

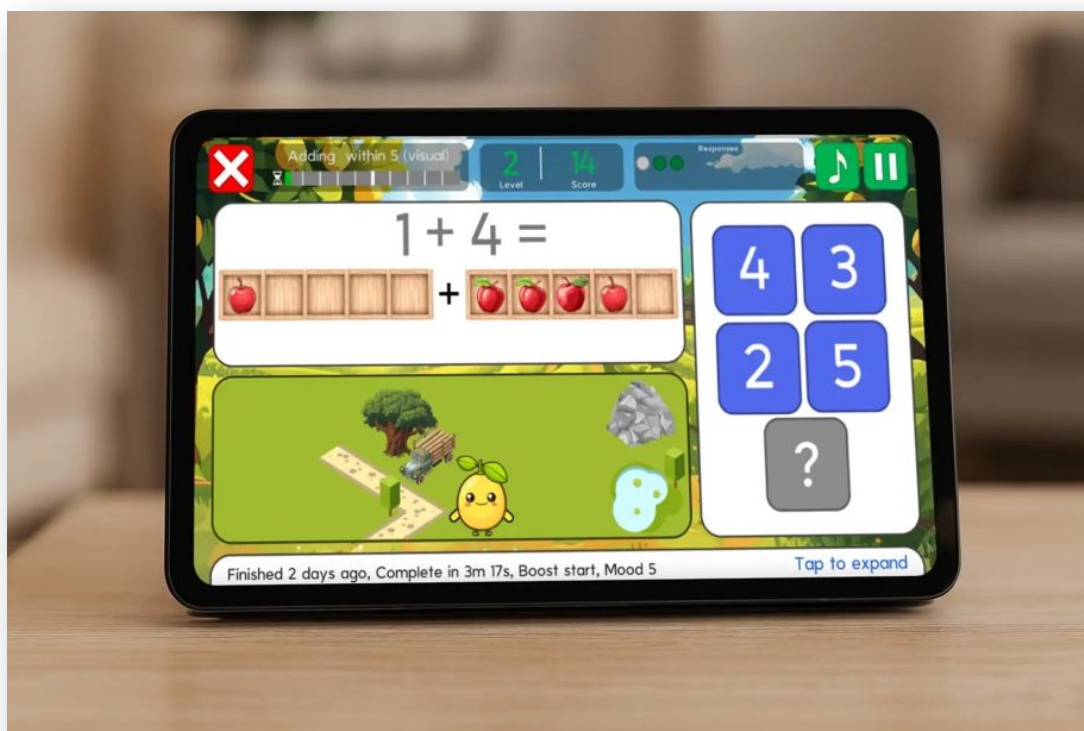


Calabash Guide for Families (Version 1.0)

<https://gotectonic.org/c>

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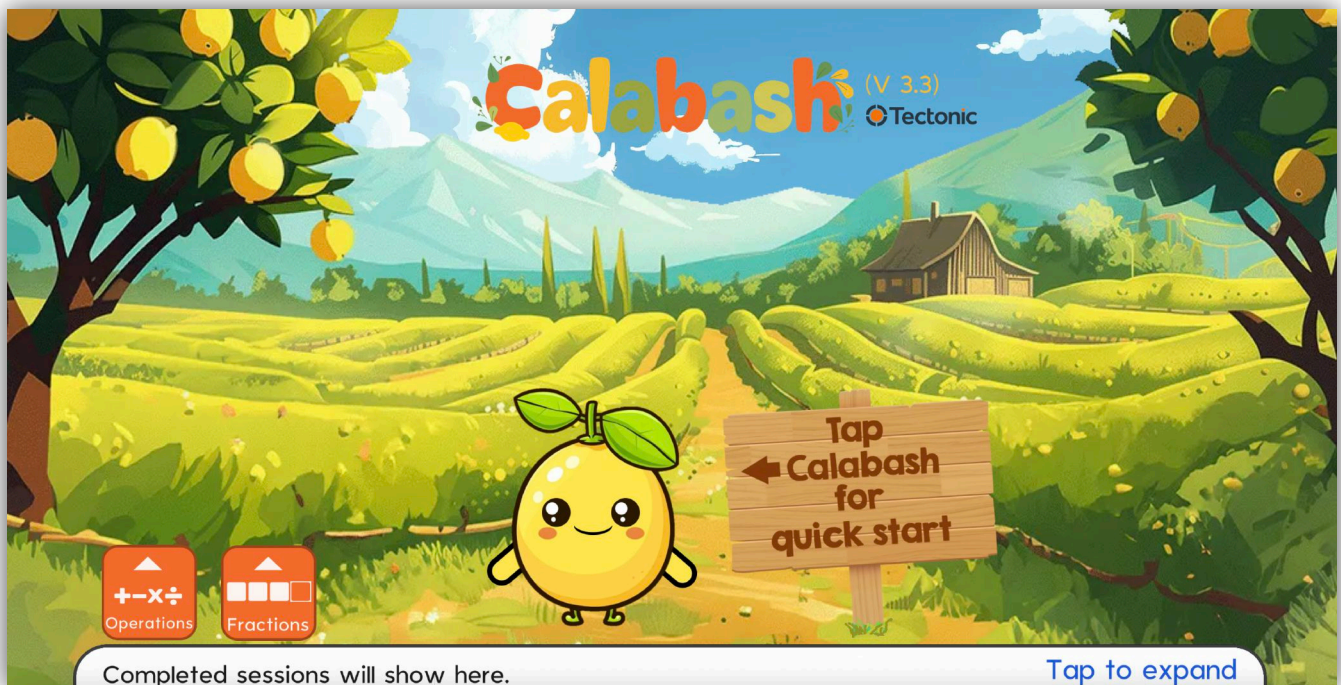
Develop your child's number-fluency through daily ten-minute practice

Overview

What Is Number Fluency?

If you want to help your child with mathematics, the key is number fluency. That's the ability to work with numbers quickly in your head, whether you're adding, subtracting, multiplying or dividing. In the classroom, teachers introduce a new concept and then have students practice it. Children with strong number fluency breeze through that practice, building confidence with every exercise. Those without it often grow discouraged and anxious as they move from one lesson to the next.

As a classroom teacher, I found that there are countless solutions to this challenge. However, all of them seem to fall short by either having a narrow-focus (e.g. only teaching multiplication) or by only working for some students.



I spent 12 years developing a solution. That journey involved 3 previous apps (Banufa, Number Mine, and Numble), countless paper-based systems, and years of in-class and home testing. The result is Calabash, a web app that can sequentially develop your child's number-fluency through ten-minute daily practice. Some of the benefits are:

- Animated training when your child makes a mistake to help them visualise and understand the solution
- Almost no barrier to entry as it starts with counting to 5
- A lot of room for growth because children who have mastered the four operations (+ - x ÷) move on to place-value operations (e.g. 40 x 60 =) and then fractions
- A design that allows your child to practice independently, so practice can fit into family life

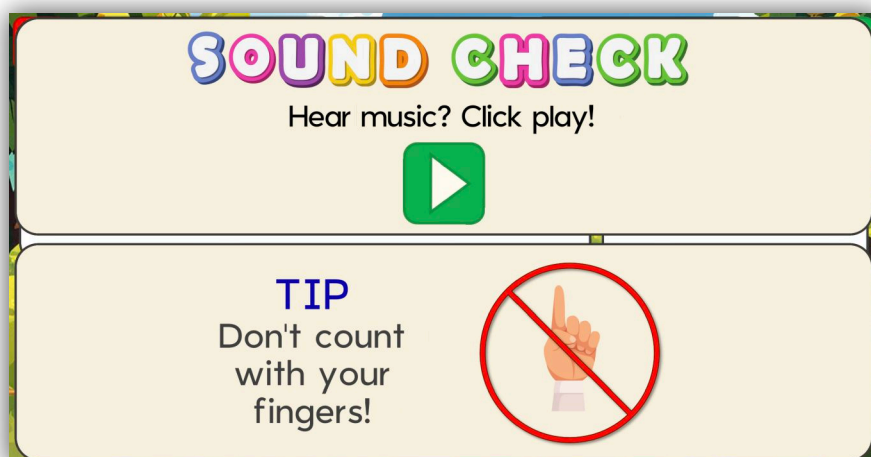
Getting Started



Steps

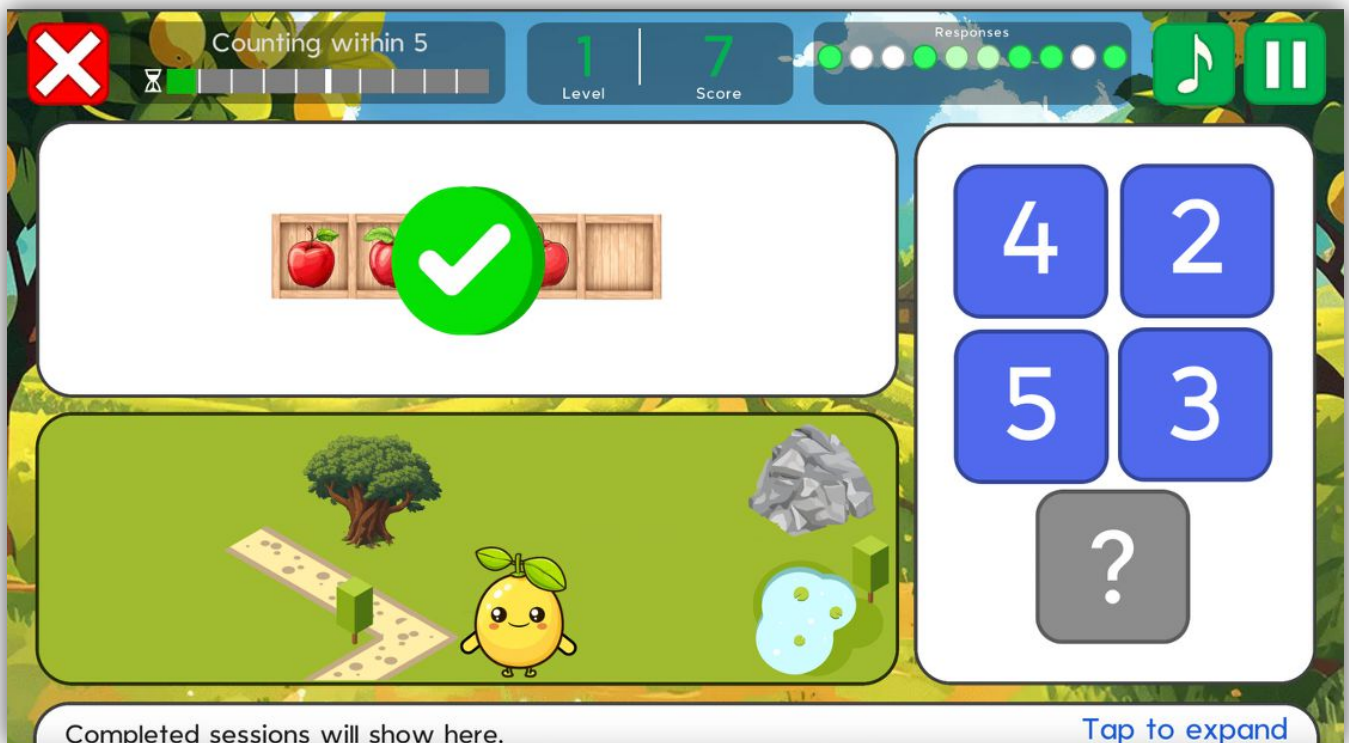
To start, launch the app and have your child tap on the lemon character, Calabash. Alternatively, pressing the 'Operations' button will bring up three options:

- **Start** is the same as tapping the lemon character, Calabash.
- **Boost Start** is for when your child has reached the first multiplication level, Level 26.
- **Practice Mode** has no timer and allows you to jump to any level. It lets you help your child with a difficult level.



Before practice begins, a Sound Check will come up and start playing music to ensure that the sound is working. If you're using an iPad or iPhone and can't hear, make sure Silent Mode is switched off.

Practice always starts from Level 1, but your child can move through a level they are confident with in just a few seconds. Starting from Level 1 prevents a problem where children advance to new levels and then forget what they learned in previous levels. Supporting consolidation is a key reason that Calabash works for such a wide range of learners.



Each question stays up until it has been correctly answered even if a mistake was made initially. The tick that comes up and the 'Responses' dots at the top of the display can be one of three different colours:



Green (1 point): Correct and quick



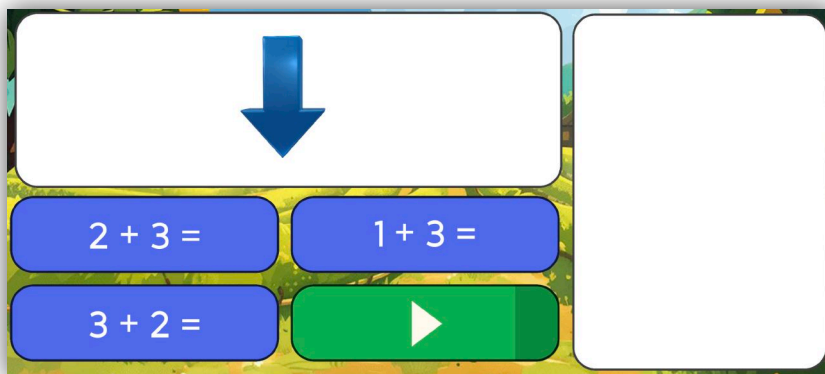
Light green (1 point): Correct but not very quick



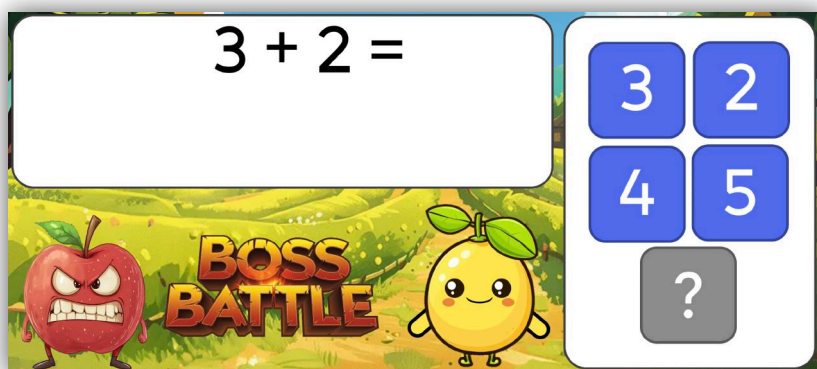
White (0 points): Made a mistake, requested training, or responded slowly

If you get three green dots in a row, or two dots at the start of the level, you move to the next level. If you get three white dots in a row you enter a Boss Battle.

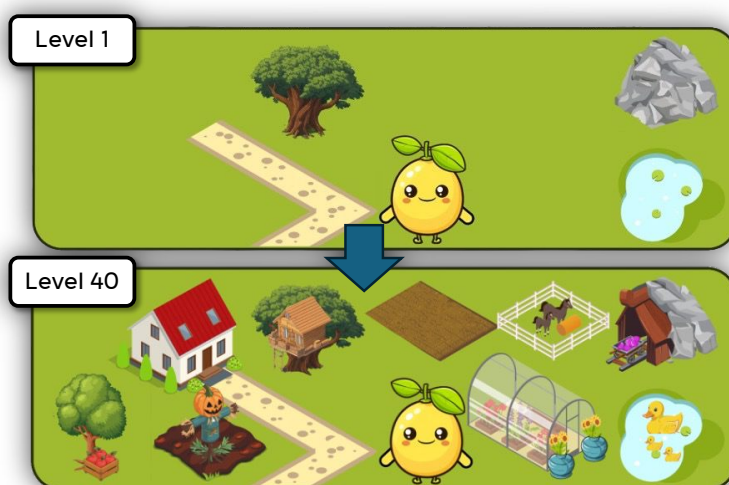
Boss Battles



A Boss Battle is designed to give your child focussed practice on three questions they need to master. In the first stage, they have the opportunity to practice by clicking on the questions. When they are ready, they click the green play button.



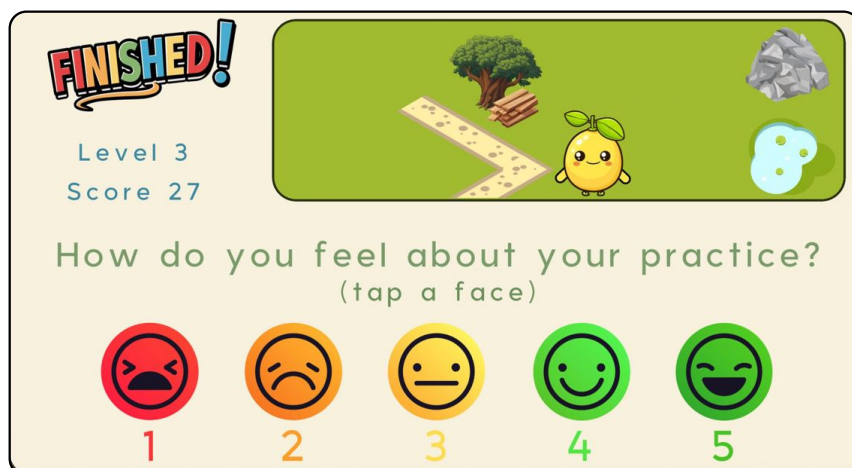
If they answer the three questions quickly and correctly, they win the Boss Battle and return to the level they were on. Otherwise, they go back to preparing for the Boss Battle.



As your child passes each level, Calabash develops his farm.

Finishing

The timer at the top of the screen runs for ten minutes and then the Finished screen comes up.

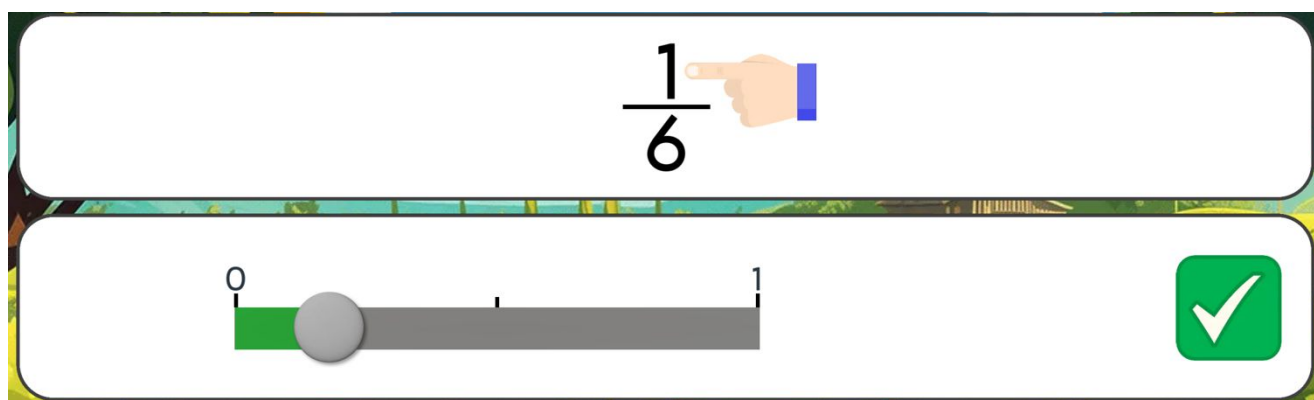


Your child finishes by rating how they are feeling about their practice. The results will also show in the log at the bottom of the screen and should remain even after a device restart.



Once your child can complete all 40 levels within the time, start recording the time they take and challenge them to get it down to under five minutes. Even after they can do that, occasional practice will help to maintain their skill level. Once your child no longer needs daily practice, they can begin the Fractions challenge.

Fractions



The Fractions feature is very similar to Operations. It covers:




- Fractions (proper, improper and mixed)
- Decimals (between zero and two)
- Percents (0%-200%)

Accessing

Calabash is free and does not require a login. It is a web-app and can be run through any browser, meaning it can be used on an iPad, PC, or a phone. The app can be used with a touch screen or a mouse. If the sound is not working on an iPad, make sure Silent Mode is disabled.

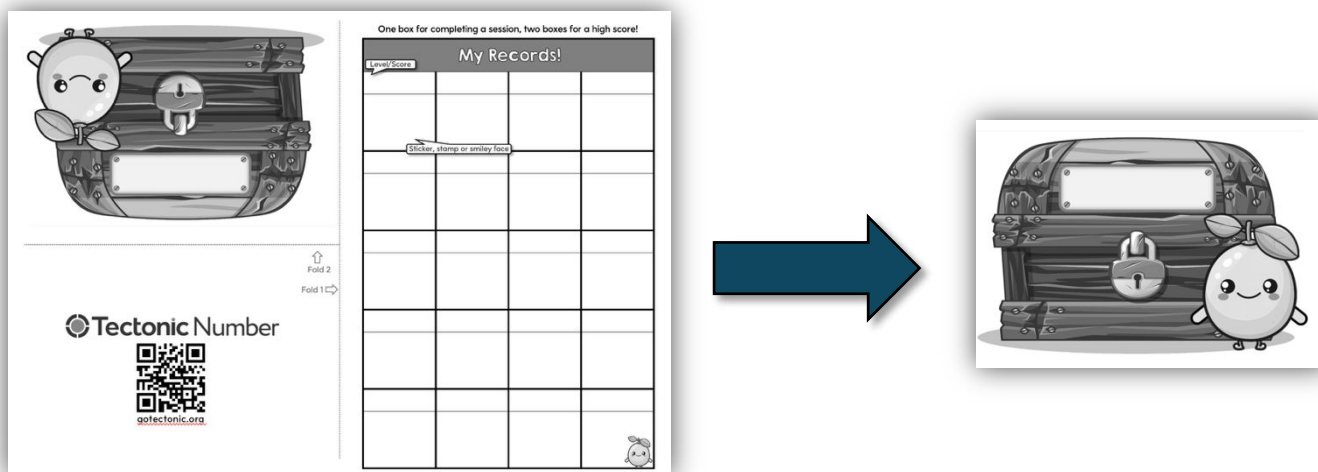


Calabash can be installed as a web-app on an iPad:

1. Load it in Safari 
2. Click the share button 
3. Select 'Add to Home Screen' 

Timing & Motivation

Practising at the same time each day makes progress much quicker, but it also makes it much more enjoyable for your child. That means you are less likely to get complaints. The trick is to pick a set time each day to practice.



There's also an optional treasure chest you can print-out and fold. You record the score and level (e.g. level 4, score 54 would be 4/54) and put a stamp, sticker or just draw a smiley face below. If they get a high score, you can fill in two boxes. You can even have a small reward when they complete the treasure chest. You can download it through the Calabash app by going to the main menu and clicking 'Guide'. The treasure chest is fun, but it's not required.

Supporting Your Child

Though some Calabash levels take time to master, you can help your child if they are stuck on a difficult level by:

- Watching them practice to spot issues (e.g. finger-counting or not practising for Boss Battles).
- Using Practice Mode to jump straight to tough levels to do it together. In Practice Mode you can play and pause the training.
- For Levels 1-10 encourage them to visualise the addition or subtraction, these levels are foundational and can take longer to master.
- For Levels 11-15 watch the training together and talk about the strategy (e.g. turning $8 + 4$ into $10 + 2$).
- For levels 29-30 (later multiplication) you can help them to memorise some of the solutions (e.g. $6 \times 6 = 36$).



Appendix

To see each level: Launch Calabash → Click 'Operations' or 'Fractions' → Click 'Practice Mode' → Click the right-facing arrow to go to the desired level

Operations Levels

Level	Title	Example
1	Counting within 5	
2	Adding within 5 (visual)	$2 + 1 =$  +  =
3	Adding within 5	$2 + 1 =$
4	Subtracting within 5 (visual)	$5 - 2 =$  -  =
5	Subtracting within 5	$5 - 2 =$
6	Counting within 10	
7	Adding within 10 (visual)	$4 + 3 =$  +  =
8	Adding within 10	$4 + 3 =$
9	Subtracting within 10 (visual)	$8 - 2 =$  -  =
10	Subtracting within 10	$8 - 2 =$
11	Counting within 20	
12	Adding within 20 (visual)	$7 + 4 =$  +  =
13	Adding within 20	$7 + 4 =$
14	Subtracting within 20 (visual)	$12 - 3 =$  -  = 
15	Subtracting within 20	$12 - 3$
16	Counting tens	
17	Adding tens	$40 + 50 =$
18	Subtracting tens	$80 - 60 =$
19	Counting within 100	
20	Adding ones	$53 + 5 =$
21	Subtracting ones	$82 - 1 =$
22	Adding by bridging through ten	$34 + 8 =$
23	Subtracting by bridging through ten	$82 - 9 =$

24	Adding tens & ones	$63 + 32 =$
25	Subtracting tens & ones	$98 - 15 =$
26	Multiplying by 1, 2 & 10	$7 \times 10 =$
27	Multiplying by 5	$5 \times 8 =$
28	Multiplying by 9	$9 \times 4 =$
29	Multiplying by 3 & 4	$3 \times 6 =$
30	Multiplying by 6, 7 & 8	$7 \times 6 =$
31	Dividing basics	$3 \div 1 =$
32	Dividing by 2 & 3	$6 \div 2 =$
33	Dividing by 4 & 5	$20 \div 5 =$
34	Dividing by 6 & 7	$54 \div 6 =$
35	Dividing by 8 & 9	$56 \div 8 =$
36	Adding with place value	$500 + 8 =$
37	Subtracting with place value	$620 - 600 =$
38	Multiplying by 10 & 100	$84 \times 10 =$
39	Dividing by 10 and 100	$1100 \div 10 =$
40	Multiplying with place value	$4 \times 600 =$

Fractions Levels

Level	Title	Example
1	Fraction basics	$1/2$ (place on a number line)
2	Proper fractions	$2/6$ (place on a number line)
3	Decimal tenths	0.4 (place on a number line)
4	Decimal hundredths	0.55 (place on a number line)
5	Decimal thousandths	0.160 (place on a number line)
6	Percents (tens)	60% (place on a number line)
7	Percents (tens and ones)	72% (place on a number line)
8	Mixed numbers	$1 \frac{3}{5}$ (place on a number line)
9	Improper fractions	$6/5$ (place on a number line)
10	Decimals greater than 1	1.918 (place on a number line)
11	Percents above 100	101% (place on a number line)
12	Compare fractions	$5/6$ or $2/5$ or $1/3$ or $3/6$ (pick the biggest)
13	Compare decimals	1.18 or 0.905 or 1.3 or 0.50 (pick the biggest)
14	Compare percents	78% or 53% or 171% or 190% (pick the biggest)
15	Compare all	$7/6$ or 23% or $2/5$ or 1.80 (pick the biggest)