

Software Review written by Julie Lindsay for the Education Technology Leadership MA degree with the George Washington University.

Program Overview and Description:

Title:	Crystal Rain Forest 2000 (on CD ROM)
Developers:	Sherston and Simon Hulster
Platform:	PC and Mac (with multimedia capacity)
Hard Drive Space:	Less than 100mb for full installation, part installation options available
Type of Program:	Simulation, problem solving
Appropriate level or range:	Year 4 – 7, Age 8⁺
Subject Areas and Specific Topic:	Numeracy, ICT, Geography (rain forest)
Prerequisite Skills Necessary:	Numeracy work on angles and degrees, basic ICT skills using the mouse and keyboard

Crystal Rain Forest is a multimedia adventure into maths and Logo. Using the environmental theme of a rain forest under threat it introduces, develops and teaches Logo in a carefully constructed way using graphics, animation, narration and sound effects. It is a fun program, arouses curiosity, is highly motivational and ideal for problem solving. The directions are clear and easy to follow. The animations and video are either realistic (images of the rain forest) or story characters and scenes which are often humorous in design and action. All story lines and task instructions are spoken sound as well as appearing as text on the screen.

A story line is developed whereby the rain forest on the planet Oglo is being destroyed. The good guys are the King, who wants the logging stopped, and the Professor, who is developing special crystals to save the forest. The bad guys are the “cut and run” gang who throw poisonous darts at the King and kidnap the Professor. The object of the activity throughout is to save the rain forest by finding the Professor who is lost most of the time. To do this the user must explore Bridgetown and solve problems along the way.

The problem solving nature of the software allows students to test difficult scenarios and so develop ICT skills in modelling and control. By completing the tasks students will be able to create, test, improve and refine sequences of instructions to make things happen and to monitor events and respond to them. Students are able to experiment with the changing values of the information/instructions that they inputted, improving and refining where necessary.

The main subject areas covered are numeracy and ICT. There is also the theme of environmental issues, linked to Geography. Although the planet Oglo is fictitious there is enough likeness to Central and South America to enable comparison and discussion to take place as an integrated unit.

The program can be set to easy or difficult and a colour copy of the Bridgetown map is provided. The tasks in the program follow on from each other like an unfolding adventure, although it is possible to start at any point in the program. There is a challenging optional building of a crystal task at the end of the program that is a good extension or consolidation activity for Logo work. There is a good range of activities and the exercises offered get progressively more difficult. For SEN students some tasks are challenging and will need teacher support, but there is the ability to have instructions read and to be able to skip tasks that may be challenging.

Support materials provided include worksheets outlining each activity, a colour map of Bridgetown and a booklet explaining the story and objectives. The materials also provide a list of ideas for implementation and supplemental classroom activities.

Strengths of the program

- Crystal Rain Forest can be completely installed on the hard disk and therefore is not so dependent on the CD ROM being available. It appears to have no “bugs” or problems with execution. It is difficult to accidentally quit the program.
- The program loads reasonable quickly and responds at an appropriate speed to the inputting of instructions.
- It has good quality and clear sound and a replay feature for each line of the story or task instruction – especially useful for SEN students.
- The program can be run without the sound if necessary and still make sense given the ability of the student to read all text. This would be an advantage in a shared situation with limited access to headphones.
- Graphics are clear and relevant to the subject.

- It is easily understood by the recommended age level (Grade 4 and above) although some further explanation may be needed for the garden bridge, rope bridge and net building. Clues are given along the way.
- It has a very user friendly navigation interface allowing students to join the program at different points and therefore being able to skip over difficult tasks. The simple key command of Ctrl Q allows the student to select the setup menu and choose another entrance point into the adventure.
- A very good extension activity, Crystal Logo, is given at the end of the adventure.
- It encourages collaborative work on approaches to a task, identifying and solving problems.
- Normally a student would complete one or two activities in a half-hour session therefore not becoming bored or frustrated with the program. The teacher should monitor this.

Weakness of the program

- The program assumes numeracy work on estimating angles and degrees has already been covered.
- The navigation around Bridgetown by students needs to be monitored regularly to ensure that they are not 'going around in circles' with any particular task. Time can be wasted 'searching' Bridgetown for the next activity that the program requires you to attempt.
- Certain 'objects' need to be collected to complete some activities. It can be confusing if students move forward in the program via the setup selection, as they may not have acquired the necessary objects.
- On screen feedback is not always given, although students can see the effects of their instructions and decisions demonstrated, giving them the opportunity to make changes. This could also be seen as a strength of the program.
- The program will save where the user is up to but does not record levels achieved or points scored.
- No formal assessment takes place or is built into the program. This would be a useful feature for older students and as an extra 'competitive' feature of the program.
- There is no feedback for teachers as to how each student coped with or progressed through each problem. Successful completion of each activity leads to progression through the program, but there is no record of the number of attempts taken for each problem. Also there is the possibility to skip an activity without the teacher's knowledge.
- It would be useful to have as a teacher resource a set of answers or expected results for the activities.

Recommendations for use

- Target group Year 4 – 7
- Suitable for individual or paired work on a single computer or in a laboratory.
- I would recommend a class introduction before commencing. The first part of the story should be viewed together so that all students are aware of the problems and the objectives they have to solve them.
- It can be used as an introduction to Logo. Logo activities can be used to develop skills in writing instructions or sequencing work.
- It could be used as a starting point for literacy work, for instance as a theme for creative writing or poetry.
- Information on the problems of deforestation could be used to write letters or for role-plays with students taking the roles of loggers, campaigners and local population.
- Activities can be used in isolation from the rest of the program and story line to practice certain skills. For example, the activity "rope bridges" can be used to reinforce the concept of the use of REPEAT and END in programming.
- Extension activities provided by the program include being able to run it at the 'difficult' level and being able to build crystals using Logo commands.

Crystal Rain Forest is an excellent program that meets hardware criteria and supports curricular goals within the classroom. It is enjoyable for both teachers and students and motivates students to move through the activities to solve the problem of the endangered rain forest.