). Print these reports to share and discuss in class and for students to take home to their families.

### Preparation

Prepare your own family tree and sample family stories to share with the class.

Prepare sample questions that students can use when they take the eMate home for their family meeting in Phase 2.

Familiarize yourself with the Newton Works spreadsheet application and its charting function, as well as the drawing application, so that you can demonstrate them to students. Prepare examples of different types of charts.

### Options

For their reports, students can gather information about their families' countries of origin using online and offline resources.

If a video camera is available, students can videotape family members telling family stories. If you have the appropriate software, they can then digitize and store the video clips in the computer and include them in their reports.

What would a chart of national origins look like for your state? for the entire U.S. population? You (or students) can use the Internet or other resources to find information (and charts, if possible) on the national origin of people in your state or region, or in the whole country. Bring the information to class and discuss it. Compare the origins of students in your class with those of people state- and nationwide. (Remember that information about national origins is not the same as information about ethnicity.)

### Resources

*Material World* by Peter Menzel

*Where the Flame Tree Grows* by Alma Flor Ada

*Thunder Cake, Mrs. Katz and Tush,* and *Tell Me a Mitzi* by Patricia Palacco

*Tar Beach* by Faith Ringgold

*A Visit With Great-Grandma* by Sharon Hart Addy; illustrated by Lydia Halverson

*Just Like Max* by Karen Ackerman; illustrated by George Schmidt

*The Wooden Doll* written and illustrated by Susan Bonners

*Tell Me a Story, Mama* by Angela Johnson; illustrated by David Soman

*The Moon Lady* by Amy Tan

*Coal Mine Peaches* by Michelle Dioretti; illustrated by Anita Riggio

*People* written and illustrated by Peter Spier

*An Angel for Solomon Singer* by Cynthis Rylant; illustrated by Peter Catalano

*When the Whipporwill Calls* by Candice F. Ransom; illustrated by Kimberly Bulcken Root

*Coming Home,* from *The Life of Langston Hughes* by Floyd Cooper

### Technical tips

Recommend that students follow these steps when drawing a family tree on the eMate:

- Write the text first.
- Choose the Transparent fill option from the Fill pop-up list, then use the Rectangle tool to draw rectangles around the names.
- Use the Line tool to draw lines that connect the rectangles. Hold down the Shift key to draw vertical, horizontal, or diagonal straight lines.
- If students want to draw realistic trees as backgrounds for their family trees, recommend they draw these trees first, select them, then choose Move to Back from the Arrange pop-up list.

Before the students use the spreadsheet program, help them understand data entry techniques for spreadsheets: tapping a cell while in data entry mode puts the label for that cell in the data. To get out of data entry mode, press Return, Tab, or Enter. When you're not in data entry mode, tapping the arrow keys, Return, or Tab will move you to another cell.

# TV Nation

*Recommended Grades: 7–12*

## The project

Television has tremendous power to shape our attitudes and behaviors—or does it? Some people feel, for example, that the large amount of violence on television has a negative effect on viewers—especially children—and that special technology, such as devices for screening violent programs, should be included on all television sets. Others disagree, saying that the media simply reflects the values of a culture and doesn't really shape them. In this project, students are asked to use the eMate to do basic research, to compare predictions and observations, to reflect on media issues, and to become more informed and thoughtful viewers. Tools for the project include the eMate word-processing and spreadsheet applications, desktop multimedia tools, and online and offline research resources.

### Phase 1

Discuss with the class the role television plays in daily life. What are the different categories of television shows? (These categories might include sitcoms, movies, police dramas, science fiction shows, and news.) Ask students to guess the average number of hours per week students in the class watch television, the types of shows that are most popular among the class, and the show that's most popular. Record everyone's predictions on the board without commenting on them. At the same time, have students record their own answers to these questions individually. Discuss how these predictions could be checked.

Divide the students into teams of three. Ask each team to prepare a spreadsheet on the eMate in which they can record their television viewing habits. Spreadsheet rows can be types of television shows; columns, the days of the week. Each cell will contain the number of minutes the student actually spent watching that type of show that day (for example, “30 minutes” for “News” on “Tuesday”). Demonstrate how to use a formula to add all the numbers in each column (the total time spent watching television per day) and in each row (the total time spent watching shows in each category per week). A separate cell can contain the total amount of time spent watching television that week.

Ask the teams to enter sample data to test calculations in the spreadsheet. Then ask them to erase the sample data and print the spreadsheet as a blank form.

**Phase 2**

Now ask students to check their perceptions against reality. For a week they should record the amount and type of television they watch, using the spreadsheet form printed in Phase 1. Emphasize that they should not change their viewing habits, but watch television as they normally would for the week. At school every day, they can enter their daily viewing data into their Newton Works spreadsheets.

At the end of the week, ask the students to compare their own viewing experiences, recorded in their spreadsheets, with their predictions of the average amount of time spent watching television and the most popular type of show. Students can write brief reports, using the Newton Works word processor, describing their predictions, the results they obtained in their spreadsheets, and the reasons for any discrepancy between the two.

Ask the students to transfer their spreadsheets to a desktop computer, where they can be imported into a master spreadsheet reporting the results of the entire class. Print this spreadsheet, distribute it, and discuss it in class. Compare the spreadsheet data with information about the average amount of time Americans spend watching television, and the popularity of different types of shows throughout the country.

### Phase 3

What are some of the current controversies surrounding television? Is there too much violence, or too many commercials? Has political advertising turned completely negative? What are the effects of consolidating television networks, stations, and production companies into megacorporations? Discuss these and other issues with the whole class.

Then ask each of the student research teams to choose one of these topics and to formulate a research plan, using the Newton Works word processor. (More than one team can work on an issue.) Each plan should include a statement of the issue and definitions of the terms of that statement. (What, for example, constitutes violence on television? Is it equally violent to hit a person in the stomach and to crush a cartoon clown with a car?) The plan should also describe how the team will find out more about the issue. Their research methods might include direct observation of television shows, research on the Internet or in local libraries, and surveys. Ask teams to turn in their plans for your review. When you return the plans for revision and implementation, discuss them with the class.

### Phase 4

Student teams carry out their research plans using a range of tools on both the eMate and a desktop computer. Outline milestones along the way that will enable you to monitor the teams' progress. Research should culminate in team reports (with multimedia elements) that communicate the results of the research, the students' observations, and some analysis. The students do not have to reach conclusions on their issues, but they should include their own opinions and a synopsis of competing viewpoints.

### Preparation

Find online and offline resources about television issues that can help students with this project. Online material can be transferred to the eMates using Newton Press.

Gather statistics about national viewing habits. (Some publications, such as *TV Guide,* publish special issues once a year including such statistics.)

### Options

To help students generate better data in Phase 2, you may wish to extend the self-observation exercise to a second week.

When creating the master spreadsheet representing the viewing habits of the class, you may wish to experiment with various charting options for the data and to discuss these options in class. (For more information about making master spreadsheets, refer to the "Technical Tips" section of this project.)

If you are doing this project with several different classes, create a comprehensive spreadsheet that compares the television viewing data for all the classes.

After they've completed their self-observations, ask the student teams to brainstorm ideas about what they would do if television suddenly disappeared. How would they spend their extra time? Teams can record their ideas in the eMate word processor and beam them to each other for discussion and further brainstorming. If possible, undertake a "No TV Week" with the class. (You might want to participate, too.) Such a week could include self-observation and a journal record (on the eMate or on paper), along with discussions and reports about the impact of not watching television.

Has anyone in the class been on television? Ask those students to describe their experiences.

If you have a desktop computer with video digitizing software, students can include digitized video clips in their reports to illustrate various concepts and issues. (Be sure that students' use of the clips conforms to the "fair use" provisions of copyright law. This can be a worthwhile subtopic for investigation.)

Depending on the maturity of the class, Phase 3 can include study and observation of representations of gender, race, and sexuality in television shows and commercials.

Students can also develop and describe ideas for their own television series, writing "concept pieces" and even scripts. What categories do their shows fall into?

Ask students to investigate some of the techniques used in modern television advertising. These include rapid cutting between shots, using mixes of angles, and blending animation and live action. How do these techniques compare to the video techniques seen on MTV, or in political ads? At home students can use the eMate, or a calculator and notebook, to count the number of cuts between shots in ads. How do these techniques influence the ways we form opinions? What social and personal values are implicit in commercials?

As students develop interest in particular issues relating to television, encourage them to participate in debate and discussion by writing letters or e-mail expressing their opinions to corporations, interest groups, or members of Congress.

### The home-school connection

Invite students to share their observations of their own viewing habits with family members. Do family members agree that the student's report is accurate? Is anything missing?

You can also ask students to interview family members and people in their neighborhoods about the issues they are researching, and to include these interviews in their final reports.

If you include a "No TV Week" as part of the project, have students get parent approval and support for this activity.

### Resources

*Four Arguments for the Elimination of Television* by Jerry Mander

*Networks of Power* by Dennis Mazzocco

*Amusing Ourselves to Death* by Neil Postman

*Tube* by David Fisher and Jon Fisher

### Technical tips

Help students understand data entry techniques for spreadsheets: tapping a cell while in data entry mode puts the label for that cell in the data. To get out of data entry mode, press Return, Tab, or Enter. When you're not in data entry mode, tapping the arrow keys, Return, or Tab will move you to another cell.

To create a master spreadsheet of television viewing data for the class, you need to help students transfer their spreadsheets from the eMates to a desktop spreadsheet application, such as Excel 5.0. Use the QF Exchange function in the Newton Works spreadsheet application to make the transfer. (For more information, refer to the *QuickFigure Works User's Guide*.)

# Poetry on the Spot

*Recommended Grades: 7–12*

## The project

Good creative writing includes vivid, evocative, sensory imagery and the apt use of simile and metaphor. This project, which takes students and the eMate outside the classroom, gives students an opportunity to experience the world directly—the smell of fresh-cut grass, the different shades of blue and gray in the sky, the sound of the wind or of city traffic—and to record these experiences in individual or collaborative writing projects. Tools for the project include the Newton Works word processor and drawing program and online and offline resources.

### Phase 1

Discuss with the class the vocabulary of the senses—hearing, seeing, smelling, touching, and tasting. What words do we use to describe our sensory experiences? Do words such as *hot* or *cold* describe only the sense of touch? Does *loud* pertain only to hearing? Read various examples of descriptive prose with vivid accounts of sensory experiences. Do the writers use particular words in striking ways? Help the class generate a list of "sense-words" students can use as a jumping-off point for their own writing.

Take the class to a location where they'll have the opportunity to experience stimuli to all five senses. Then, ask them to record their impressions, noting at least five distinct experiences for each sense. Students can use the Newton Works word processor to record this information.

Ask students, working in small groups, to create vocabulary lists of the words their group has used to describe experiences in each of the senses. Back in class, create a master list for the entire class by having the teams beam their lists to your eMate. (You'll have to eliminate the duplicates.) Print the list and discuss the words that have been used, then ask the students to think of others.

### Phase 2

What do we do when words fail us? How can you describe the taste of a peach? Often, we try to "say one thing in terms of another" to get the experience across. We use the familiar to describe something new, or we use the unfamiliar to get a new perspective on the familiar. ***Metaphor*** and ***simile*** are the formal terms for this effort. Read aloud poems and stories that present striking metaphors and similes. What have the students seen and recorded in Phase 1 that they could use as a metaphor to describe a feeling? Create some examples as a class. Then ask students to use the eMate to write a poem or story that uses their observations from Phase 1 to create metaphors and similes that capture a mood or feeling. Print their written pieces and have the students share them in small groups.

### Phase 3

Take the class to a new location with a different set of sensory stimuli. Ask students to pay attention to their sense impressions and to describe them using a combination of sensory vocabulary, metaphor, and simile. (Emphasize that they should focus on creating original metaphors and similes, although they can use "recycled" ones as well.) Invite students to compare a sense experience to their present mood. Then, ask them to write poems (such as haiku) or short paragraphs about the combination of sense-experience and mood. They can then beam these poems to each other to share and appreciate. (Students might wish to use the Quick Sketch function in the word processor to combine drawing and text in a "visual" poem.)

Back in class, ask the students to work in teams to create a class book or newsletter that presents the writing efforts of the class in a format that can be shared with friends and family. Each team can develop a section of the book or newsletter; if there are five teams, each could focus on writing that addresses one of the five senses. The students can also illustrate the class book using art supplies or software on the eMate or a desktop computer.

### Preparation

Look for appropriate sites at or near your school that provide a variety of sensory experiences.

Identify your favorite passages from stories or poems—passages that embody good sensory writing and the effective use of metaphor and simile. Japanese haiku is a rich source of such writing; investigating it will also introduce students to a form that may be useful in their own writing. (You can also ask students to collect samples of their own favorite writing, creating a resource for good models of effective writing.)

### Options

Time and circumstances permitting, after the completion of Phase 1, provide students with the class master list of sensory vocabulary and go to a new location that is significantly different from the first. Repeat the exercises of Phase 1, then revise and expand the master vocabulary list.

Ask students, in teams of two or three, to read aloud passages from literature that exemplify good sensory writing. Ask the teams to use the Newton Works word processor to list and categorize the sensory vocabulary in the passages they are reading. What senses does the passage address? What mood does it create? Print and share each team's analysis.

Ask students to analyze their favorite song lyrics, identifying sensory imagery.

We use metaphors and similes in everyday speech—such as clichés that describe love, politics, or anger—without thinking about it. We give emotions sensory qualities: anger is red, sadness blue, envy green. Words are "bitter" or "sweet." A draft is "rough" or "polished." Invite students to use the eMate word processor or a notebook to make a list of all the figurative speech that they hear during a day. They can compare their lists in discussion with the whole class.

With the class, listen to or read aloud a famous political speech. How many metaphors or similes can the students find in it? What are some well-known political metaphors? Examples might include the "cold war," "the iron curtain," or "morning in America."

Invite students to submit the writing they create for this project to *Stone Soup* or other online or printed literary publications for young people.

### The home-school connection

Ask students to find a sense experience in their home that they link to a particular mood or feeling, then to write a brief poem or paragraph describing this experience and the mood it evokes. ("At the bottom of the stairs is a dark place. When I pass it, I look the other way.")

### Resources

*Wishes, Lies and Dreams* and *Rose, Where Did You Get that Red?* by Kenneth Koch

*Sleeping on the Wing* by Kenneth Koch and Kate Farrell

*The Essential Haiku* edited by Robert Hass

"To Earthward" by Robert Frost

*A Haiku Menagerie: Living Creatures in Poems and Prints* by Stephen Addiss with Fumiko and Akira Yamamoto

*How Does a Poem Mean?* by John Ciardi and Miller Williams

*Falling Up* written and illustrated by Shel Silverstein

*Talking to the Sun: An Illustrated Anthology of Poems for Young People* selected and introduced by Kenneth Koch and Kate Farrell

### Technical tips

Students should be familiar and comfortable with the Newton Works word processor before doing this project.

If you have acess to online poems you would like students to read, use Newton Press to transfer the texts to the eMate.

# Environmental Perspectives

*Recommended Grades: 9–12*

## The project

The environment is in the news regularly, and environmental issues are often controversial and polarizing. Time and again, people on one side of an issue see the loss of irreplaceable natural resources, while people on the other side feel their jobs and livelihood are threatened. In this project, students identify and learn about a real-world environmental issue—preferably one in their town or city—researching the facts, learning all sides of the issue, and reflecting on their own environmental values. Tools for the project include the Newton Works word-processing, spreadsheet, and drawing programs, desktop software, and online and offline information resources. As a cross-curricular high school activity, this project can be supported by biology, English, and math teachers working together.

### Phase 1

With the class, identify and discuss different local or state environmental issues that have a direct impact on the lives of students and their families. Toxic waste disposal, preservation of natural resources, landfill, and air and water pollution are all possibilities. What different interest groups are involved with these issues? Does everyone agree on the basic facts of the issue, or are the facts in dispute? Is further research required? What are the proposed courses of action? Distribute or make available articles about these issues that will augment the discussion.

### Phase 2

Ask students, working in teams of three or four, to use word-processing software on the eMate to prepare a research plan for one of the issues the class has discussed. (More than one team can work on the same issue.) Plans should include several components: factual research involving some sort of numerical data, research into the broader ecological and environmental aspects of the issue, opinion mapping, personal reflection, and, if feasible, the proposal of alternative solutions. Tools for research should include online and offline resources, the Newton Works word-processing, drawing, and spreadsheet applications, and the Newton Works graphing calculator. Ask the teams to print their plans, and to share and discuss them with the class. During the discussion, teams can modify their plans as suggestions are made.

Require the student teams to carry out their research plans in stages, providing brief oral or written reports on a weekly basis ("What we've found out so far is..." "What we still have to do is..."). Ask teams to modify and revise their plans as new ideas and possibilities occur.

### Phase 3

Ask each team to use a desktop computer to prepare, as the final phase of their research, a written report that includes narrative information, numerical data, charts generated from that data, a digest of opinion research on the issue, and the team members' personal reflections. This report can be printed and shared with other teams. Send it as well to local organizations and interested individuals in the community.

## Preparation

As a cross-curricular effort, this project is best coordinated by a team of teachers in biology, English, civics, and math who work together to set the context, review the research plans, and evaluate the results. The project should offer students direct experience of the ways different disciplines contribute to, and are required for, a full understanding of any significant issue.

For Phase 1, prepare basic information to help stimulate discussion in class. (You may wish to assign students to gather this information before the discussion.) A sample research plan may also be helpful.

### Options

Post research plans in the classroom or classrooms involved. Teams can update them as their work proceeds.

In Phase 2, use of the eMate outside of school offers many possibilities, such as interviews with local personalities concerned with the issue, surveys of people at shopping malls, and direct observation and data collection at a site critical to the issue under investigation. The eMate can be especially helpful when students are gathering numerical data for later analysis.

A "level 1" disagreement means that people are talking past each other and not listening. A "level 2" disagreement means that side A can state side B's position in a way that side B agrees is complete and accurate, and vice versa, with no implication that A agrees with B or that B agrees with A. Transforming an argument from level 1 to level 2 can be the first step to constructive resolution. As students study conflicting opinions about the environmental issue they are investigating, ask them to think about this level 1/level 2 distinction and analyze the situation according to this framework.

If your school has a Web server, publish the final reports on it for viewing by the rest of the school and the community.

### The home-school connection

Invite students to survey their family and neighbors for opinions on the environmental issue they are researching. They can use the eMate to take notes during the conversations.

### Resources

*Timber Wars* by Judi Bari

*Environmental Overkill* by Dixie Lee Ray

*Green Essentials* by Geoffrey Saign

*Garbage* by William Rathje and Cullen Murphy

*The Green Encyclopedia: An A-to-Z Sourcebook of Environmental Concerns and Solutions* by Irene Franck and David Brownstone

*Keepers of the Earth: Native American Stories and Environmental Activities for Children* by Michael J. Caluto and Joseph Bruchac; illustrated by John Kahionhes Fadden and Carol Wood

*Come Back, Salmon: How a Group of Dedicated Kids Adopted Pigeon Creek and Brought It Back to Life* by Molly Conen

### Technical tips

Putting the eMate in Full Newton System mode can offer student teams an opportunity to use a broader range of tools to conduct their research. The Notes application can let them create outlines for their reports. The Names application can help them keep track of key people or sources for research. The Dates application can let them keep a schedule for their activities.

If students do begin to use the Names, Dates, and Notes applications, they will need to transfer data to a desktop computer using Newton Connection Utilities rather than the eMate Classroom Exchange software. (They also need to tap Dock, rather than Classroom Dock, in the Extras Drawer.)

# Preparing for Emergencies

*Recommended Grades: 7–12*

## The project

No matter where we live, there's no escaping natural disasters. Floods, hurricanes, tornadoes, earthquakes, fires, or severe winter blizzards affect us all at some point in our lives. In this project, students investigate emergency preparedness programs in their school or community, compare their findings to expert recommendations, and design and help to implement emergency preparedness programs where they do not exist. Tools for this project include the Newton Works word-processing, drawing, and spreadsheet programs.

### Phase 1

Invite students to form teams of three to five. Suggest that each team choose a coordinator, who will help organize team activities and maintain communication. Students can use the Newton Works word-processing and drawing applications to map and flesh out a timeline for their project, dividing research and report-writing tasks among the team members. (Depending on your community and on the abilities of your students, you may wish to direct them—or let them choose—to focus on their school, their neighborhoods, or the larger community.)

Students must first determine whether an emergency preparedness program exists for their area of study. They may begin by contacting the school principal and other school or district administrators, or they may contact the local fire department's office of emergency services. Information from these groups may lead the students to community groups or school personnel in charge of existing programs.

Teams may also do the following:

- Contact the local National Weather Service office for information about different kinds of natural disasters in your area. (Armed with what they've learned from the weather service about the potential severity of natural disasters, students may want to contact their local utility services to find out how long it would take to restore power and water to particular areas after a natural disaster.)
- Use street and topographical maps to locate emergency response teams (fire, rescue, ambulance services, and so on).
- Contact local emergency response organizations—police, fire department, hospitals, and the Red Cross—to determine what sorts of contingency plans they have in place to cope with natural disasters.
- Contact their regional Federal Emergency Management Agency (FEMA) office, their local fire department, and their state office of emergency services for information about the resources and training opportunities available to help citizens put together emergency preparedness programs.

Throughout these research activities, students can use the eMate to record information and data. For example, they may use the word processor to take notes during interviews, the spreadsheet to capture contact information and numerical data, and the drawing program to create maps or charts illustrating key concepts and findings. They can also explore the Internet to gather additional information.

### Phase 2

Once their research is complete, teams will organize and analyze the results in order to prepare a report that either proposes an emergency preparedness plan or recommends improvements to an existing plan. Reports can be created using the eMate word-processing, drawing, and spreadsheet applications, and can consider several variables, including the kinds and severity of natural disasters likely to occur; estimated damage; estimated response time of various emergency crews to specific locations; and the kinds of supplies needed to cope during the time between when the disaster occurs and when relief crews arrive. (Teams may also transfer their data to desktop computers to create multimedia presentations.)

Teams' reports can also include plans for recruiting, training, and equipping volunteers to staff emergency response teams. Older students can also explore sources of funding for these planning efforts.

### Phase 3

Teams may choose to present their reports in written form or as oral presentations (using notes from the eMate). They may even decide to use a desktop publishing application to create and publish brochures, distributing them to other classrooms or the student body at large, or to parent organizations, the school board, and community groups. If teams create multimedia reports, work with them to find opportunities outside the classroom to present their report.

If your school has a Web server, teams may also publish their reports on the World Wide Web, where it can serve as a resource for other organizations involved in similar projects.

Finally, it's up to you and the students, and the audiences for their work, to put their plans into action!

### Preparation

Invite students to share their experiences of natural disasters or emergencies, to talk about how they coped with the event and how they might have been better prepared for it. Suggest that drawing on their own experiences as well as those of their friends and loved ones will help them design and implement a school- or community-based emergency preparedness program.

Inquire about materials and programs from relevant state and local agencies, and compare these to the materials and plans that are in place at your school. Then decide what the scope and focus of the planning teams' work will be—plans for the school, for their neighborhoods, from their community, or the state.

### Options

You may find online resources you wish to share with the class. You can use Newton Press to transfer such information to the students' eMates so they can refer to it during their research.

You may invite the students to revise their emergency preparedness plans for use in an elementary school. What sorts of measures can younger children take to help themselves and their families prepare for natural disasters? How can younger children participate in community emergency preparedness programs? For example, a program in Oakland, California, called CORE (Citizens of Oakland Respond to Emergencies) has developed emergency preparedness plans tailored to the steep hills and narrow roads that could render some neighborhoods virtually inaccessible in the aftermath of a serious fire or earthquake. CORE groups have enlisted the young children in their neighborhoods to act as scouts to comb these hilly neighborhoods to look for people who may need emergency medical treatment or help with evacuation procedures. Students can then present their revised plans to elementary school students, teachers, administrators, and parent organizations.

### The home-school connection

Encourage students to develop emergency preparedness plans in their own home, or to review and revise existing plans in light of what they've learned. What special measures are needed to accommodate the kind of building in which they live? What are the most likely emergencies to strike?

### Resources

Federal Emergency Management Agency (FEMA)
P.O. Box 70274
Washington, D.C. 20024

National Weather Service, NOAA
Attention: Warning and Forecast Branch, W/OM11
1325 East-West Highway, Room 14370
Silver Spring, MD 20910

*Anno's Magic Seeds* by Mitsumasa Anno

*A Chair for My Mother* by Vera B. Williams

*Summer of Fire: Yellowstone 1988* by Patricia Lauber

*Earthquakes* by Seymour Simon

*Firestorm! The Story of the 1991 East Bay Fire in Berkeley* by Margaret Sullivan

*Fire in the Hills: A Collective Remembrance* edited by Patricia Adler

*In the Midst of Winter: Selections from the Literature of Mourning* edited by Mary Jane Moffat

### Technical tips

Students must be generally familiar with all eMate functions before undertaking their research.

In the drawing application, use the grid and rulers to help draw maps to scale. If the grid and rulers aren't showing, use the Tools button to turn them on. The grid will not print; if students want a grid to appear on their maps, they must draw the lines. To copy and paste the map into a word-processing document, choose Select All from the Edit pop-up list, then choose Copy from the Edit pop-up list.

Before students use the spreadsheet application, review data entry procedures. Tapping on a cell while in data entry mode will put the label for that cell in the data. To get out of data entry mode, press Return, Tab, or Enter. When not in data entry mode, tapping, using the arrow keys, or pressing Return or Tab will move you to another cell.

If the eMate is in Full Newton System mode, teams can use a broader range of tools to conduct their research. The Notes application can let them create outlines of the prose material in their report. The Names application can help them keep track of key people or sources for research. The Dates application can let them keep a schedule for their activities.

If students do use the eMate in Full Newton System mode, they will need to transfer data to a desktop computer using Newton Connection Utilities rather than the eMate Classroom Exchange software. They might also want to use the Newton filing system to organize their work into folders.

# Using the Graphing Calculator

*Recommended Grades: 7–12*

## The project

Newton Works includes a sophisticated graphing calculator, which you can use in different learning activities in math and science classes, or in other classes or projects where statistical analysis is relevant.

Teachers seeking to deepen skills of understanding, analysis, and prediction, as well as the progressive refinement of results, can ask students to perform these steps:

1. Read and study a narrative problem. That problem should include the situation, the parameters and interdependencies of the problem, and initial data.
2. Determine an appropriate graphing/calculation function for the situation.
3. Predict points of interest on the graph and select appropriate units for display.
4. Create a table of values and, in a Newton Works drawing or on a piece of paper, draw a sketch of what you think the graph will look like.
5. Enter the equation on the eMate, check your sketch against the resulting graph, then use the graph to find the answers to specific questions.

### Resources

*Concepts in Algebra: A Technological Approach* by James Fey and M. Dathleen Heid

*Algebra I* and *Algebra II with Trigonometry* by Paul Foster

*Anno's Math Games III* by Mitsumasa Anno

# 7 More Things to Do With the eMate

By now you and your students have become thoroughly familiar with the eMate and its built-in software; you have done the activities in Chapter 6 and have integrated the eMate into some of your curriculum, perhaps using it for homework assignments and field trips. At this point, you may wonder what else you can do with the eMate. This chapter lists other uses for the eMate, along with the types of products—both commercial and free—that are available for those uses.

## General Newton OS products

Many applications created for other Newton devices also work with the eMate. For software to work with the eMate, it must be compatible with version 2.1 of the Newton OS.

## Uses in education

This section describes categories of products available for the eMate that are of special interest to K–12 teachers.

**Important** Because product information changes rapidly as new products are introduced, this section does not mention products by name. To find the most up-to-date information about specific products, contact your Apple representative or see your Apple price list. You can buy most of these products directly from Apple.

### Browsing the Internet and the World Wide Web

With the right tools, you and your students can use the eMate to access the infinite resources of the Internet and its graphical portion, the World Wide Web. You'll need a modem designed for the eMate and an account with an Internet Service Provider (ISP). Also, you'll need the Newton Internet Enabler, which is on the CD that came with your eMate. Finally, you'll need a browser. Both graphical and text-based browsers are available for the eMate.

### Exchanging e-mail messages

Using electronic mail, students can quickly communicate with others who have an electronic mail account, including classmates, parents, and long-distance pen pals, such as students in other parts of the world. Several programs for sending and receiving electronic mail are available for the eMate. In addition to e-mail software, you'll need the Newton Internet Enabler and a modem designed for the eMate.

### Learning typing and keyboarding skills

As students use the eMate and other computers, they'll need good keyboarding skills so that they can type quickly and accurately. They can learn proper keyboarding through software for the eMate that uses structured lessons, games, and speed-building exercises to help students improve their typing skills.

## Creating and using a database

Using a database application, you and your students can store all kinds of data for quick retrieval and reporting. Like desktop database software, the database software for the eMate lets you enter text and graphics, sort records, generate summaries, and more. You can also share data with other databases, including those on a desktop computer.

## Gathering and analyzing scientific data

### Science probes and probeware

You can connect the eMate to probes—such as those for measuring temperature, pH level, and barometric pressure—for use not only in the lab, but also in the field. Instead of entering data manually, students use probe software, which automatically collects data and then displays it in tables and graphs.

### Tripod

When you take the eMate out for field work, consider taking along a tripod to keep the eMate steady and protect it from an accidental fall as you're gathering data or typing. Using the socket at the base of the eMate, you can mount an eMate on any standard tripod.

## Learning a new language

Software is available to help students learn several languages, including French, German, Spanish, and Italian.

## Looking up words in an electronic reference tool

Electronic editions of a dictionary and thesaurus are available for the eMate.

## Learning to program

Software is available for the eMate that teaches the fundamentals of computer programming using an implementation of BASIC.

## Creating and reading Newton books

Using Newton Press—a program for desktop computers that is on the CD that came with the eMate—you can create Newton books, documents that can be read on any Newton device, including the eMate. You can create Newton books out of your own text (such as assignment descriptions) or you can convert text that you download from another source. For example, through the Internet you can obtain electronic copies of poems or other texts that are in the public domain, then use Newton Press to convert them to Newton books.

Many Newton books have already been published and some are available for free on the Internet in the form of Newton packages. You can download these packages from Internet sites and view them on the eMate. For example, one site contains Newton books of important documents from United States history, including the Declaration of Independence and the Constitution. To find sites with documents that interest you, use your favorite Internet search tool and enter keywords such as *Newton packages* or *Newton books*.

> **By the way** Packages can store Newton applications, as well as documents. As you search the Internet, you'll likely come across packages for freeware or shareware, including games, utilities, and other programs that can be used on the eMate.

## Assessing student work

### Grade tracking

Using an electronic gradebook, you can enter grades and attendance information into the eMate; then you can quickly generate reports that summarize class grade-point averages, attendance records, missing assignments, and gradesheets.

### Qualitative assessment

Special software is also available for storing your observations about student work. Using this software, you can quickly compile and print summaries to use in filling out report cards, grading portfolios, and holding parent-teacher conferences.

## Using the headphone jack

You've probably already used the volume control at the top of the keyboard to reduce classroom noise from the eMate. But if you set the volume too low, students might not hear system sounds such as beeps.

One alternative to the volume control is the headphone jack. This jack, located on the right side of the eMate, is labeled with a headphones icon. To use the headphone jack, just plug in any pair of headphones that uses a mini-plug, just as you would on a portable radio or other audio device.

# 8 Frequently Asked Questions

This chapter provides answers to questions teachers often ask about the eMate.

### How do I save a document on the eMate?

The eMate 300 automatically saves your work as you use it. Therefore, you don't need to save your documents manually; the eMate does it for you.

### What do the lights on the eMate 300 mean?

The lights indicate the progress of battery charging:

- Orange means the battery is charging.
- Green means the battery is fully charged.

### What do I do if I can't find the eMate pen?

Do *not* use another pen—pens and objects other than the eMate pen can scratch or otherwise damage the screen. Instead, use the pack of disposable eMate pens that came with your eMates if you ordered an 8-pack. If you don't have these inexpensive, disposable pens, consider ordering them from Apple.

### How can I transfer data from my eMate to a Macintosh?

You have several options. For an explanation of these options, see Chapter 5, "Managing Student Documents."

### My students are working in Classroom Mode. How can I see all the documents they've created?

Keep in mind that in Classroom Mode, each student's documents get stored in a separate area that's only accessible to that user. To see student documents on the eMate, you must log in as each student.

Once you're logged in as a student, press Overview ● on the keyboard to view a list of all the documents created by that student in a particular application. For example, if you're using Newton Works, pressing Overview shows a list of all Newton Works drawings, papers, and other documents that that student created. Tap the name of a document in the Overview list to view that document. If a document you're expecting to see doesn't seem to be in the list, use the scroll keys to reveal more of the list.

*Tip:* If you've required passwords, you can use the Teacher Setup password to log in as any other user. Using this master password saves you from having to remember or look up individual student passwords.

You can also have students transfer their documents to a single Macintosh using eMate Classroom Exchange, or you can have them print their documents.

### A student cannot log in because he forgot his password. What should I do?

If you can't look up the student's password (for example, if the student created it himself), the quickest solution is to type the Teacher Setup password in place of the student's own password. You can use the Teacher Setup password to log in as any user; do not let your students see this master password.

When you have more time, you can use Teacher Setup to change that student's password—you don't need to know the old password to create a new one.

If you find students are frequently forgetting their passwords, try assigning passwords that are easier to remember—but still hard to guess.

### How close do I have to be to beam data from one eMate to another?

You can be no more than three feet apart. For more information about beaming, see the *eMate 300 User's Manual*.

### How can I tell how much space is available on an eMate for data storage?

Unlike most computers, which store data on disk, the eMate stores data in memory. Therefore, to see how much storage space is left, check the eMate's memory information. To do so, follow these steps:

1. Open the Extras Drawer.
2. Tap the Information button [i], which is in the lower-left corner of the screen.
3. In the list that appears, tap Memory Info.

The slip that appears shows how much memory is already used and how much is still free. For example, if 1749K appears in the Free column, the eMate can store up to 1749 kilobytes of additional data.

### What do I do if an eMate runs out of storage space?

An eMate can store dozens of documents. If it runs out of storage space, you can either delete some of these documents or add more memory. Before deleting data, you should copy important documents to a storage card or a desktop computer. To add memory, you must buy extra memory chips and have them installed.

### How do I use my eMate to connect to the Internet?

You need the following pieces:

- a modem
- Newton Internet Enabler (NIE) software, which is on the CD that came with your eMate
- an account with an Internet Service Provider (ISP)
- a Web browser for the Newton if you want to surf the World Wide Web
- an e-mail program for the Newton if you want to use e-mail

For more information, see Appendix E, "Using Internet and E-Mail," in the *eMate 300 User's Manual*.

### I heard you can attach things like science probes to an eMate. What are my options?

In addition to science probes, such as those for measuring temperature or pH level, you can attach a traditional tripod. After attaching a tripod to the base of the eMate, you can take it out into the field and easily type on it. For more information, see Chapter 7 of this guide, "More Things to Do With the eMate."

### How long does the battery last?

The battery inside the eMate is rechargeable, so you don't need to replace it for a long time. (The eMate battery, like other rechargeable batteries, does lose some of its capacity over time, and may need to be replaced after about 500 full recharges.) Under normal use, the battery lasts between 16–24 hours before it needs to be recharged. The exact life of the battery depends on the intensity of the activities you perform with the eMate. For example, using backlighting and a modem uses more energy than just using Newton Works.

### How long can I safely keep charging the battery?

You can charge the battery for as long as you want. Using the adapter that came with the eMate, it takes one to two hours to recharge a fully discharged eMate battery, but there's no danger in charging it longer.

### Is hands-on eMate training available?

Yes. You can participate in the two-day onsite training, eMate: Discover Mobile Computing. As a participant, you will explore the eMate's hardware and its software applications, discover strategies for classroom management, and see curricular projects appropriate to a variety of grade levels. To sign up for this course, call 800-800-APPL.

### Is there an eMate Web site?

Yes—there are several sites. A good starting point is Apple's official eMate site, at http://www.newton.apple.com/eMate.html.

From there, you can go to other eMate sites, including those not maintained by Apple. Because of the volatility of the Internet, the best way to find current sites may be to use your favorite Internet search tool, entering keywords such as *eMate* and *education*.

### Other questions

The *eMate 300 User's Manual* contains a list of more technical questions and solutions to common problems. Refer to Chapter 22, "Solutions to Common Problems," in that manual for more information.

*Appendix*

# Letter to Parents and Permission Slip

When your school purchases an eMate 300, you acquire a direct connection to students' homes and families. When students take the eMate home, or when family members visit the school or accompany your class on field trips, they'll see students using computers in ways they've never imagined.

Think carefully about how you can explain to parents and other family members the significance of this exciting learning tool, and the importance of treating it with care. We've provided the following letter as an example of how you might communicate with students' families about the eMate. Although this letter is most appropriate for a teacher in the primary grades, you can adapt it in any way you wish to reflect the situation in your classroom.

**Sample letter to parents**

Dear Parent or Family Member,

We are fortunate to have acquired eight new Apple eMate 300 computers for use in our classroom. These computers are portable, lightweight, and rugged. As you'll see, they are perfect for transporting from school to home, or on field trips.

The eMate is specifically designed to support mobile learning by giving students improved access to information, by helping them communicate and collaborate with each other, and by giving them a powerful tool that they can take with them anywhere they go. The eMate even helps students connect to the Internet. By taking advantage of this technology, we will be helping students become more powerful and independent learners.

We will be using our eMates to complement the desktop computers and other technology that we already have; students will be able to work on projects at home, in the library, or anywhere in the community, and bring the work that they do and the information they find back to the classroom. They will also be using the eMates at school; because the cost of an eMate is low, we are now able to ensure that fully one quarter of our class has individual access to a computer at any one time.

It may be awhile before you see one of our eMates in your home; we have to learn how to use them, how to share them, and how to be responsible for them. If you want to see our eMates in action before that time, please contact me at 123-4567. I'll be happy to help you schedule an appropriate time to visit the classroom. I also hope you'll call me if you have any questions.

We're very excited at the prospect of mobile learning. When you see our new eMates, I'm sure you'll be excited, too.

Sincerely,

*Donna Martinez*
*Sunnyside Elementary School*

### Sample permission slip

Use the following permission slip as a model of what you might send to parents. By signing this slip, parents agree to let their children check out the eMates for home use, and accept financial responsibility for the eMates.

Dear Parent or Family Member,

To make sure that your child uses the eMate properly and returns it to school intact, please review the following checklist with your child:

**Safety and care checklist**

- ☐ Treat the eMate like a computer, a very valuable object.
- ☐ Don't drop the eMate.
- ☐ Don't get it wet.
- ☐ To tap or write on the screen, use only the eMate pen.

After you and your child have reviewed the checklist, please sign the permission slip, cut along the dotted line, and have your child return the signed slip to me. Without this slip, your child will not be able to check out the eMate for home use.

Sincerely,

*Donna Martinez*
*Sunnyside Elementary School*

---

My child has my permission to check out the eMate 300. I have reviewed the safety and care checklist with my child; when the eMate is checked out to my child, I agree to be responsible for its safe return.

_____

*Parent Signature*

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