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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 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.
- The materials make it easy to bring variety to your teaching.
- Star Maths provides tips for multi-sensory maths teaching.
- The 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
addends
 $9 + 7 = 16$
 $9 + 6 = 15$
 $10 + 6 = 16$

Subtraction
minuend
subtrahend
 $16 - 7 = 9$
 $16 - 1 = 15$
 $10 - 1 = 9$

• First complete the next ten.
• Then add the remaining ones.
The result of an addition is called the **sum**.

• First subtract to a full ten.
• Then subtract the remaining ones.
The result of a subtraction is called the **difference**.

2. Complete tens.
0 10 1 10 2 10 3 10 4 10 5 10
6 10 7 10 8 10 9 10

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 include tasks for all pupils. There is also a brainteaser (Year 3 and up) to enable all pupils to practise problem-solving skills.

Reach for the Stars self-assessments check pupils' mastery of the material. These are followed by three different levels of Star Activities.

Use your skills

5. Draw a line connecting the addition, result and subtraction.
 $6 + 4 = 15$
 $5 + 3 = 7$
 $9 + 6 = 8$
 $4 + 3 = 10$
 $15 - 5 = 7$
 $19 - 4 = 8$
 $10 - 3 = 10$
 $12 - 4 = 10$

6. Work out what the other addend is.
 $6 + \square = 10$
 $7 + \square = 10$
 $8 + \square = 10$
 $9 + \square = 10$

8. Work out what numbers the pictures represent.
 $\text{cat} + 5 = 11$
 $\text{dog} + \square = 14$
 $\text{fish} + \square = 12$
 $\text{bird} + \square = 11$

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. $\square + \square = 10$
 $\square - \square = 2$ $\square - \square = 2$ $\square - \square = 10$

Revision

Addition
 $5 + 3 = 8$ sum
addends

Subtraction
 $13 - 6 = 7$ difference
minuend 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.
< less than
= equal to
> greater than
 $135 < 228$ $341 > 316$ $544 > 541$ $242 > 242$

Adding numbers vertically
 $337 + 184$

Subtracting numbers vertically
 $404 - 277$

Consecutive operations
 $421 - 207 + 116$
Answer: 330

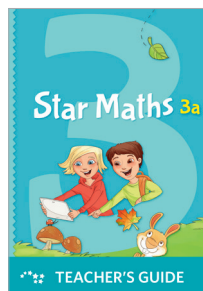
Homework

Count.
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: _____
b. The minuend is 14 and the subtrahend is 6. Answer: _____
What is the difference between 15 and 8? Answer: _____
d. 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.

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 Activities and projects for pupils to play, investigate and apply maths in real life. Each chapter ends with a Reach for the Stars self-assessment exercises.

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.



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The Star Maths series includes:

- Coursebook
- Teacher's Guide
- Digital teaching materials
- Additional digital activities

For more information about the series, visit learning.otava.fi.



Additional digital activities

The Star Maths Additional digital activities include a wide variety of higher and lower level exercises for each of the book's lessons. The activities provide instant feedback and help reinforce and revise skills learned in class.

The exercises can be used on your desktop or tablet, in class or at home.

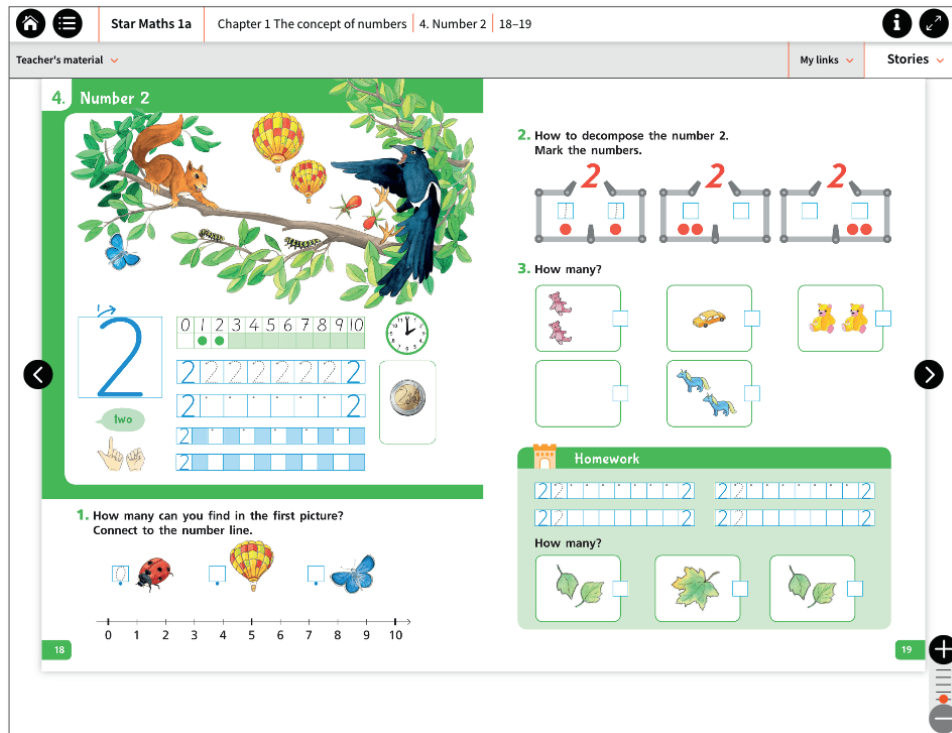


Digital teaching materials

The Star Maths Digital teaching material is the teacher's digital tool used to display the coursebook a spread or an exercise at a time. Solutions for the exercises can be revealed by clicking on the answer area.

In addition, the teaching material includes the full teacher's guide, with its stories in audio format and the exams and resource packs as easy to print pdfs.

The Digital teaching material is available for all grades 1-6.



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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