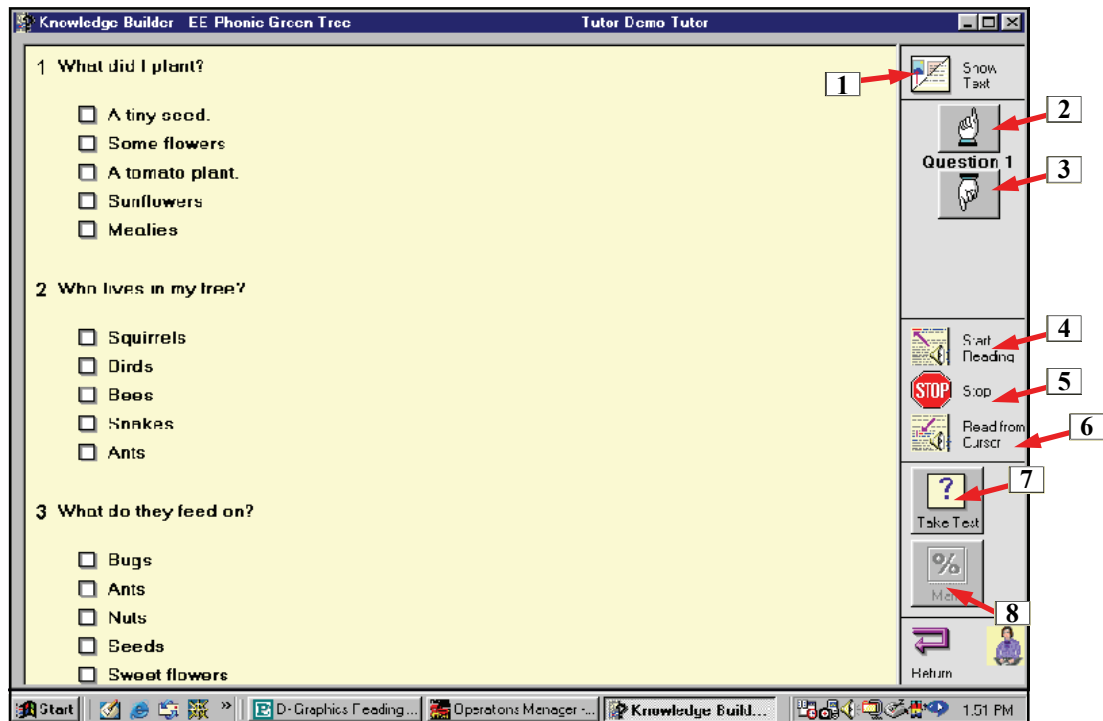


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Student Question Screen

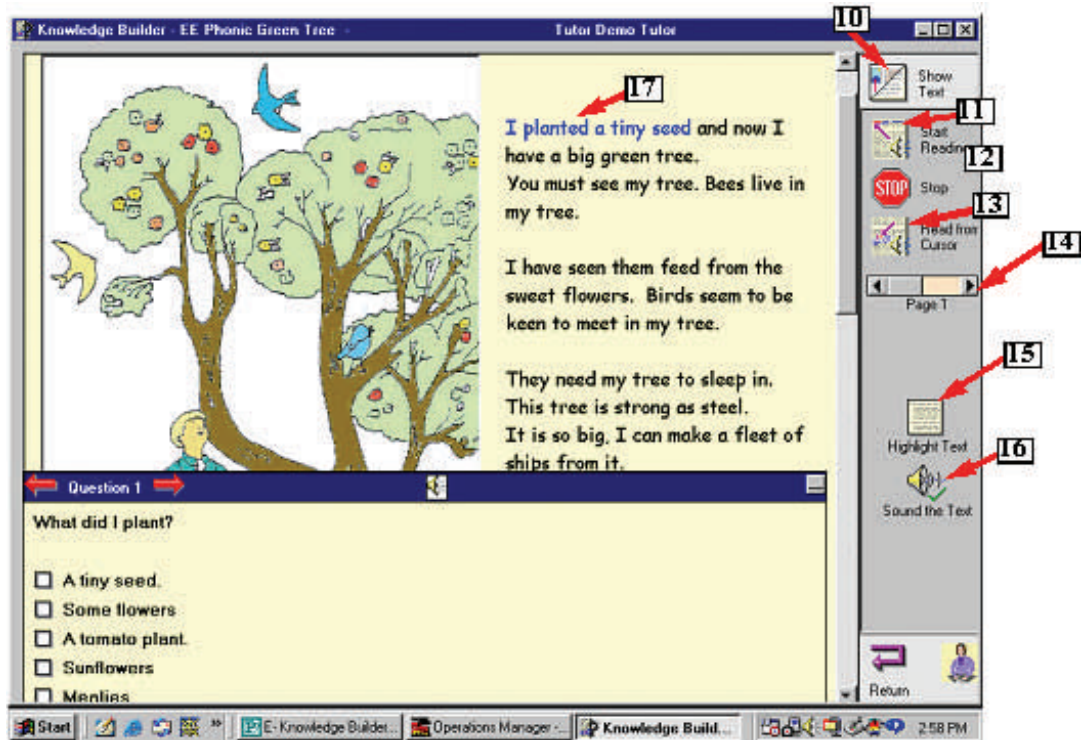
Knowledge Builder (Reading Comprehension)

One of the basic techniques used in the *Teaching-Engine* is the use of the *learn- test- score- evaluate and relearn* cycle. This cycle has proven to be highly effective in inspiring students to “get into” the material to be learned and to motivate them to keep trying until they “get it right”.

For reading or content subject learning, the goal is to understand the material being read. One method of determining understanding is to use a multiple choice test, which can be scored by the computer. This technique is used by the Teaching-Engine program. The multiple choice test is created by the Tutor the Knowledge Builder Tutor section.

For the student, there are two modes of operation available: *Study*, which is the mode with which the module normally opens. In this mode, the student can review the questions and have the answers available. This is done by clicking the *Show Text* icon [1] which brings up the screen shown on page E3. The text of the original reading lesson is shown in the area at the top and another window is shown at the bottom of the screen with Question 1 and the choice of answers. The student can click any of the questions or answers and the groups of words will be sounded which is designed to assist students who may not be strong readers, but need to learn the content.

Knowledge Builder— Student



Student Text Screen

The student can read the first question and then look at the text above to try and find the answer. The original text can be moved up and down with the vertical scroll bar. If after studying the text and reviewing the available answers, the student is still not sure of the correct answer, she can click the *Highlight Text* icon [15] and the part of the text having the information with the answer to that question will be highlighted. [17]. If the student has any difficulty reading the text, clicking the *Sound the Text* icon [16] will have the computer sound the words. This allows a student to study the questions and answers even though he may have difficulty reading. To continue with the next question, click the right red arrow [18] to go forward to the next question or the left red arrow to go to a lower question number. If the main text has more than one page, the pages can be selected with the horizontal scroll bar [14]. The student can return to the questions screen by clicking the *Show Text* [10] icon.

Taking a Test

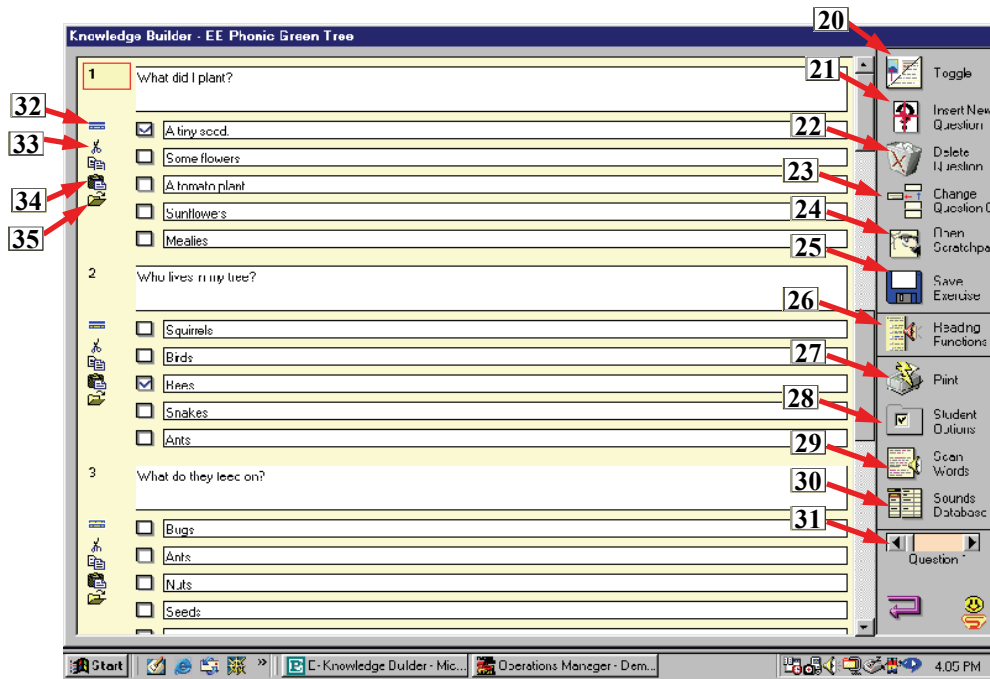
To take a test, the student clicks the *Take a Test* icon, page E2 [7], reads each question and clicks the choice of answer. The display of questions can be moved higher or lower with the icons [2] and [3]. When all the questions are answered, the student can have the test scored by clicking the icon *Mark* [8]. The results screen will appear showing the score obtained. If there were any wrong answers, the student can click the options to study the incorrect answers. This will return the student to the test screen with only the questions which were answered incorrectly. Clicking the *Show Text* icon [10] will return the screen with the text and questions used for studying. There the questions which need correction can be reviewed and the text studied to see where the information is located to answer the question correctly.

This system encourages students to read the text carefully and to recognize and remember factual information. The score from the test is retained and associated with the individual student's database if the student signed on using his assigned student code.

Knowledge Builder (reading comprehension) Tutor

This module is associated with the Text Reading and Graphics Reading modules. It provides a convenient way for a Tutor to create a multiple choice test on the material created in the Tutor sections. The Student Knowledge Builder module was described on pages E2-E3.

Tutor, Knowledge Builder



Tutor Question Screen

Linking an Exercise Generally, a Knowledge Builder test is based on an existing Reading, Graphic Reading, or Second Language exercise and in order to take advantage of some important features, must be linked to an exercise in one of those modules. This linking is automatically done by having a Tutor open the appropriate exercise in the Tutor mode, and then clicking the Knowledge Builder icon on the Tutor screen. This creates the linkage to the original exercise and will set up bringing in the exercise to within the Knowledge Builder for both the Tutor and the Student. If there is no associated Teaching-Engine exercise, the Tutor can open the Knowledge Builder directly and create a test.

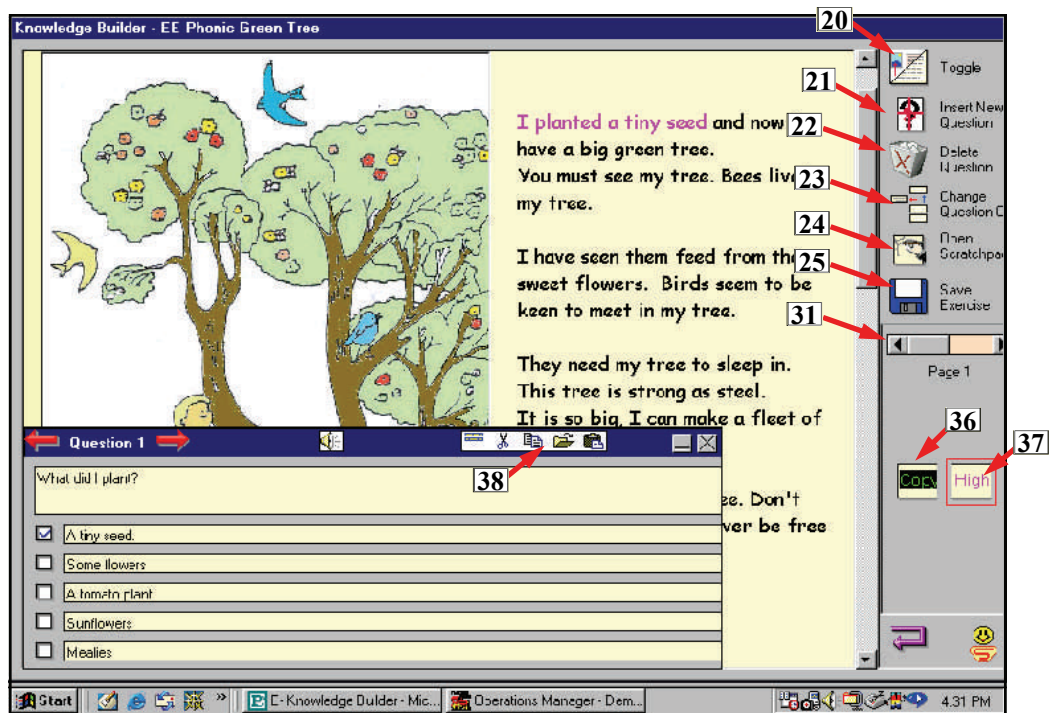
The Tutor Knowledge Builder question screen is shown above. Similar to the student side, by clicking the *Toggle* icon [20] the text screen appears (Page E5) showing the original text (provided the Knowledge Builder lesson is linked to an exercise) and one question and answer fill-in form. Questions and answers can be entered by the Tutor on either screen. The value of the text screen is that the Tutor can refer directly to the exercise text while creating a question and can see if the information necessary for a student to select the correct answer is available in the original text.

For a new test, the question form will initially show one form for question number 1. To add another question, click the add question icon [21] and another form will appear. Likewise a question can be deleted using icon [22] or the order changed with icon [23].

Questions and the multiple answers can be typed directly into the form. In order for the computer to score the test, the Tutor must click the box beside the correct answer. The Tutor can toggle back and forth between the question screen and the text screen anytime by clicking icon [20]. On the left of every question form, are the following icons which relate to manipulating text in the form: [32] select all, cut [33], copy [34], paste [35], and open file [36]. These same tools appear in the blue menu bar on the text screen. [38]

Reminder: A Tutor must open the Reading, Graphic Reading or Second Language exercise first and then click the Knowledge Builder icon in order to create the association between the original exercise and the Knowledge Builder test. This is also true for returning to an existing Knowledge Builder test which is to be modified.

Tutor, Knowledge Builder



Tutor Knowledge Builder Screen

[24] Scratch Pad. This is similar to Windows notepad, but it is capable of being left open on top of the question screen. Clicking the Scratchpad icon [24] will open the Scratchpad window at the bottom of the main workspace. This can be resized like a normal window and can be left open while using the main workspace. Text can be imported into the Scratchpad where it can be viewed, edited, and copied. The functions of the Scratch Pad icons are described by the tool tip text which pops up when you place your cursor over the icon on the right toolbar.

An existing paper test can be OCR scanned and the file brought in to Scratchpad. There, the individual questions and multiple answers can be copied and pasted into the question form.

To copy Scratch Pad text into a question form, first block the desired Scratch Pad text, and then click the double text icon (copy) on the right toolbar of Scratchpad. This places the text into the Windows clipboard. Then place the cursor at the appropriate question or answer insertion point and left click. Then click the question's paste icon [35]. The copied text will then appear on the question form.

The areas previously blocked in the Scratch Pad will be shown in red to indicate what text has already been copied. The formatting of the blocked text is not transferred to the question form. The proper operation of scratch pad requires that the text be in a simple text format. If text is copied and pasted from a word processing program, there may be many formatting characters included. To eliminate these characters, resave the word processing file in a plain text format and copy from that document.

Text can also be copied from the story text by blocking the text and then clicking the text copy icon [36]. The text can then be placed in the question form by placing the cursor at the insertion point and clicking the paste icon on the question menu bar.

Tutor, Knowledge Builder

A unique feature of this module is where the student can activate a portion of the text which contains the answer to a particular question. Thus when the student is practicing for the test, if he cannot find the answer to the question in the text, he can click an icon which will highlight the area of the text which contains the information needed to select the correct answer. The student can also click an icon and have that text sounded in case he has difficulty reading that section.

The Tutor selects the part of the text which becomes highlighted for the student. Using the question screen the Tutor notes the question being displayed and the various choices of answers. Confirming that the correct answer is available from the choices and a check mark is clicked by that answer, the Tutor blocks the portion of the text which student needs to notice in order to select the correct answer. The *highlight* icon (page E-5 [37]) is then clicked.

The *save* icon [25] should be clicked to be sure the current work is saved to memory.

Sounds for the Questions

Sounds for all the words in the original exercise should have been recorded when the reading exercise itself was created. However, in the construction of a linked test, or for a test which is separately created, there may be some words used in the test which are not yet in the sounds database, and there will not be any sounds for these words available.

The technique for adding word sound in this module is the same as used elsewhere. On the question screen, words are scanned for missing sounds by clicking the *scan words* icon [25]. The words which have no sound yet for them will appear in purple. If there are only a few of them, clicking the word itself will bring up the mini-recording studio and the word sound can be recorded. If there are a number of words to be recorded, clicking the *sounds database* icon [30] will bring up the sounds database screen and the words can be recorded there. See page B8.

Before closing the exercise, be sure to save your work by clicking the *save* icon [25].