SCIENCE & TECHNOLOGY

Computer Programs Spell F-U-N

New software packages offer children exploration instead of candy-coated 'drill and practice'

By Simson L. Garfinkel
Special to The Christian Science Monitor

BOSTON

IF you can't decide what to give that special child for the holidays, why not give him or her the entire planet?

SimEarth, a new computer program introduced this month, is a planetary construction kit. More than a computer game, this program brings a complex simulation of geology, weather, and life to home computers.

Using SimEarth, children can create a prehistoric model of the Earth, complete with single-celled life forms. Then they can speed up time, sit back, and watch evolution happen. By changing the flow of magma under the surface, children can make mountains and earthquakes. The simulation even lets them introduce higher life forms or give high technology to the simulation's neolithic natives.

"It's as accurate as we can get it," says Sally Vandershaf, a spokeswoman for Maxis, the California company that designed the system. SimEarth is based on scientist James Lovelock's Gaia hypothesis, the idea that the Earth is a single organism, its geology, geography, and life shaping and interacting with each other. The program even simulates continental drift.

"I think that it is really good," says Natalie Rusk, the education coordinator at the Boston Computer Museum. "One of the most important things about computers for scientists ... is simulation. This gives people a feeling for that."

SimEarth is one of a bounteous crop of computer programs for children that have sprung up in computer stores this fall. The better programs, says Ms. Rusk, stay away from arcade-like graphics and instead encourage exploration and creativity.

Other experts agree. "A game like 'Invaders' will teach them eye-hand coordination," says Elaine Poltz, a mother of two and a specialist on educational software for the Boston Computer Society. "But it won't teach them *about* anything."

Parents should also be wary of "drill and practice" programs designed to "make learning fun," says Rusk. She advises parents to stay away from "medicine that is sugar-coated."

"Some of the math drill programs try to take 'five times three' and make it fun with spaceships: If you answer 'five times three' correctly, you are allowed to shoot a spaceship," she says. These programs set the computer up in the child's mind as infallible teacher, rather than a tool for exploration and empowerment.

Children who are interested in ecology but not yet ready to run the world with SimEarth will likely enjoy EarthQuest, a science and geography game introduced last fall for the Apple Macintosh computer. EarthQuest lets a child explore the planet, its peoples, and the environmental problems that we now face. One of the program's screens shows the child a variety of animals and plants; when the child "clicks" on an animal with the computer's mouse, the program displays information about the animal, plays a recording of the animal's noises, or shows a tiny movie.

The program has on file the sound of human languages like Croatian and Swahili, music from around the world, and an encyclopedic database on subjects ranging from the problems caused by oil spills to the orbit of Jupiter around the sun.

EarthQuest also has a trivia game that tests young minds about science, history, and geography. "It's challenging and you learn stuff," says Tom McArdle, 9, who used the program at the Boston Museum of Science.

A moment later, the program asked Tom for the name of the lowest layer of the atmosphere. Tom clicked his answer: Troposphere. "Oh, we're learning that stuff in school," he explained.

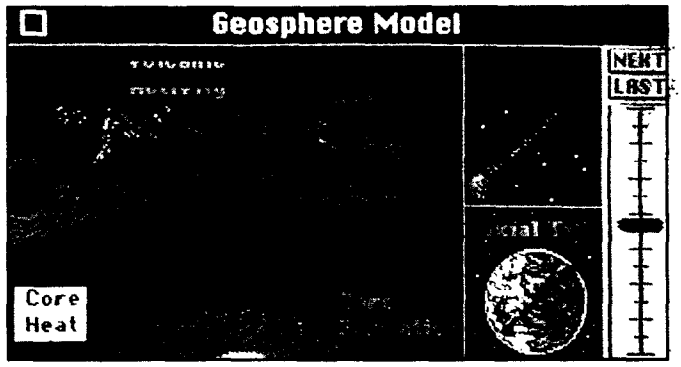
But unlike school – and the majority of so-called educational software – the best software for kids lets them choose what they want to do and the order they want to do it in.

"A lot of parents think that 'anything that is going to teach my kids something is going to be good.' That's not always the case," says Rusk. Many programs for children take a directed, step-by-step approach in the information that they present. "The kids soon figure out that the program is trying to get them to do something" and lose interest, she says.

There's only one reliable way to tell a good program from a bad one, says Rusk: "You have to try it. I don't know how much you can tell from the package."

Some of the newest and most exciting software for very young children – ages 2 to 6 – is by Walt Disney Computer Software in Burbank, Calif. The programs combine music, recorded speech, and animation to let a preschooler explore and solve games.

In "Mickey's ABCs," the child directs Mickey Mouse around his



PICK OF THE SEASON'S SOFTWARE FOR KIDS

■ **SimEarth**
($69.95)
Runs on IBM PC and Apple Macintosh computers.
Maxis, 1042 Country Club Dr., Suite C, Moraga, CA 94556

■ **EarthQuest**
($49.95)
Runs on Apple Macintosh computers.
EarthQuest Inc.
125 University Ave.
Palo Alto, CA 94301

■ **Mickey's ABCs**
($39.99)
Runs on IBM PC computers, but requires the Disney Sound Source ($29.99).
Walt Disney Computer Software
3900 West Alameda Ave.
Burbank, CA 91505

Not Even Once in a Blue Moon

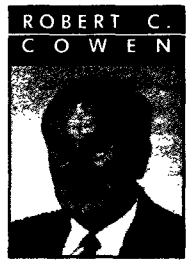
A CONVERSATION overheard in my local hardware store earlier this month is revealing. A customer was telling the clerk about the concern her relatives living in a Southern state felt about the prediction that a major earthquake would strike their area as the moon became full in early December.

On Dec. 2, Earth, sun, and moon came into line with the moon at perigee, its closest approach to Earth. Business consultant Iben Browning predicted a 50 percent probability of a magnitude 6.5 to 7.5 quake in the New Madrid, Mo., region between Dec. 1 and Dec. 5 due to the tidal strain the celestial lineup would cause.

Piffle! Earthquake geologists generally dismissed the forecast. As the National Earthquake Prediction Evaluation Council explained, the tidal strain would be minuscule. It has occurred a number of times without triggering quakes. Also, as the council noted, no one can predict earthquakes that precisely, given the present state of geological knowledge.

But New Madrid was the focus of three major earthquakes from 1811 to 1812. So, fed by gullible media reporting, needless fear among the public outran reason. In some places, schools and factories reportedly closed down Dec. 3 and residents prepared for possible disaster. The overheard conversation was an individual confirmation of this reaction.

Nothing happened, of course. And the extra supplies this individual's relatives laid in will undoubtedly come in handy. But why should they have been subjected to needless anxiety in the first place?



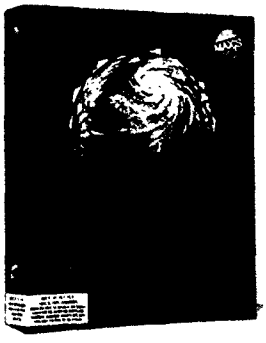
It's tempting to blame the forecaster for being alarmist. Yet Mr. Browning has a right to call attention to a danger that he sincerely believes he foresees. You can blame news media for being lax where they failed to play up the weakness of that forecast. But, at bottom, isn't this a case where we should, individually, take responsibility for our thinking?

In an age when news media saturate us with alarms, discriminating between the silly and the serious is a necessary form of self-defense. That's not easy when the subject is as arcane as earthquake forecasting. But the old adage "consider the source" is a useful guide. Does the alarm come from reasonably authoritative assessment or is it beyond the fringe of credibility?

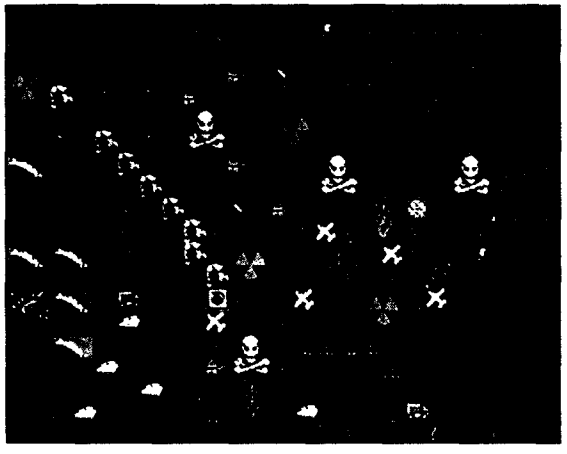
In the present case, the forecast was based on reasoning few geological scientists found credible. Furthermore, the forecaster's track record in quake prediction was no better than random guessing, according to the forecast review panel. That should have been enough to evoke the traditional Missouri skepticism.

We have a second chance to put this skepticism to the test. This is a month when whatever happens once in a blue moon may happen. A blue moon occurs when it is the second full moon in a month. The moon turns full on Dec. 31. Once again, it will be at perigee – close to Earth with maximum tide-raising force. For good measure, Uranus will also be in conjunction with the sun, for what that is worth to would-be prophets.

If there was a 50 percent chance of a New Madrid quake in early December, there should be a probability for one New Year's Eve. But there's so little credibility to that kind of forecast, it's not worth for going New Year's Eve parties. It's not even worth wasting a store clerk's time.



SIMULATED WORLD: *SimEarth is an example of a computer program that encourages children to explore. Geologic concepts are introduced (far left), and as players alter environmental conditions, they may have to negotiate a planet in peril (below).*



house. Press "B" and a woman's voice says "B is for Bathroom," and Mickey walks into his bathroom. Press "B" again and Mickey brushes his teeth as the woman says "B is for Brush."

"That's better!" says Mickey, when his teeth are clean.

All the Disney music and voices come out of a $29.95 "sound source" that plugs into the back of a standard IBM PC computer. Disney has a whole series of programs that use the sound source, ranging in price from $14.99 to $39.99.

"This sells very well, and it is not expensive," says Berge Jololian, assistant manager at Egghead Software in Cambridge, Mass. "I would say if you are looking for a game for a child, this is the game – provided that you have a [color] monitor."

Parents shouldn't worry about buying a program that is a little too difficult or advanced for their child:

"One of the things that I have found is that [software] provides an excellent opportunity for an adult and a child to work together," says Joan Milman, manager of the Computer Discovery Space at the Boston Museum of Science. Parents can make programs with a lot of reading more approachable by reading with the child, says Ms. Milman. If the program is about geography or history, the parent can use a map.

"People tend to think of a computer as a one-on-one activity," says Milman. But in the Computer Discovery Space, there are several stools in front of each computer because "people want to work together. ... The interaction, that time spent, is invaluable."

BEFORE rushing out to buy software, the Boston Computer Society's Poltz suggests that families look at the wide array of public-domain software that is available. Many public-domain programs are as good as commercial ones; moreover, children can freely and legally make copies of public domain software for their friends or to take to school. Public-domain software is available at many computer clubs, as well as some computer stores and libraries.

Lastly, Rusk says that parents shouldn't overlook word-processing programs and paint systems when thinking about software for their children. "What do adults want to use computers for? The most popular thing is word processing. ... I don't think that it is different for kids," she says. Children might need a simplified program with fewer formatting options, and there are many such programs available.

Playing with computer games in the Egghead Software store, Ben Spatz-Rabinowitz, 11, agrees: "I want something that draws graphics. I want to try to make a computer comic book. You know, like that Batman thing that's out? I want to make something like that. It's not going to be nearly as good, though."

Just wait and see.

Kipling on Kipling

His autobiographical writings reveal the boy beneath the man

By Merle Rubin

BORN in Bombay in 1865, Rudyard Kipling grew up in the years that the British Empire reached its fullest height, made his name in the last two decades of the Victorian era, became the first Briton to win the Nobel Prize for Literature in 1907, and lived on until 1936, by which time his imperialist sentiments and bluff style of writing were long out of fashion in literary and academic milieu. But his colorful stories and robustly rhymed poems continued to hold broad popular appeal.

Even after his star had waned, voices were raised on his behalf. The British novelist and critic Angus Wilson, who had no use for Kipling's racism and anti-Semitism, offered an insightful and appreciative biographical study, "The Strange Ride of Rudyard Kipling," in 1977, and the following year there was a biography by Lord Birkenhead. Just before he died, Kipling himself had written an autobiography, which was published posthumously (in 1937), heavily edited by his widow: "Something of Myself."

To say that self-revelation was not Kipling's strongest suit is an understatement. But it also gives the somewhat misleading impression that the author of "The Jungle Book," "Captains Courageous," "Kim," "Danny Deever," and "Mandalay" was too reticent to write expressively and directly when the subject was himself.

It's true that his best works are the opposite of introspective: They are excursions out into the world. And it's also true, as Thomas Pinney shows in his introduction to this collection, that Kipling's autobiography omits much of what must have mattered most to him: the girl who was his first love; the married woman who served as his friend and muse during his formative years as a writer; the details of his courtship of the American woman whom he married; the quarrel with his wife's family that drove him back to England from Vermont. "Something of Myself" proved an accurate title indeed.

The "something" that Kipling chose to describe, however, includes much that is of interest: his schooling in England, his apprenticeship as a journalist in India, his travels, and his thoughts about writing as an art, a craft, a way of making a living in the world, and a way of living in the world of imagination.

In addition to "Something of Myself," Pinney has included two brief articles, "My First Book" (1892) and "An English School" (1893), providing further accounts of Kipling's education and his venture into literary life.

The volume concludes with a previously unpublished diary that Kipling kept as a journalist in India in 1885: a terse record of hard work, discomfort, and difficulty that is anything but the kind of reflective diary kept by someone like Virginia Woolf. But when Kipling chose to do so, he could write powerfully about his more private emotions.

BOOKS

RUDYARD KIPLING: SOMETHING OF MYSELF AND OTHER AUTOBIOGRAPHICAL WRITINGS
Edited by Thomas Pinney
Cambridge & New York: Cambridge University Press
330 pp., $39.50

The experience that continued to exercise the strongest hold on his imagination was that of being separated from India and his beloved parents at the age of five and sent (as was the custom among colonials) to England to receive his education. Kipling and his younger sister Trix were boarded with strangers. For him, the experience in this home was so horrible as to make the time he later spent in boarding school seem a positive joy and delight.

Kipling describes his stay in the place he calls "The House of Desolation" in "Something of Myself," draws on it in his novel "The Light That Failed" (not included in this collection), and makes the most memorable use of it in his previously unpublished illustrations to it. It is a story well worth reprinting.

With brilliant concision and dark shades of irony, Kipling evokes the very depths of childhood misery and adult injustice that he experienced in his fall from being the beloved, indulged firstborn in a large colonial household to being the unwanted "black sheep" in the house of a moralizing evangelical woman and her bully of a son.

No less remarkable for brilliant conclusion and irony is Kipling's insight into the mind-set of loving parents about to send their children halfway around the world to live with strangers:

"Mamma's own prayer was a slightly illogical one. Summarized it ran: – 'Let strangers love my children and be as good to them as I should be, but let *me* preserve their love and their confidence for ever and ever. Amen.' "

Only the second half of this prayer is answered, and when one considers that Kipling's much-loved mother Alice chose not to send her children to live with relatives for fear of possible familial "complications," one recognizes the psychological acuity of Kipling's understanding of the possessive underside of the most tender parental love.

Kipling's father was a professor at the School of Art in Bombay. Two of Alice Kipling's sisters were married to artists (the third was the mother of the future British prime minister Stanley Baldwin).

As a child, Kipling cherished his escapes from the "House of Desolation" into the happy, artistic household of his mother's brother-in-law, the Pre-Raphaelite painter Edward Burne-Jones.

Yet, for all his early love of art and his passion for escape into the world of literature, Kipling grew up to become the "manly," outgoing antithesis of the 1890s aesthetes: the hard-headed working writer who championed the cause of the "tommy" – the ordinary British soldier charged with shouldering the burdens of empire without reaping the benefits of power or personal glory.

Although nothing he writes in his autobiography quite captures the strange blend of opposites that makes his work so compelling, the bluntness of Kipling on Kipling cannot completely disguise the more enigmatic boy beneath the man.

■ *Merle Rubin, who writes from Pasadena, Calif., contributes regularly to the Monitor's book pages.*