



Otava  
Learning

# Primary Maths from Finland

# Star Maths 1-6

The Star Maths series follows the Finnish curriculum. The content helps pupils make progress in their numeracy skills. Pupils learn fundamental mathematical concepts and skills at a manageable pace. There are also maths problems to solve as well as tasks to investigate, coding activities and other ways to reinforce pupils' skills. Learning is facilitated through a variety of task types and tools for individual and group work. The accompanying digital resources help pupils consolidate and extend their knowledge.

## Star Maths and the Finnish curriculum

- Fun and cooperative learning are central to the entire series.
- Materials make it easy to bring variety to your teaching.
- Star Maths provides tips for multi-sensory maths teaching.
- Materials include tasks to promote pupils' coding skills. The Teacher's Guide contains more tips on working with code.
- Pupil coursebooks include investigative tasks and experiments to promote pupils' ICT skills.



The illustrations at the beginning of each lesson depict the learning objective for that lesson. The Teacher's Guide and digital resources include suggested activities and materials to support various teaching strategies.

**1. Bridging to ten**

**Addition**  

$$\begin{array}{r} 9 + 7 \\ = 9 + 1 + 6 \\ = 10 + 6 \\ = 16 \end{array}$$
 • First complete the next ten.  
 • Then add the remaining ones.  
 The result of an addition is called the **sum**.

**Subtraction**  

$$\begin{array}{r} 16 - 7 \\ = 10 - 1 \\ = 9 \end{array}$$
 • First subtract to a full ten.  
 • Then subtract the remaining ones.  
 The result of a subtraction is called the **difference**.

2. Complete tens.  

 3. Write the expression and solve it.  
 a. The addends are 5 and 7. Answer: \_\_\_\_\_  
 b. The minuend is 16 and the subtrahend is 9. Answer: \_\_\_\_\_  
 c. What is the difference between 20 and 18? Answer: \_\_\_\_\_  
 d. What is the sum of 6 and 14? Answer: \_\_\_\_\_

4. Write the expression and solve it.  
 a. Alec wants to buy school accessories that cost 13 euros. He has 8 euros. How much more money does Alec need? Answer: \_\_\_\_\_  
 b. Jonah buys a backpack and a pencil case. The backpack costs 28 euros and the pencil case 8 euros. How much do they add up to? Answer: \_\_\_\_\_

On her way home, Emma sees 2 cars, 3 bicycles and 1 moped. How many tyres do they have in all?

Mental arithmetic problems develop pupils' basic number skills.

The first two pages includes tasks for all pupils. There is also a brainteaser (Year 3 and up) to enable all pupils to practise problem-solving skills.

Star Performance self-assessments check pupils' mastery of the material. These are followed by three different levels of Star Tasks.

**Use your skills**

5. Draw a line connecting the addition, result and subtraction.  

 6. Work out what the other addend is.

**Use your skills**

8. Work out what numbers the pictures represent.

The wide variety of inspiring exercises on the third and fourth pages of each lesson reinforce the concepts learned. These exercises help pupils to develop their logical thinking skills.

**Star activities** ★ ★ ★

1. Count.  
 a.  $161 + 135 =$     b.  $173 - 49 =$     c.  $123 + 68 - 23 =$

2. Calculate vertically.  
 a.  $563 + 178 = 262$     b.  $907 - 259 = 189$

3. Work out the missing number.  
 a.  $32 + \square = 50$   
 b.  $127 - \square = 58$   
 c.  $\square + 264 = 406$   
 d.  $\square - 323 = 518$

4. Choose the correct symbol: < , = or > .  
 a.  $301 - 91 \square 201$     b.  $277 + 34 \square 310$     c.  $147 - 57 \square 90$

5. Write the expression and solve it.  
 a. Alec wants to buy a skateboard and helmet. The board costs 127 euros and the helmet 89 euros. Alec has 109 euros. How much must he save to buy both the skateboard and the helmet? Answer: \_\_\_\_\_  
 b. Emma buys a riding helmet that costs 57 euros. She also buys boots that cost 68 euros and a safety vest that costs 82 euros. How much do Emma's purchases add up to? Answer: \_\_\_\_\_

6. Find two numbers that work for both addition and subtraction.  
 a.  $\square + \square = 10$     b.  $\square + \square = 34$     c.  $\square + \square = 10$   
 d.  $\square - \square = 2$     e.  $\square - \square = 2$     f.  $\square - \square = 10$

**Revision**

**Addition**  
 $5 + 3 = 8$  — sum  
 5 addends

**Subtraction**  
 $13 - 6 = 7$  — difference  
 7 minuend, 6 subtrahend

**Regrouping numbers into place values**  
 A number can be regrouped into place values:  
 $126 = 100 + 20 + 6$

**Comparing magnitudes**  
 • First compare the hundreds.  
 • If you have an equal number of hundreds, compare the tens.  
 • If you also have an equal number of tens, compare the ones.  
 $135 < 228$      $341 > 316$      $544 > 541$      $242 = 242$

**Adding numbers vertically**  

$$\begin{array}{r} \text{HT O} \\ 337 + 184 \\ \hline 521 \end{array}$$

**Subtracting numbers vertically**  

$$\begin{array}{r} \text{HT O} \\ 404 - 277 \\ \hline 127 \end{array}$$

**Consecutive operations**  
 $421 - 207 + 116 = 330$

**Homework**

point.

a.  $6 + 6 =$     b.  $6 + 7 =$     c.  $13 - 7 =$   
 $7 + 7 =$      $7 + 8 =$      $15 - 7 =$   
 $8 + 8 =$      $9 + 8 =$      $17 - 8 =$   
 $9 + 9 =$      $8 + 9 =$      $17 - 9 =$

Write the expression and solve it.  
 The addends are 9 and 6. Answer: \_\_\_\_\_  
 The minuend is 14 and the subtrahend is 6. Answer: \_\_\_\_\_  
 What is the difference between 15 and 8? Answer: \_\_\_\_\_  
 What is the sum of 3 and 17? Answer: \_\_\_\_\_

Every lesson includes homework exercises.

Each chapter concludes with a summary of the concepts covered. Pupils can revise the material as test preparation.



**Teacher's Guide**

The Teacher's Guide includes all the pages from the coursebook with answers. It also includes a wealth of tips for group work, assessment and skills-based exercises. The supplementary materials help you to provide individualised instruction for higher and lower abilities. The Teacher's Guide also includes an assessment test for each chapter.



**Answer Key**

The answers to the exercises in the coursebook are available as a separate printed booklet.

Available in Finnish

**Star Maths makes it easy to individualise learning!**  
**Star Maths follows the Finnish curriculum, with a wide variety of exercises at different difficulty levels to enable all pupils to access the world of maths.**

The recurring exercise types encourage pupils to work independently and master mathematical concepts. The clear structure makes teaching easier, and the supplementary resources support your lesson planning and teaching.

Each lesson in Star Maths consists of four pages, plus several additional pages of exercises and activities for individual and group work. All coursebooks are structured to enable tailored learning for different pupil abilities. Basic tasks, mental arithmetic problems, brainteasers and homework exercises are aimed at all pupils. There are also in-depth tasks, several levels of Star Tasks and projects for pupils to play, investigate and apply maths in real life. Each chapter ends with a Star Chart self-assessment exercise.

You can use the Star Maths digital resources to supplement and reinforce your classroom teaching. For more information about the digital resources, see page 5.

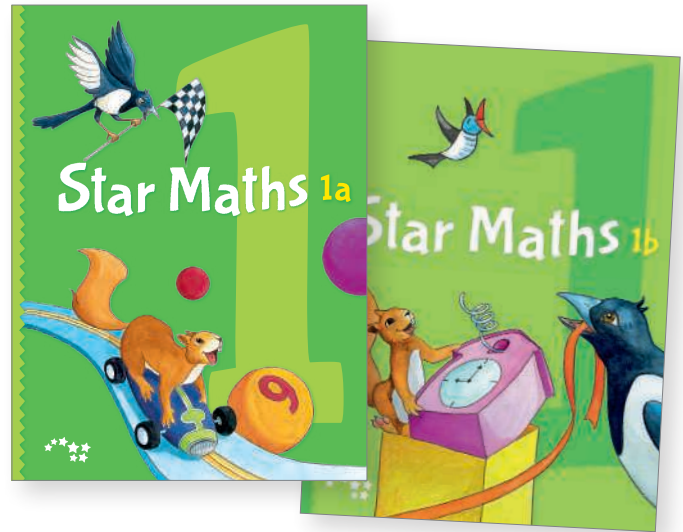
#### The Star Maths series includes:

- Coursebook
- Coursebook for pupils with special needs
- Teacher's Guide
- Answer Key (in Finnish)

Available in Finnish and Swedish:

- Digital resources for teachers
- Digital exercises for pupils

For more information about the series, visit [otava.fi/primarymaths](http://otava.fi/primarymaths)

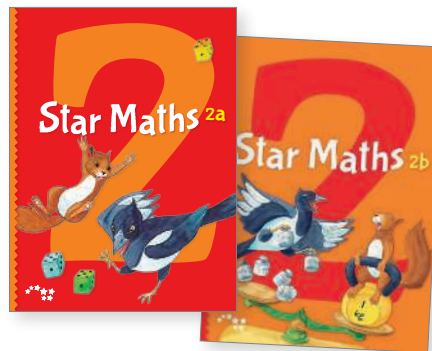


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### Digital teacher's resources

Available in Finnish and Swedish

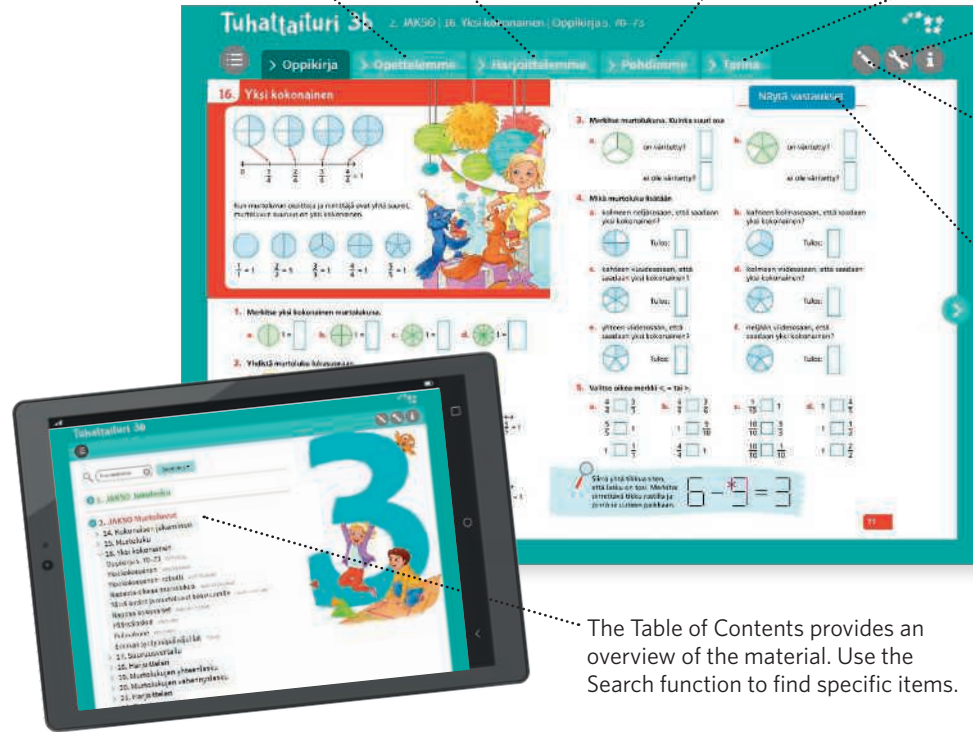
The Star Maths digital teacher's resources are easy to use. They include everything you need during the lesson. You can also search and filter the content. The digital resources work on all platforms.

The 'Let's learn!' section contains materials to help you teach and explain each concept.

The 'Let's Practice!' section contains tasks to practise the lesson material.

The 'Let's Think!' contains brainteasers and mental arithmetic exercises.

The 'Storytime' tab contains a recording of the story for each lesson.



The tools include a number of useful functions that support your teaching.

You can add notes for specific lessons to help your lesson planning and teaching. Your notes are saved automatically.

You can display pages from the coursebook with answers. Zoom and click to show individual tasks.

The digital resources also include a PDF of the Teacher's Guide, including appendices and tests.

The Table of Contents provides an overview of the material. Use the Search function to find specific items.

### Extra digital exercises for pupils

Available in Finnish and Swedish

Pupils can select two different levels of extra exercises for each lesson. These exercises are designed to reinforce and support your presentation of the relevant material. They also include voice recordings of mental arithmetic problems and a skills track game. Pupils can use these materials on a computer or tablet, at school or at home.



### The Star Maths Scratch Studio

Available in Finnish and Swedish

The graphical programming environment in Scratch lets pupils practise basic computing concepts. The Studio includes five projects for pupils as well as completed examples for teachers. Instructional videos present the basic functionalities of Scratch and explain how pupils can code their projects. The digital teaching resources for Star Maths 3-5 include links to the Scratch Studio.



# Star Maths series contents by level

## Star Maths 1a

Numbers 0-10,  $<$ ,  $>$ ,  $=$ ,  $+$ ,  $-$

Adding and subtracting numbers 0-10; understanding the relationship between addition and subtraction; commutative property of addition; subtraction using number bonds; solving for missing numbers in addition and subtraction; adding and subtracting more than two numbers

Money, €

Diagrams

## Star Maths 1b

Numbers 11-20: addition with sums above 10; subtraction with differences below 10; understanding the relationship between addition and subtraction; checking the results of subtraction; doubling; halving and doubling numbers; even and odd numbers

Numbers 0-100: units, tens (0, 10, 20, ..., 100) and one hundred; greater than/less than; number series

Telling the time: on the hour and half past

Geometry: wholes; 2D shapes

Fundamentals of measurement; centimetres

## Star Maths 2a

Adding and subtracting numbers 0-100, addition and subtraction with regrouping (carrying/borrowing); subtraction from multiples of 10

The concept of multiplication; 2, 5 and 10 times tables

The concepts of division and fractions; division into equal parts; fractions

Geometry: wholes, 2D shapes, triangles, quadrilaterals, polygons

## Star Maths 2b

Telling the time: on the hour, half past, a quarter past, a quarter to

3 and 4 times tables; commutative property of multiplication; word problems

Addition and subtraction with numbers 0-100

Measurement: centimetres, metres, grams, kilograms, litre and decilitre

Even and odd numbers; multiplication and division; fractions; true and false

Introduction to column addition and subtraction

## Star Maths 3a

Addition and subtraction: mental arithmetic and column addition/subtraction

Multiplication: 1-10 times tables; commutative property of multiplication

Telling the time: the 24-hour clock; short time intervals

Column multiplication: with and without carried digits

## Star Maths 3b

Division: grouping and sharing; remainder; dividing by a single-digit number

Fractions: the concept of fractions; adding and subtracting fractions with common denominators

Measuring length: practical exercises; units of length (mm, cm, m and km)

Geometry: angles, polygons, circle, area

**Star Maths 4a**

Order of operations

Multiplication

Division

Negative numbers: greater than/less than; adding/  
subtracting/multiplying/dividing; graphs**Star Maths 4b**

Fractions

Decimals

Measuring: length, mass, volume, time

Geometry: triangle, quadrilateral, coordinates, mirroring

**Star Maths 5a**

Problem-solving

Fractions

Geometry: angles

Drawing and measuring; measuring angles of a triangle and  
their sum; parts of a circle; drawing a circle**Star Maths 5b**

Division

Percentages

Showing and finding information; various graphs

Measuring: length, mass, volume

Converting to larger and smaller units of measurement

Geometry: scale, maps

**Star Maths 6a**

Calculation strategies

Fractions

Decimals

Geometry

Revision

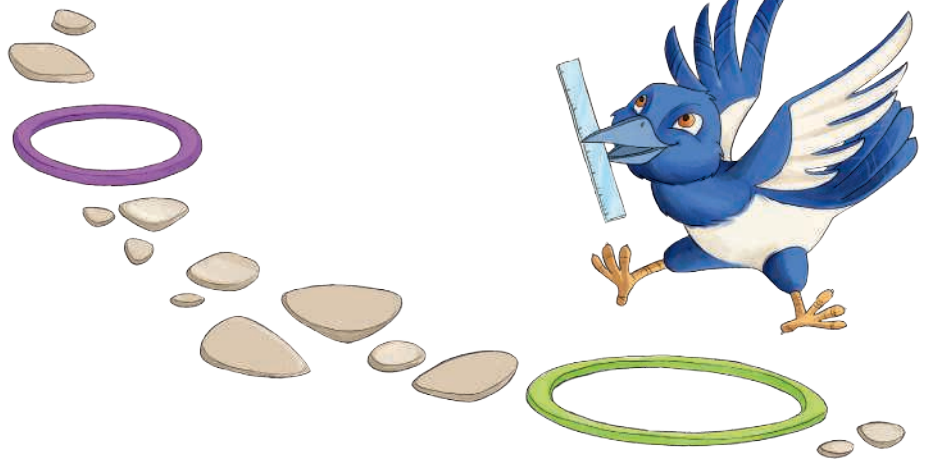
**Star Maths 6b**

Percentages

Time

Probability and equations

Preparation for Year 7



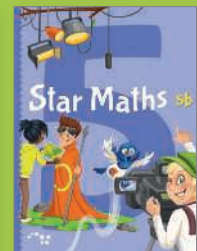
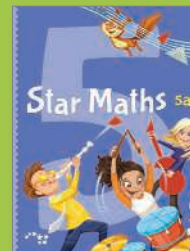
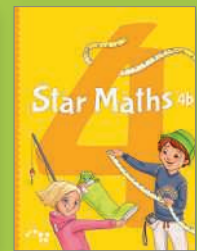
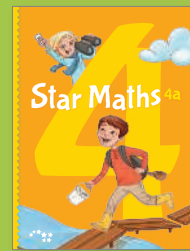
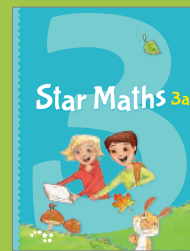
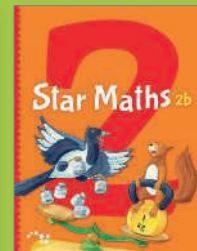
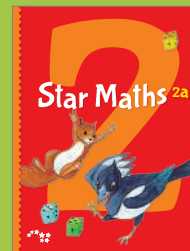
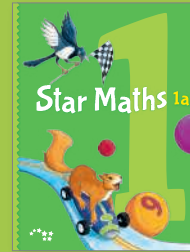


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