Teacher Notes for Rounding

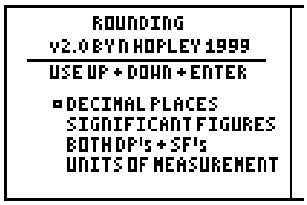
Compatibility: TI-83/83+/83+SE/84+/84+SE

Run The Program Called: **ROUNDING**

▶ Summary

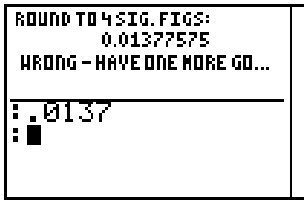
This program provides unlimited practice in rounding numbers to decimal places, significant figures and to the nearest metric units.

▶ Features



The opening menu gives you 4 options - use the blue arrow keys to move the box up and down to select your choice.

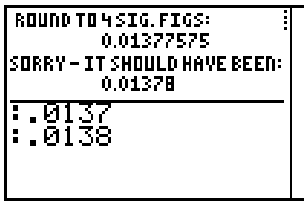
If you choose **DECIMAL PLACES**, you can pick from 0, 1, 2, 3, 4, 5, 6, 7 or 1-7 decimal places. This last option gives a mixture of questions.



If you choose **SIGNIFICANT FIGURES**, you have the same options, except you may not choose 0 sig. figs.

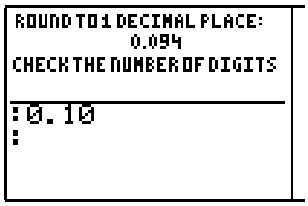
If you choose **BOTH DP'S + SF'S** this gives a random mixture questions, again to your specified number of digits.

The Units of Measurement option is describe more fully below.

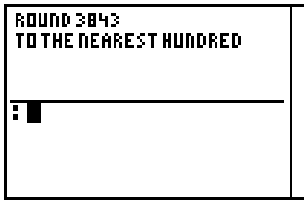


Each question will allow you 2 attempts and it will then tell you the correct answer if necessary.

If you answered correctly, it will then inform you of your current score.



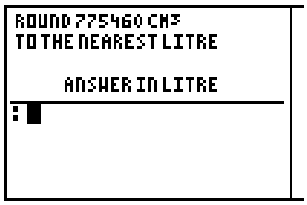
Note that the program also checks the number of digits after the decimal point as well as numerical equivalence to the right answer.



If you choose **UNITS OF MEASUREMENT** it will give you a random mixture of questions involving the following unit conversions:

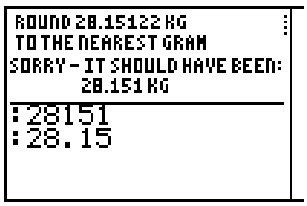
p ↔ £, cm^3 ↔ ml ↔ litre, mm ↔ cm ↔ m ↔ km, mg ↔ g ↔ kg

as well as rounding to thousandths, hundredths, tenths, units, tens, hundreds and thousands.



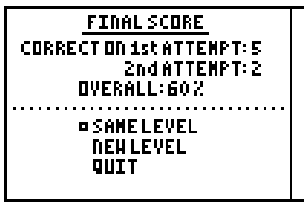
Questions that round to hundredths, etc, have no units.

Where units *are* used, it will tell you what unit your answer should be given in.



Again you have 2 attempts at each question, with the correct answer shown if necessary.

When in **UNITS OF MEASUREMENT** mode, no check is made of the number of digits after the decimal point - it was judged that the task that students are faced with here is already hard enough.



After 10 questions it shows how many questions were correct on the 1st and 2nd attempts. Only half the credit is given for questions answered correctly on the 2nd attempt.

Finally, use the up and down blue arrow keys with the **ENTER** key to chose what to do next.

▶ Suggestions

This program can be put into use by students prior to any explanation given to them about how rounding works. There will be students in the class who can figure it out for themselves (from the correct answers they are given by the program) and they can progress through the levels at their fastest speed. The teacher can re-assure students that a low score in the first few sets of questions is perfectly acceptable as they are learning how to do something for the first time.

It soon becomes clear which students require extra support, when they repeatedly fail to achieve a good score. An explanation given to them at when they have reached this point often has a good impact.

For absolute beginners, students ought to starts at **0 DECIMAL PLACES** and they are not allowed to increase this number of decimal places until they have scored over 90%. Continue up to 7 and then "1-7" decimal places. If a student claims to already know how to do rounding, the teacher can start them off on the mixture level 1-7 to assess their claim! Sometimes, asking them to produce a second score of 100% to prove it "was done by skill and not by luck" can be worth doing. Such students are ready to tackle **SIGNIFICANT FIGURES** or **UNITS OF MEASUREMENT**.

For **SIGNIFICANT FIGURES** ensure that they follow a similar structure, from 1 up to 1-7 digits. Again, this can be a "self-taught" challenge, but students often require a little extra support to make a start. For example, pointing out to students that the number 345·678 rounded to 4 significant figures, is actually the same as rounding it to 1 decimal place.

After this they could go to a 1-7 mix of **BOTH DP'S + SF'S** questions.