



The Apple eMate 300  
in education.



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Apple introduces a product designed with the belief that, given the right tools,

# students can accomplish extraordinary things.

What technological tools do students really need in order to be successful in school—and prepare for the future? Is there technology that can help teachers and students make learning more meaningful, and that might engage parents in their children's learning? Is there something that complements the computers, networks, and peripherals that are already in the classroom? Something that won't break the bank?

After years of research and collaboration with educators, Apple introduces the Apple eMate 300, an affordable computer that fits into today's extended learning environment. It's the first of a new class of mobile computer designed specifically for education, so students and teachers have access to technology



when they need it—extending the reach of learning outside the classroom and computer lab to the library, the home, the local community, and the world. The eMate includes the essential tools that users need for the research, analysis, collaboration, and planning that

their projects and lessons require. It also connects to Mac OS- and Windows-based computers, networks, and peripherals for further data sharing, publishing, or multimedia enhancement. The eMate can be used to query experts around the world via e-mail; to conduct research on the World Wide Web; to collect, graph, and analyze data—even to record spur-of-the-moment brainstorming on the bus. And a single eMate can easily be shared by multiple users, expanding the reach of technology to more students than ever before.

# What exactly is the eMate 300?

On first glance, the eMate attracts attention. Its unique design incorporates physical characteristics and capabilities of some of Apple's most successful products. Fundamentally, the eMate is a mobile computer—its size and weight, battery life, keyboard, connectivity capabilities, and expansion features make it ideal for working and learning anytime, anywhere. Users will find that its functionality is straightforward and powerful.

*IrDA infrared port lets users beam information to one another.*

*A built-in handle makes it easy to carry the eMate 300 anywhere users want to work.*



*The serial port (RS-422) lets users connect the eMate 300 to a printer, or to an AppleTalk network.*

*Adding Type I, II, or III PC Cards increases the functionality of the eMate 300—for example, users can add a modem, or a new application stored on a PC Card.*

*The Newton InterConnect port lets users connect the eMate 300 to an external modem, or make LocalTalk and RS-232 serial connections to personal computers (requires optional cables).*

*Runs the Newton OS.*

*Backlit, gray-scale LCD screen that displays the width of a standard written page, at 480-by-320-pixel resolution.*

*The eMate 300 operates on a rechargeable nickel-metal-hydrate battery (included) for up to 24 hours of use between recharges.*

*Newton Works gives users the basics—word processing, drawing, spreadsheet, and graphing calculator functions—in one integrated package. It can run hundreds of Newton 2.0 applications, as well.*

*The eMate 300 can be opened so it lays flat, making it easy for users to draw on the screen. And they can rotate their work from portrait to landscape orientation—or even flip it upside-down—to share it with a partner across the table.*

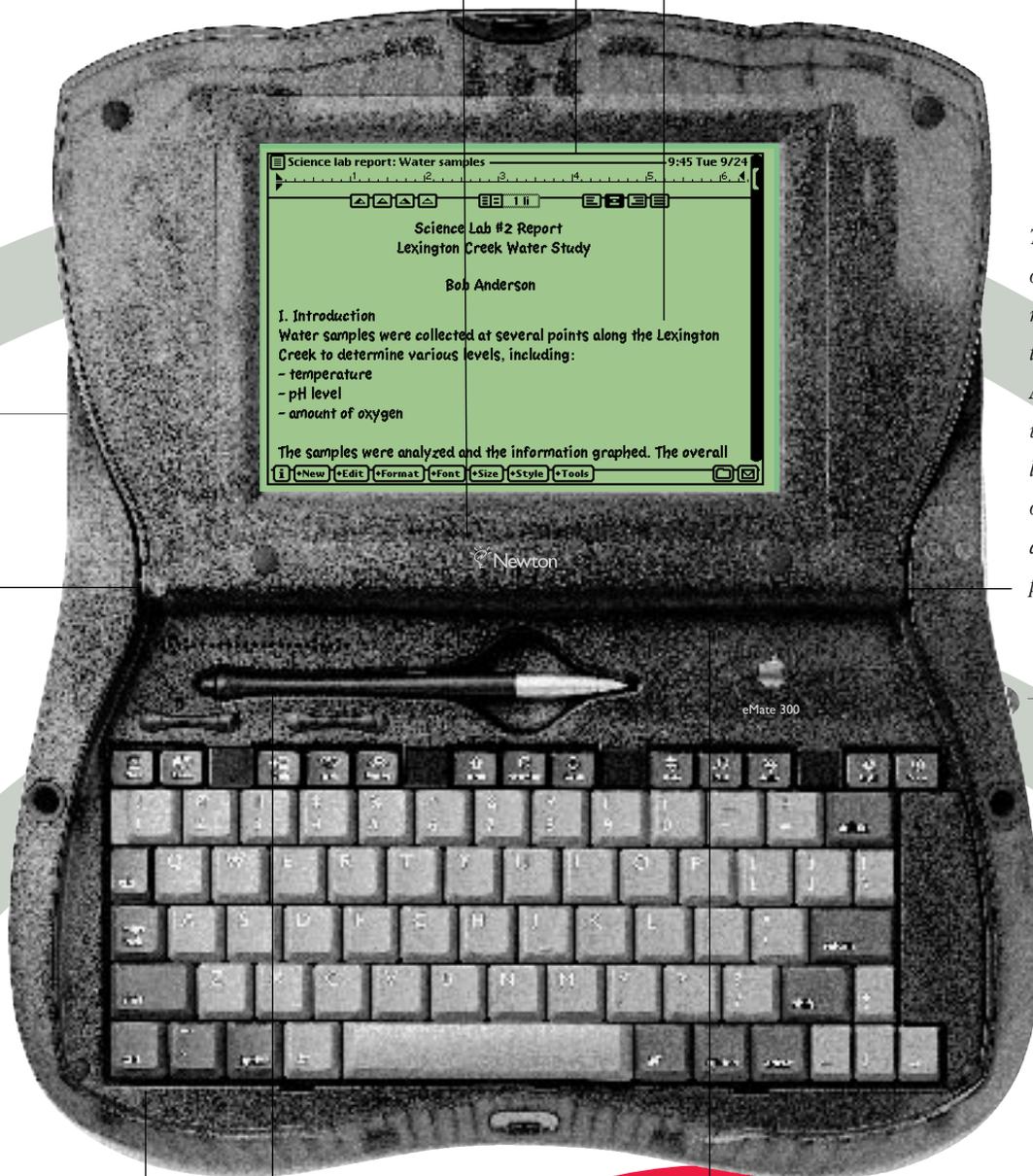
*The “instant-on” feature saves system boot-up time—it turns on when the unit is opened. The auto-save feature keeps work intact even when the unit is closed.*

*Standard mini-jack for sound.*

*Integrated keyboard for comfortable typing.*

*With the eMate pen, users can sketch, write, and draw free-form right on the display. They can also use it for “tapping” on menus, much like clicking a mouse.*

*TCP/IP capability—the protocol of the Internet—is built in, so users can send e-mail over the Internet, and connect to the World Wide Web. (Requires optional modem and software.)*



The Apple eMate 300:

# A discovery tool for learning anytime, anywhere.



While the classroom is at the core of the distributed learning environment, a student's educational experience extends far beyond it. The eMate makes it possible for students to access a wide variety of learning resources with ease and move information where it's needed.

## Today's distributed learning environment.

Although formal education happens in the classroom, learning happens everywhere. A distributed learning environment provides learning for anyone, anytime, anyplace. It extends the reach of learning from the classroom to the library, lab, home, local community, and the world. In the best distributed learning environments, educators and students are able to take full advantage of a range of technology to make learning more meaningful, effective, and engaging.

Apple's support of the distributed learning environment concept is based on a commitment to four critical elements of successful learning experiences:

- **Information access.** Students and teachers need convenient access to information no matter where it resides.
- **Communication and collaboration.** Students and teachers need to be able to communicate and collaborate with other students, colleagues, and experts, anytime, anywhere.
- **Multisensory experiences.** Students and teachers need multimedia tools in addition to traditional educational methods, to help them communicate ideas in the way that is most appropriate to the task and compatible with diverse learning styles.
- **Convenient, mobile tools.** Students and teachers need personal learning materials (pencils, books, calculators, etc.) that are convenient, creative, and mobile.

## Building on schools' investments.

As learning extends from the classroom to the home, local community, and the world, students and educators require a range of technology tools to support successful learning experiences. Many schools already have some of the core technology components of a distributed learning environment:

- **Desktop computers,** either Macintosh or Windows-based PCs. This includes multimedia computers that

are dedicated to letting students experience powerful, creative multisensory learning by integrating text, video, sound, and graphics in their work.

- **Peripheral products** such as printers, scanners, and digital cameras.
- **A network,** which could range from a simple connection to a printer, to a local network of PCs, to a connection to a server.
- **Affordable, mobile computer technologies** that function as a personal companion to desktop technologies in the classroom, at school, and in the home.

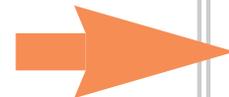
## Apple's new solution for education.

Through our Apple Classrooms of Tomorrow (ACOT) program and other alliances with leading educators and educational institutions, we've been able to respond to the evolution of teaching and learning with appropriate, useful products and technologies.

The eMate fits into today's learning environments—its mobility, affordability, connectivity, and communications capabilities help users take full advantage of technology available in the classroom, the home, the world. It extends the reach of learning by giving students a mobile tool for doing the research and analysis a project requires, then connecting to local or remote students, experts, and other information sources. The eMate's built-in capabilities and wealth of features foster the skills students need in order to be successful today. These include:

- Access to electronic information anywhere in the world, via the Internet.
- Infrared and e-mail capabilities for instant communication and collaborative learning.
- A keyboard and the eMate pen, so students of all ages can communicate their ideas in the way that works best for them.
- Easy connections to Mac OS– and Windows-based desktop computers, networks, and peripherals that already exist in schools today.

For the bigger picture



The Apple eMate 300: For working and studying anywhere in

# today's learning

A teacher prepares math lessons at home on an eMate and will beam them to the math groups tomorrow morning for the students to complete.

In preparation for a paper on family history, a student interviews family members and takes notes on the eMate.

Using the eMate computer, a student records observations about one small area of the schoolyard for an assignment on descriptive language.

A principal downloads curriculum objectives from the education department website, and imports them into a template on the eMate computer to help evaluate students' progress in relation to government standards.

A teacher connects an eMate to a personal computer, downloads information about panthers from a zoo's website, then builds a Newton Press book. Later it will be beamed to all eMates in the third-grade classroom, along with a quiz about panthers.

# environment.



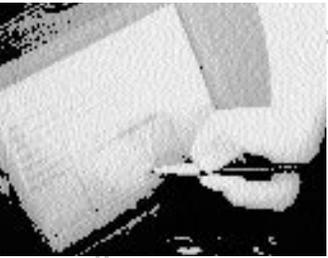
Students manage a city budget by tracking expenses and revenues using the spreadsheet on their shared eMate.

A coach uses an eMate to record team members' stats during the season and develops conditioning charts to help track the team's weight-lifting progress.

In the bus on the way home, a student uses the graphing calculator on an eMate to study the difference between the sine and cosine curves.

During study hall, students complete math drills on eMate computers.

Teams of students compare characteristics of soil samples they've collected at local sites and recorded on an eMate, and theorize about erosion, fertility, and mineral content.



# Why introduce the eMate into teaching and learning?

## It makes technology accessible to more students than ever before.

In today's schools, there are rarely enough computers to meet all students' needs. However, the eMate makes it easier to put computing tools in the hands of more students than ever before. The affordable eMate has personalized workspace and password protection for multiple users, so each eMate in a classroom can go a long way. It's flexible in other ways, as well: The eMate pen—in addition to the keyboard—makes it possible for students to complete their assignments and communicate their ideas successfully in the way that works best for them.

## It's designed by educators, for education.

Designed in collaboration with leading educators, eMate is the perfect companion to existing technology in the classroom, school, or home. Its rich functionality is specifically designed to provide the tools students need to be productive and successful.

## It lets students and educators work wherever learning takes them.

The eMate is meant to be carried from classroom to library to lab to home, and back again—anywhere that teachers and students need to teach and learn. That's why it's designed to be lightweight, and yet rugged enough for a lot of transport. The built-in handle makes it easy to carry the eMate—and the device is small enough to slip into a backpack or briefcase.





**It's compatible with the technology schools already have—  
and extends the functionality of those systems.**

The eMate was designed to work as a companion to a school's existing computers and printers. It's easy to upload work done on an eMate to desktop computers if it needs to be enhanced—for instance, if users wish to add color or multimedia content. Serial and Newton InterConnect ports, a PC Card slot, built-in high-speed IrDA infrared, and TCP/IP capability let users communicate with one another, print their work, add functionality to the eMate, and connect to the World Wide Web.

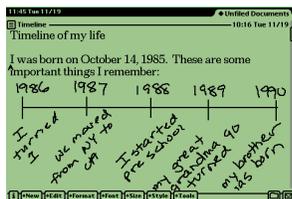
# What applications come with the Apple eMate 300?

The eMate runs Apple's Newton OS, a sophisticated operating system that takes up very little space and yet helps users do amazing things. The eMate includes personal information-management software as well as applications that are particularly useful for students and teachers both in the classroom and at home.

## Newton Works

Newton Works is an integrated application that includes word processing, drawing, spreadsheet, and graphing calculator capabilities all in one package. It's so flexible that any work done in one function area can be copied and pasted into another.

The **word processing** function has the basic features found in a similar application on a desktop computer. It includes a spell checker, a formatting ruler, multiple fonts, styles, and global Find and Change functions. A unique Quick Sketch feature lets users draw a sketch right in the middle of a block of text, to help illustrate a concept or diagram a process.



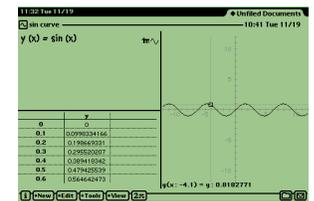
The **drawing** function lets users sketch directly on the screen of the eMate with the eMate pen. Tools are included for drawing freehand sketches, producing geometric shapes, adding "stamps" in a variety of fun designs, and filling areas with patterns and shades of gray. Users can create single-page drawings and import them into the word-processing space to add clarity or character to a document.



The **spreadsheet** is a typical spreadsheet application that makes it easy for students and teachers to enter, analyze, and communicate numerical data. Users can compute by constructing formulas or by using the more than 80 built-in math functions. Calculations done on the eMate can be uploaded to a personal computer for integration into most spreadsheet applications.

	1994	1995	1996
Q1	\$276,500.00	\$288,975.00	\$296,409.00
Q2	\$155,087.00	\$168,754.00	\$175,098.00
Q3	\$289,876.00	\$286,543.00	\$289,765.00
Q4	\$199,874.00	\$200,863.00	\$209,776.00
TOTAL	\$832,435.00	\$857,133.00	\$891,048.00

The **graphing calculator** is especially useful for older students, since it can perform complex math and trigonometric functions and then display them as graphs or tables. Users can enter and evaluate variables and equations using standard mathematical notation, and display the results in a graph or a table view. Polar and parametric graphs are supported, and the interface makes it easy to zoom in and out. Of course, graphs can be copied and pasted into other Newton Works functions.



## Personal eMate

The eMate includes many capabilities for keeping track of personal data, and for transferring data to personal computers.

- **Date Book.** Keeps track of appointments.
- **To Do List.** Helps organize tasks.
- **Name File.** Helps organize contact information.
- **Calls application.** Lets you log phone calls.
- **Newton Connection Utilities I.I**  
Synchronizes calendars, contact information, and notes between a personal eMate and a Mac OS- or Windows-based personal computer.
- **InOut Box.** Stores items being sent or received, such as e-mail or faxes.
- **A simple calculator**
- **Formulas.** For easy conversions and calculations.
- **A world map of time zones**
- **eMate Tour.** A quick tutorial of eMate's capabilities.
- **Help module.** A standard task assistant.
- **Find function.** A text search to all eMate functions.

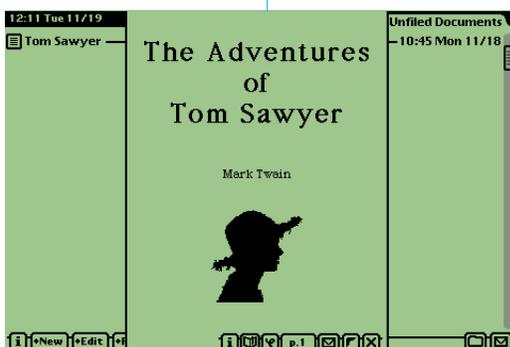
## Shared eMate

Some functions can be easily shared by multiple users sharing one eMate computer:

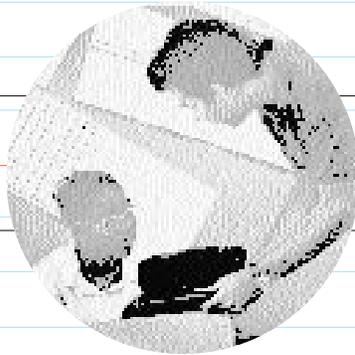
- **Notepad.** Allows users to write, draw, take notes, develop checklists, and jot an outline. Students can save their particular notes in a personal folder.
- **eMate Classroom Exchange.** Allows eMate users to transfer information between the eMate and a Macintosh computer; for data sharing, backup, and storage. (Multiple eMate computers are able to connect to a Macintosh, simultaneously.)
- **InOut Box.** Stores items being sent or received, such as e-mail or faxes.
- **A simple calculator**
- **Formulas.** For easy conversions and calculations.
- **A world map of time zones**
- **eMate Tour.** A quick tutorial of eMate's capabilities.
- **Help module.** A standard task assistant.
- **Find function.** A text search to all eMate functions.

## Newton Press

Included on the CD that accompanies the eMate 300, Newton Press is an application that allows users to easily build interactive electronic books. They can thematically integrate data from word-processing documents, e-mail messages, text from websites, and graphics from Mac OS- or Windows-based PCs into a book, hyperlink the content to help direct the learning experience, and then easily distribute the book to eMate computers.



# Suggestions for using the eMate for teaching and learning.



The eMate has the advantages of mobility, ease of use, and built-in productivity, connectivity, and communications functionality—all of which are valuable assets for both students and educators. Included here are some scenarios to spark your thinking about how to incorporate the eMate into your teaching and learning.\*

*\* See the eMate Teachers' Guide (included with all eMate purchases) for more lesson ideas.*

*Call or visit our website to find out about Apple's Staff Development workshops.*



# Writing and Comm

Since students can print or type their thoughts on the eMate, it is conducive to both casual and formal writing.

## Assignments:



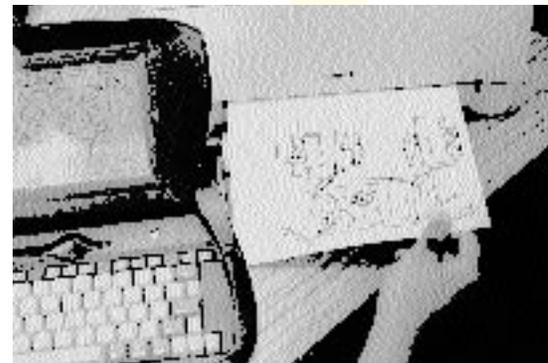
### Write a family history.

#### Assignment:

Students research their family history, write an article about it, and then illustrate three generations on a family tree.

#### Steps:

- Check out an eMate to take home.
- Interview family members, taking notes on the eMate.
- Use a digital camera to take a picture of each family member interviewed.
- Connect to a personal computer at school or home, and upload notes and photos to a multimedia system to publish the interviews and illustrate the family history with the photos.





# unication



## Practice descriptive language.

### Assignment:

Students learning about the power of incorporating imagery into their written work are assigned one small square of land to study.

### Steps:

- Check out an eMate for one period.
- Take the eMate to the area for observation, and describe twenty things discovered there, by typing or writing on the eMate.
- Write a story about the area as if it were a mini-universe.
- Check spelling using the built-in spell-checker. Connect the eMate to the classroom printer, and print the story. Give it to another student for peer review, and make edits as appropriate.

### Optional:

- Upload observations to a personal computer in the classroom.
- Illustrate the story using drawing software and clip art.
- Add the story as a chapter in the class's book.
- Instructors might consider doing this assignment along with their students, and adding their story to the book.



## Learn about other cultures.

### Assignment:

Students in a foreign language or geography class are each assigned a country to study.

### Steps:

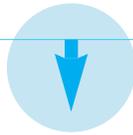
- Open a personal folder on a shared eMate computer (the eMate is used by five additional students from different class periods).
- Keep a journal on the eMate of what's happening in the assigned country, by reading newspaper articles and magazines about current events there, or by connecting to the World Wide Web and downloading text from an online news website, for example.
- Correspond with another student native to that country, via e-mail, to learn about modern customs and culture.
- Use Newton Press to build an interactive book about the country, based on what's been learned. Distribute it to other eMate computers in the classroom.
- Connect to a multimedia computer in the classroom to do the final semester project: Upload the journal and add sound and graphics to illustrate current events in the country.



The eMate can supplement a math curriculum at all levels of learning—from simple arithmetic to calculus. The built-in calculator and spreadsheet give users the tools they need to perform calculations and understand numerical relationships.

# Math and

## Assignments:



### Measuring and monitoring natural resources.

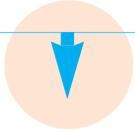
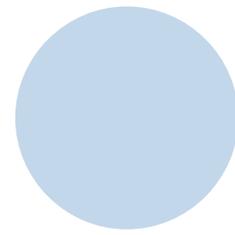
#### Assignment:

A class conducts a study of a grove of trees by performing a series of tests and measurements.

#### Steps:

- Organize into groups, each group being equipped with an eMate computer.
- Record measurements made of the diameters of selected trees at a certain height, the height of these trees using a clinometer; and the percentage of canopy cover within the site area.
- Compute the growth rate of individual trees, and predict heights, canopy, and ozone collection numbers.
- Graph the current height measurements using the eMate computer's built-in graphing calculator; and then write a prediction of the heights in twenty years.
- Upload that information into a master spreadsheet on a personal computer in the classroom, to publish findings in a report that includes charts and illustrations of the entire grove today and in the future.

# Analysis



## Predicting outcomes.

### Assignment:

Working in small groups, students study and predict athletic performance outcomes.

### Steps:

- Take specific measurements of each others' height, length of running stride, leg length, and arm length, and record the information in the spreadsheet on an eMate.
- Perform calculations of the ratio of leg and arm length to height, and the ratio of stride to height.
- Use the eMate to write up their predictions of which student in their group would do the best in different events at a track meet: the 50-meter dash, a softball throw, and broad jump.
- Upload their measurements to a desktop computer in the classroom and keep them in a master spreadsheet, to compare to identical measurements taken six months later.
- Participate in a track meet to check the accuracy of their predictions.
- Access websites and research how athletes use statistics to improve their performance in world-class competitions.



## Mastering multiplication tables.

### Assignment:

Use the eMate to give and grade a math quiz.

### Steps:

- Download multiplication quizzes from your desktop computer to your eMate.
- “Beam” the quiz to each student's eMate in a math workgroup.
- Ask students to complete the quiz on their eMate computer.
- Beam the answer keys to students so they can grade their own work.
- Have students make up their own quiz, incorporating the problems they missed, and including the correct answers.
- Have students print their new tests by connecting their eMate to the classroom printer.

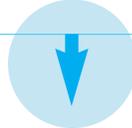


# Science and Critical

The eMate is a great tool for illuminating aspects of the natural sciences, since students can carry it to observation sites, and it is conducive to both quick notetaking and data storage.



## Assignments:



### Ecology and recycling.

#### Assignment:

Students conduct an experiment to help understand their roles in the production of garbage, and how to improve waste management. For three days in the classroom, a group of students uses one bag to collect anything they are throwing in the trash.

#### Steps:

- Classify and record the contents in a spreadsheet on the eMate.
- Discuss and research where their garbage came from, and where it goes after leaving their houses.
- Use the eMate to develop a flowchart of the paths of their waste. Identify ways to reduce it.
- Complete a report on the eMate, and print it by connecting the eMate to a printer.

#### Optional:

- Connect the eMate to a multimedia computer to upload work.
- Animate the flowchart and build a color presentation.



# Thinking



## Studying basic gravitational physics.

### Assignment:

Students studying physics conduct a series of experiments to better understand the effects of gravitational acceleration on a falling body.

### Steps:

- Working with a partner, check out an eMate for one period.
- Measure the drop rate of objects of different weights in the classroom.
- Record and graph the measurements on the eMate, using the graphing calculator.
- Make conclusions about the effects of gravity on a falling body, based on their results.



## Analyzing properties of elements.

### Assignment:

Students use a probe to analyze properties of water and air.

### Steps:

- Measure pH and dissolved oxygen in puddles, and the temperature of air spaces (classroom closet, lunch area, auditorium).
- Record findings on an eMate computer.
- Write a lab report on the eMate, and connect to a printer to print the report.

### Optional:

- Connect the eMate to a personal computer, upload the report, and add graphics.



## Notes



For more information on the Apple eMate 300,  
call [1-800-800-APPL](tel:1-800-800-APPL) or visit our website at  
<http://education.apple.com>.

In Canada, contact your Apple Education Sales Organization (ESO),  
or call [1-800-263-3394](tel:1-800-263-3394) for the name and location of your ESO.

### Financing Options (U.S. only)

Make your eMate purchase even more affordable by financing your purchase with flexible payments to meet your budget requirements.

- AppleMAX Financing For Institutions  
Call [1-800-255-2652](tel:1-800-255-2652) for a custom quote based on your budgetary needs and goals.
- AppleLoan For Individuals: Teachers, Faculty, and Staff  
Call [1-800-Apple-LN](tel:1-800-Apple-LN) to easily apply by phone.

### Staff Development

Call or visit our website to find out about Apple's Staff Development workshops. Apple offers the "eMate: Discover Mobile Computing" workshop, a two-day on-site training that introduces teachers to capabilities of the eMate, demonstrates classroom management strategies for both single-student and collaborative use, and provides curricular projects to help teachers use eMate technology in their classes anytime, anywhere.

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