

Using a calculator

Materials needed: Bead frame or stamp game and a calculator

Points of interest: the calculator

Previous Knowledge: able to use the materials to add

Procedure:

1st Presentation: Addition sign

1. Gather a small group of students.
2. Use the bead frame or stamp game and do a large addition problem on it.

$$\begin{array}{r} \text{Ex. } 5,782 \\ +3,679 \\ \hline 8,351 \end{array}$$

3. Tell them that today they are going to learn how to check their work with a calculator.
 4. Show the students where the + sign and = sign are on the calculator
 - a. you may need to rewrite to problem so the = sign makes sense.
- Ex. $5,782+3,679=$
5. Check the problem. They would find out that is wrong.
 6. Explain that if the problem is wrong, we need to go back and find out *why* it is wrong. In this case, we forgot to exchange.

2nd Presentation: Subtraction sign

1. Gather a small group of students.
2. Use the bead frame or stamp game and do a large addition problem on it.

$$\begin{array}{r} \text{Ex. } 5,357 \\ -3,679 \\ \hline 2,788 \end{array}$$

3. Tell them that today they are going to learn how to check their work with a calculator.
 4. Show the students where the - sign and = sign are on the calculator
 - a. you may need to rewrite to problem so the = sign makes sense.
- Ex. $5,357-3,679=$
5. Check the problem. They would find out that is wrong.
 6. Explain that if the problem is wrong, we need to go back and find out *why* it is wrong. In this case, we forgot to exchange.

3rd Presentation: Multiplication

1. Use the same procedure as before. This time introduce the x sign on the calculator.

Variation You may need to introduce various signs for multiplication. For example, some calculators use * instead of x.

4th Presentation: Division

1. Same procedure as before.

Variation: You may need to introduce a new sign. Instead of \div sign, there may be the / sign. Show students that the problem: $4,563 \div 3 =$ is the same as $4,563/3$

5th Presentation: Squaring

1. Students need to have worked with squares, and understand how this work is done. They should have worked with the checkerboard material and possibly pegboard material previously

2. By now students should know that $3 \times 3 = 3^2$.

3. Show the students the 2 symbol on the calculator.

4. Explain this is just for checking work.

5. Use the material for the presentation and then check with the calculator.

6th Presentation: Cubing

1. Students should already have worked with the cubing material.

2. They should already know that $3 \times 3 \times 3 = 3^3$

3. Show them the sign on the calculator

4. Explain this is just for checking work.

5. Use the material for the presentation and then check with the calculator.

Extensions/Variations:

- Students should not every just use the calculator. It needs to be a check of their work.
- Could add fractions if it is a Scientific calculator
- Used in science experiment situations