schoolio

MATH

Grade 4

Dear Parents,

Math is often the most dreaded subject of parents when teaching their children, or even when helping with homework. I want you to know that I understand, and my goal has been to make this curriculum as clear, simple, and straight-forward as possible, so that the math concepts are easy for you to recall from your elementary school days, and to relearn alongside your child as you go through this together.

Math is a different experience for every child, and can be a different experience across strands for each child as well. You may recall from your school days enjoying the puzzle solving of algebra but dreading fractions. You may have easily understood the practical implications of learning about money, but cringed over geometry homework. Remember that the same will be true for your child as well, and don't hold either you or them to a strict schedule. The schedules and timetables are guidelines only, and one of the biggest advantages of home educating is the freedom to take things at your own pace. Is your child loving math and devouring the content with ease? Great, stay the course. Is your child struggling with grasping a concept? Slow down, break lessons into two, search for some extra free worksheets on the same topic or find some math games and activities in the same area to integrate into your schedule. Want to do math 3 days a week instead of the recommended 4? Do it. Need a day off? Take it. Play board games in your pyjamas. Cuddle on the couch and build something cool in Minecraft. Breathe. No subject should be a constant source of stress, tension, and argument. Will there be difficult days? Yes. Home education is not always peace and snuggles, just like having your kids do their household chores is not always respect and co-operation. But it shouldn't be incessantly difficult, so give yourself and your child permission to change the schedule, take a day, or slow down, if and when you need it.

One of the greatest joys of home education is the experience of learning side by side. Remember that it's ok to not have all the answers. It's ok to shrug and suggest looking something up, or to watch an instructional YouTube video together. Tackle it until it makes sense to you both, and model a determination to answer the questions you have in life. Your attitude will, in a lot of ways, determine the course a subject takes for your child. You don't have to pretend something is fun when it isn't, or pretend it's not hard, or frustrating, when it is. But try to approach each new topic with an enthusiasm to learn and understand, and your child will glean way more from this home school experience than just math facts- they'll learn the joy of learning.

All the best,

Lindsey

A Note on Scheduling

For every new skill, there is usually only one, maybe two, lessons where you actually teach the student how to do the skill. After that, mastery is achieved through repetition and practice with support. This is especially true in Grade 4, when students learn the majority of their multiplication tables, and they need to be committed to memory. The amount of repetition and practice varies widely by student, and across subjects and strands. All students of course have strengths and weaknesses in different areas. As your student's teacher, you need to assess for yourself as you move through material how well your student has grasped each concept, before moving forward. Although lessons here are numbered, it is absolutely expected that you will spend time in between formal lessons practising skills, using flashcards, doing drills, etc. to reinforce learning and attain mastery.

A Note on Standardized Assessments

Why do homeschoolers rarely get tested? Why do homeschoolers not need report cards? Homeschoolers get straight As in every subject. Why? Not because it's their parents grading them! The answer lies in the delivery of the content. It's because there is no time table, no set schedule, by which the class moves on to the next subject, regardless of any particular child's level of understanding. If a homeschooled child understands the material, you move on to the next concept. If a homeschooled child does not understand the material, you keep working at it. If a homeschooled child is sick, they don't "miss" what was taught that day, they cover that material when they are well. They pick up exactly where they left off. Everything is tailored specifically to their learning. Because of this, you don't need to rely on standardized tests to assess if your student understood everything by the set end date of the unit- you know they did, because that end date didn't arrive until you were sure of it. If your student is answering questions in the practice work correctly, confidently, and without undue struggle, then you can be confident they understand the material. No further testing is required.

LESSONS:

Each lesson follows the same format:

✎ Lesson # and Topic Title

✎ Discussion:

    ✓ Read points aloud to your student.

    ✓ Observe any "teacher's notes" (in italics).

    ✓ Show examples and diagrams.

    ✓ Complete any learning activities (any manipulatives needed will be stated.)

    ✓ Discuss topic until you feel your student understands.

✎ Practice!

SCHOOLIO ONTARIO CURRICULUM
GRADE 4 MATH – TABLE OF CONTENTS

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Lesson 3: Rounding

Discussion:

✐ Rounding is when we move a number up or down to its nearest neighbouring number

✐ The general rule of rounding is: If a number ends in 5, 6, 7, 8, or 9, we round up. If a number ends in 4, 3, 2, 1, or 0, we round down.

✐ You use the number right beside the place value you're suppose to be rounding to: so if you're rounding to the nearest TEN you look at the number in the ONES column, if you're rounding to the nearest HUNDRED you look at the number in the TENS column. And so on.

✐ Rounding to the nearest tens means you round to the next closest (up or down) tens value, turning your ones value into a 0. Examples:

   ✓ 49 rounded to the nearest ten becomes 50; 32 rounded to the nearest ten becomes 30.

   ✓ 649 rounded to the nearest tens becomes 650; 632 rounded to the nearest tens becomes 630.

   ✓ 4849 rounded to the nearest tens becomes 4850; 4832 rounded to the nearest tens becomes 4830.

✐ Rounding to the nearest hundreds means you round to the next closest hundreds value, turning your ones and tens values into 0s. So now we round up if the number ends in a 50, 60, 70, 80, or 90 number (regardless of what's in the ones column), and down if it ends in a 40, 30, 20, 10, or 0. Examples:

   ✓ 432 rounds down to 400
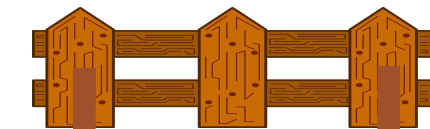
   ✓ 467 rounds up to 500.

Practice: Rounding Rodeo

ROUNDING RODEO

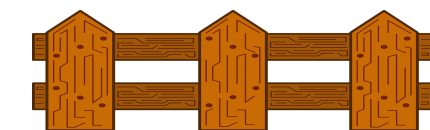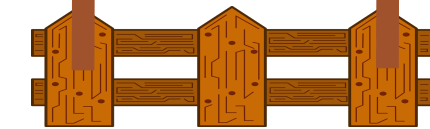1. Round the cows up or down to the correct pen!

46

5471

549

49

532

54

4802

453

4711

471

5202

51
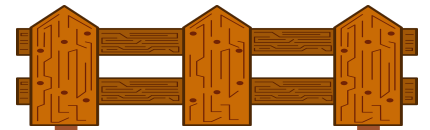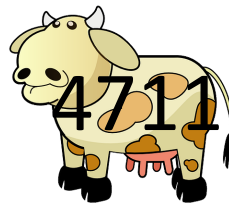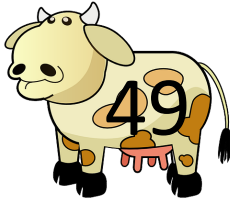
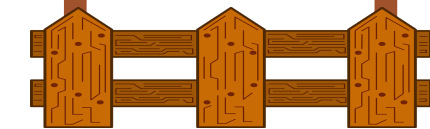Cows that round up or down to

50

Cows that round up or down to

500

Cows that round up or down to

5000

2. Round **5462**

a) To the nearest ten   _____

b) To the nearest hundred   _____

c) To the nearest thousand   _____

Lesson 4: Add and Subtract to 10 000

Discussion:

✎ Recall **carrying** over from grade 2 and 3

$$
\begin{array}{r}
{\color{green}1} \\
45 \\
+17 \\
\hline
{\color{green}2}
\end{array}
$$

Recall: Where do we always start? **The ones column.** 5 + 7 = 12. What do we write down under the one column? **The ones digit.** (In this case, a 2) And what do we do with the tens digit? We **carry it over** to the tens column.

$$
\begin{array}{r}
{\color{green}1} \\
45 \\
+17 \\
\hline
{\color{blue}6}{\color{green}2}
\end{array}
$$

What's next? **Add the tens column**, <u>including the new number carried over</u>. 1 + 4 + 1 = 6. Where do we write that number? In the **tens column**. Our answer is 62!

✎ Recall **regrouping** from grade 2 and 3.

$$
\begin{array}{r}
{\color{green}2}\ {\color{green}13} \\
\cancel{33} \\
-14 \\
\hline
{\color{green}9}
\end{array}
$$

Recall: Where do we always start? **The ones column.** 3 – 4 = Wait a minute... you can't take 4 from 3! What do we do? We **regroup**. We "borrow" from our neighbour, so Mr. 3 knocks on Mr. 30's door and asks to borrow 10. Mr. 30 agrees and turns into Mr. 20. Mr. 3 adds 10 and turns in to Mr. 13. Now 13 – 4 = 9. Which we write where? In **the ones column**.

$$
\begin{array}{r}
{\color{green}2}\ {\color{green}13} \\
\cancel{33} \\
-14 \\
\hline
{\color{blue}1}\ {\color{green}9}
\end{array}
$$

What's next? **Subtract the tens column,** <u>using the new regrouped number.</u> 2 – 1 = 1. Where
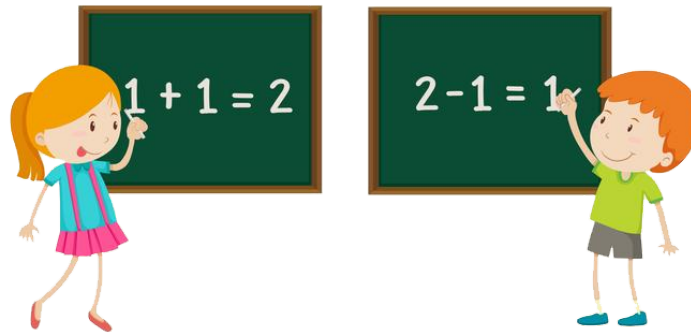
do we write that number? In the **tens column**. Our answer is 19!

✏️ The steps for carrying over in addition and regrouping in subtraction don't change, even if you use bigger numbers. You just do the steps more times. Don't be afraid of big numbers, take it one column at a time and you'll always be working in low numbers!

Practice: Adding and Subtracting

ADDING & SUBTRACTING

1 + 1 = 2   2 - 1 = 1

1. Add the numbers. Carry over where needed:

a) 65
+25
___

b) 686
+125
___

c) 5479
+2736
___

d) 6397
+2957
___

e) 2355
+7645
___

f) 4387
+2936
___

g) 3273
+1459
___

h) 4354
+3847
___

i) 2354
+2774
___

j) 4976
+5024
___

k) 2964 + 1567 =

l) 4734 + 3298 =

2. Subtract the numbers. Regroup where needed:

a) 35
-16
___

b) 673
-186
___

c) 1962
-1474
___

d) 4641
-2749
___

e) 4477
-1648
___

f) 10 000
- 6745
___

g) 7534
-5775
___

h) 5734
-3779
___

i) 9867
-2899
___

j) 8356
-1589
___

k) 1020 – 774 =

l) 3582 – 2496 =