Teacher Notes for Grid Rush

Compatibility: TI-83/83+/83+SE/84+/84+SE

Run The Program Called: **GRIDRUSH**

▶ **Summary**

This program is based upon the numbers challenge game of a TV show. In that challenge, the contestant had to correctly answer 8 out of 10 questions from a grid in under 2 mins. At any time they could pass on a question.

▶ **Features**

This calculator program takes the dynamics of the game further allowing a choice of the minimum number of questions to answer, the time to complete the challenge and whether the numbers in the grid are positives or negatives, integers or decimals.
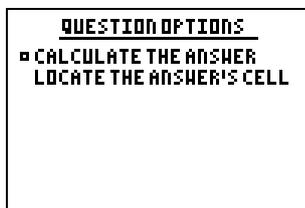
There is also a choice of whether to find the sum, the product, the highest common factor or the lowest common multiple of the numbers in the surrounding cells.
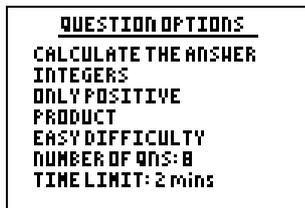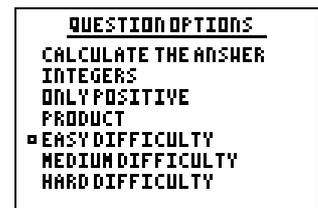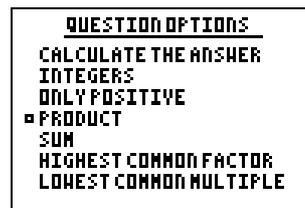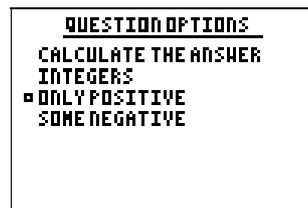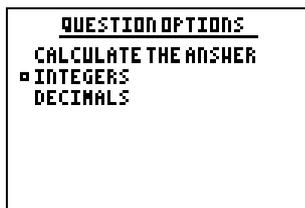
The startup title screen requires the user to indicate which type of calculator that they are using, to ensure that the timers used in the program run at realistic speeds! (It is best run on a TI83+SE, or 84+)

After the title screen, the user is presented with a Question Options page from which they select their chosen parameters, by using the **ARROW** and **ENTER** keys.

The options of Highest Common Factor and Lowest Common Multiple are only offered if you have previously chosen **INTEGERS** and **ONLY POSITIVE**.

You can choose from between 5 and 10 questions to answer in your time, which can vary from 30 seconds to 5 minutes (with the choice incrementing in 15 second steps).

After the grid has been created, the player either types in their answers, or uses the **ARROW** keys to move the cross-hairs about the grid - this depends upon the option that they chose. Note that there is "wrap-around" when using the arrow keys to move the cross-hairs off the sides of the grid.
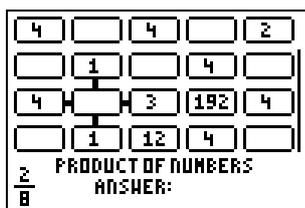
When an answer is correct, it is displayed in its cell. However, when on any "Hard Difficulty" level, or when calculating the Product of decimals, instead of the answer a tick (✓) is shown in the cell.

Players may Pass on a question at any time by pressing **2ND**, with no time penalty. If an incorrect answer is typed in then there is no time penalty.

However, there is a time penalty of 5 seconds if an incorrect box is chosen for the location of the

answer, when in that mode. Watch the decreasing time-bar on the far right-hand side of the screen to see how much time there is left.

The total questions correct so far out of the required number is displayed in the bottom left hand corner.

▶ Suggestions

It can often be beneficial for the teacher to spend the last 5/10 minutes of the previous lesson demonstrating via a viewpanel to the class, the program that they will subsequently be using themselves. This aids their familiarity with the task they will face and the menu options they will have to choose from, without the distraction of having a calculator in front of them at the time.

Depending on whether integers, decimals, positive or negative numbers are the focus of the work, it is advised for all students in a class to start off on the same options, with the opportunity for them to alter them in their subsequent games.

If all students start off on **EASY DIFFICULTY,** with 10 questions and 2 minutes, their initial task will be simply to complete the grid. Thereafter, they should be given the choice of either staying on the same difficulty level and improving their time, or moving up to the next level of difficulty. With the students involved in setting their own challenges, good progress can be made at a pace that is appropriate for them as an individual.

As a pre-cursor to teaching fractions, it is advised that the **HIGHEST COMMON FACTOR** and **LOWEST COMMON MULTIPLE** options are run, to help embed these concepts in the students' understanding.

By choosing the option **LOCATE THE ANSWERS CELL**, students will start to use strategies of estimation rather than calculation in order to complete grids in the fastest times. Useful discussions of strategies often arise in lessons on all the "tricks" that people know about units digits when multiplying or adding numbers.