

ABOUT *EUREKA MATH*

Created by the nonprofit Great Minds, *Eureka Math* helps teachers deliver unparalleled math instruction that provides students with a deep understanding and fluency in math. Crafted by teachers and math scholars, the curriculum carefully sequences the mathematical progressions to maximize coherence from Prekindergarten through Precalculus—a principle tested and proven to be essential in students’ mastery of math.

Teachers and students using *Eureka Math* find the trademark “Aha!” moments in *Eureka Math* to be a source of joy and inspiration, lesson after lesson, year after year.

ALIGNED

Eureka Math is the only curriculum found by EdReports.org to align fully with the Common Core State Standards for Mathematics for all grades, Kindergarten through Grade 8. Great Minds offers detailed analyses which demonstrate how each grade of *Eureka Math* aligns with specific state standards. Access these free alignment studies at greatminds.org/state-studies.

DATA

Schools and districts nationwide are experiencing student growth and impressive test scores after using *Eureka Math*. See their stories and data at greatminds.org/data.

FULL SUITE OF RESOURCES

As a nonprofit, Great Minds offers the *Eureka Math* curriculum as PDF downloads for free, noncommercial use. Access the free PDFs at greatminds.org/math/curriculum.

The teacher–writers who created the curriculum have also developed essential resources, available only from Great Minds, including the following:





- Printed material in English and Spanish
- Digital resources
- Professional development
- Classroom tools and manipulatives
- Teacher support materials
- Parent resources

Utah Core Standards for Mathematics Correlation to *Eureka Math*™

GRADE 3 MATHEMATICS

The Grade 3 Utah Core Standards for Mathematics are fully covered by the Grade 3 *Eureka Math* curriculum. A detailed analysis of alignment is provided in the table below.

INDICATORS

-  Green indicates that the Utah standard is fully addressed in *Eureka Math*.
-  Yellow indicates that the Utah standard may not be completely addressed in *Eureka Math*.
-  Red indicates that the Utah standard is not addressed in *Eureka Math*.
-  Blue indicates there is a discrepancy between the grade level at which this standard is addressed in the Utah standards and in *Eureka Math*.

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

<p>1: Make sense of problems and persevere in solving them.</p> <p>Explain the meaning of a problem, look for entry points to begin work on the problem, and plan and choose a solution pathway. When a solution pathway does not make sense, look for another pathway that does. Explain connections between various solution strategies and representations. Upon finding a solution, look back at the problem to determine whether the solution is reasonable and accurate, often checking answers to problems using a different method or approach.</p>	<p>Lessons in every module engage students in making sense of problems and persevering in solving them as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 1, which is specifically addressed in the following modules:</p> <p>G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p> <p>G3 M7: Geometry and Measurement Word Problems</p>
<p>2: Reason abstractly and quantitatively.</p> <p>Make sense of quantities and their relationships in problem situations. Contextualize quantities and operations by using images or stories. Decontextualize a given situation and represent it symbolically. Interpret symbols as having meaning, not just as directions to carry out a procedure. Know and flexibly use different properties of operations, numbers, and geometric objects.</p>	<p>Lessons in every module engage students in reasoning abstractly and quantitatively as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 2, which is specifically addressed in the following modules:</p> <p>G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10</p> <p>G3 M2: Place Value and Problem Solving with Units of Measure</p> <p>G3 M4: Multiplication and Area</p> <p>G3 M5: Fractions as Numbers on the Number Line</p> <p>G3 M6: Collecting and Displaying Data</p>

Standards for Mathematical Practice

3: Construct viable arguments and critique the reasoning of others.

Use stated assumptions, definitions, and previously established results to construct arguments. Explain and justify the mathematical reasoning underlying a strategy, solution, or conjecture by using concrete referents such as objects, drawings, diagrams, and actions. Listen to or read the arguments of others, decide whether they make sense, ask useful questions to clarify or improve the arguments, and build on those arguments.

Aligned Components of *Eureka Math*

Lessons in every module engage students in constructing viable arguments and critiquing the reasoning of others as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 3, which is specifically addressed in the following modules:

G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10

G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10

G3 M4: Multiplication and Area

G3 M5: Fractions as Numbers on the Number Line

G3 M7: Geometry and Measurement Word Problems

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

<p>4: Model with mathematics.</p> <p>Identify the mathematical elements of a situation and create a mathematical model that shows the relationships among them. Identify important quantities in a contextual situation, use mathematical models to show the relationships of those quantities, analyze the relationships, and draw conclusions. Models may be verbal, contextual, visual, symbolic, or physical.</p>	<p>Lessons in every module engage students in modeling with mathematics as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 4, which is specifically addressed in the following modules:</p> <p>G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10</p> <p>G3 M2: Place Value and Problem Solving with Units of Measure</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>
<p>5: Use appropriate tools strategically.</p> <p>Consider the tools that are available when solving a mathematical problem, whether in a real-world or mathematical context. Choose tools that are relevant and useful to the problem at hand, such as physical objects, drawings, diagrams, physical tools, technologies, or mathematical tools such as estimation or a particular strategy or algorithm.</p>	<p>Lessons in every module engage students in using appropriate tools strategically as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 5, which is specifically addressed in the following modules:</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p> <p>G3 M6: Collecting and Displaying Data</p> <p>G3 M7: Geometry and Measurement Word Problems</p>

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

6: Attend to precision.

Communicate precisely to others by crafting careful explanations that communicate mathematical reasoning by referring specifically to each important mathematical element, describing the relationships among them, and connecting their words clearly to representations. Calculate accurately and efficiently, and use clear and concise notation to record work.

Lessons in every module engage students in attending to precision as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 6, which is specifically addressed in the following modules:

G3 M2: Place Value and Problem Solving with Units of Measure

G3 M4: Multiplication and Area

G3 M5: Fractions as Numbers on the Number Line

G3 M6: Collecting and Displaying Data

G3 M7: Geometry and Measurement Word Problems

Standards for Mathematical Practice

Aligned Components of *Eureka Math*

<p>7: Look for and make use of structure.</p> <p>Recognize and apply the structures of mathematics such as patterns, place value, the properties of operations, or the flexibility of numbers. See complicated things as single objects or as being composed of several objects.</p>	<p>Lessons in every module engage students in looking for and making use of structure as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 7, which is specifically addressed in the following modules:</p> <p>G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10</p> <p>G3 M2: Place Value and Problem Solving with Units of Measure</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p> <p>G3 M4: Multiplication and Area</p> <p>G3 M5: Fractions as Numbers on the Number Line</p> <p>G3 M6: Collecting and Displaying Data</p>
<p>8: Look for and express regularity in repeated reasoning.</p> <p>Notice repetitions in mathematics when solving multiple related problems. Use observations and reasoning to find shortcuts or generalizations. Evaluate the reasonableness of intermediate results.</p>	<p>Lessons in every module engage students in looking for and expressing regularity in repeated reasoning as required by this standard. This practice standard is analogous to the CCSSM Standards for Mathematical Practice 8, which is specifically addressed in the following modules:</p> <p>G3 M4: Multiplication and Area</p>

Strand	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Operations and Algebraic Thinking	Cluster: Represent and solve problems involving multiplication and division within 100.	
	3.OA.1 Interpret the products of whole numbers, such as interpreting 5×7 as the total number of objects in 5 groups of 7 objects each.	G3 M1 Topic A: Multiplication and the Meaning of the Factors G3 M1 Topic C: Multiplication Using Units of 2 and 3
	3.OA.2 Interpret whole-number quotients of whole numbers.	G3 M1 Topic B: Division as an Unknown Factor Problem G3 M1 Topic D: Division Using Units of 2 and 3 G3 M1 Lesson 17: Model the relationship between multiplication and division.
	3.OA.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities.	G3 M1 Topic D: Division Using Units of 2 and 3 G3 M1 Topic F: Distributive Property and Problem Solving Using Units of 2–5 and 10 G3 M3 Lesson 7: Interpret the unknown in multiplication and division to model and solve problems using units of 6 and 7. G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 18: Solve two-step word problems involving all four operations and assess the reasonableness of solutions.

Strand	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>3.OA.4 Determine the unknown whole number in a multiplication or division equation relating three whole numbers.</p>	<p>G3 M1 Topic D: Division Using Units of 2 and 3</p> <p>G3 M1 Lesson 17: Model the relationship between multiplication and division.</p> <p>G3 M3 Lesson 3: Multiply and divide with familiar facts using a letter to represent the unknown.</p> <p>G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7</p> <p>G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems.</p> <p>G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems.</p>
	<p>Cluster: Demonstrate understanding of the properties of multiplication and the relationship between multiplication and division.</p>	
	<p>3.OA.5 Apply properties of operations as strategies to multiply and divide.</p>	<p>G3 M1: Properties of Multiplication and Division and Solving Problems with Units of 2–5 and 10</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>

Strand	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
	<p>3.OA.6 Understand division as an unknown-factor problem. Understand the relationship between multiplication and division (multiplication and division are inverse operations).</p>	<p>G3 M1 Topic B: Division as an Unknown Factor Problem</p> <p>G3 M1 Topic D: Division Using Units of 2 and 3</p> <p>G3 M1 Lesson 17: Model the relationship between multiplication and division.</p> <p>G3 M3 Topic B: Multiplication and Division Using Units of 6 and 7</p>
<p>Cluster: Represent and solve problems involving multiplication and division within 100.</p>		
	<p>3.OA.7 Fluently multiply and divide.</p>	
	<p>a. Fluently multiply and divide within 100, using strategies such as the relationship between multiplication and division or properties of operations.</p>	<p>G3 M1 Topic E: Multiplication and Division Using Units of 4</p> <p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>
	<p>b. By the end of Grade 3, know from memory all products of two one-digit numbers.</p>	<p>Fluency activities address multiplication and division of one-digit numbers throughout the year.</p>

Strand**Standards for Mathematical Content****Aligned Components of *Eureka Math***

	Cluster: Use the four operations to identify and explain patterns in arithmetic.	
	3.OA.8 Solve two-step word problems.	
	a. Solve two-step word problems using the four operations. Know how to perform operations in the conventional order when there are no parentheses to specify a particular order (Order of Operations). (Limit to problems posed with whole numbers and having whole number answers.)	G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 18: Solve two-step word problems involving all four operations and assess the reasonableness of solutions. G3 M3 Lesson 21: Solve two-step word problems involving multiplying single-digit factors and multiples of 10. G3 M7 Topic A: Solving Word Problems
	b. Represent two-step problems using equations with a letter standing for the unknown quantity. Create accurate equations to match word problems.	G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems. G3 M3 Lesson 18: Solve two-step word problems involving all four operations and assess the reasonableness of solutions. G3 M3 Lesson 21: Solve two-step word problems involving multiplying single-digit factors and multiples of 10. G3 M7 Topic A: Solving Word Problems

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	<p>c. Assess the reasonableness of answers using mental computation and estimation strategies, including rounding.</p>	<p>G3 M3 Lesson 11: Interpret the unknown in multiplication and division to model and solve problems.</p> <p>G3 M3 Lesson 15: Interpret the unknown in multiplication and division to model and solve problems.</p> <p>G3 M3 Lesson 18: Solve two-step word problems involving all four operations and assess the reasonableness of solutions.</p> <p>G3 M3 Lesson 21: Solve two-step word problems involving multiplying single-digit factors and multiples of 10.</p> <p>G3 M7 Topic A: Solving Word Problems</p>
	<p>3.OA.9 Identify arithmetic patterns (including patterns in the addition table or multiplication table), and explain them using properties of operations.</p>	<p>G3 M3: Multiplication and Division with Units of 0, 1, 6–9, and Multiples of 10</p>
<p>Number and Operations in Base Ten</p>	<p>Cluster: Use place value understanding and properties of operations to perform multi-digit arithmetic. A range of algorithms may be used.</p>	
	<p>3.NBT.1 Use place value understanding to round whole numbers to the nearest 10 or 100.</p>	<p>G3 M2 Topic C: Rounding to the Nearest Ten and Hundred</p> <p>G3 M2 Lesson 17: Estimate sums by rounding and apply to solve measurement word problems.</p> <p>G3 M2 Topic E: Two- and Three-Digit Measurement Subtraction Using the Standard Algorithm</p>

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	<p>3.NBT.2 Fluently add and subtract within 1,000 using strategies and algorithms based on place value, properties of operations, and/or the relationship between addition and subtraction.</p>	<p>G3 M2 Lesson 4: Solve word problems involving time intervals within 1 hour by counting backward and forward using the number line and clock.</p> <p>G3 M2 Lesson 5: Solve word problems involving time intervals within 1 hour by adding and subtracting on the number line.</p> <p>G3 M2 Lesson 8: Solve one-step word problems involving metric weights within 100 and estimate to reason about solutions.</p> <p>G3 M2 Lesson 11: Solve mixed word problems involving all four operations with grams, kilograms, liters, and milliliters given in the same units.</p> <p>G3 M2 Topic D: Two- and Three-Digit Measurement Addition Using the Standard Algorithm</p> <p>G3 M2 Topic E: Two- and Three-Digit Measurement Subtraction Using the Standard Algorithm</p>
	<p>3.NBT.3 Multiply one-digit whole numbers by multiples of 10 in the range 10–90 using strategies based on place value and properties of operations.</p>	<p>G3 M3 Topic F: Multiplication of Single-Digit Factors and Multiples of 10</p>

Strand	Standards for Mathematical Content	Aligned Components of <i>Eureka Math</i>
Number and Operations—Fractions	Cluster: Develop understanding of fractions as numbers. Denominators are limited to 2, 3, 4, 6, and 8 in third grade.	
	3.NF.1 Understand that a unit fraction has a numerator of one and a non-zero denominator.	
	a. Understand a fraction $1/b$ as the quantity formed by one part when a whole is partitioned into b equal parts.	G3 M5 Topic B: Unit Fractions and Their Relation to the Whole G3 M5 Lesson 12: Specify the corresponding whole when presented with one equal part.
	b. Understand a fraction a/b as the quantity formed by a parts of size $1/b$.	G3 M5 Topic B: Unit Fractions and Their Relation to the Whole G3 M5 Lesson 12: Specify the corresponding whole when presented with one equal part.
	3.NF.2 Understand a fraction as a number on the number line; represent fractions on a number line diagram.	
a. Represent a fraction $1/b$ on a number line diagram by defining the interval from 0 to 1 as the whole and partitioning it into b equal parts. Recognize that each part has size $1/b$ and that the endpoint of the part based at 0 locates the number $1/b$ on the number line.	G3 M5 Lesson 14: Place fractions on a number line with endpoints 0 and 1. G3 M5 Lesson 15: Place any fraction on a number line with endpoints 0 and 1. G3 M5 Lesson 30: Partition various wholes precisely into equal parts using a number line method.	

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	b. Represent a fraction a/b on a number line diagram by marking off a lengths $1/b$ from 0. Recognize that the resulting interval has size a/b and that its endpoint locates the number a/b on the number line.	G3 M5 Topic D: Fractions on the Number Line
	3.NF.3 Explain equivalence of fractions in special cases, and compare fractions by reasoning about their size.	
	a. Understand two fractions as equivalent if they are the same size, or the same point on a number line.	G3 M5 Topic E: Equivalent Fractions
	b. Recognize and generate simple equivalent fractions, such as $1/2 = 2/4$, $4/6 = 2/3$.	G3 M5 Topic E: Equivalent Fractions
	c. Express whole numbers as fractions, and recognize fractions that are equivalent to whole numbers.	G3 M5 Topic D: Fractions on the Number Line G3 M5 Topic E: Equivalent Fractions

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	<p>d. Compare two fractions with the same numerator or the same denominator by reasoning about their size. Recognize that comparisons are valid only when the two fractions refer to the same whole.</p>	<p>G3 M5 Topic C: Comparing Unit Fractions and Specifying the Whole</p> <p>G3 M5 Lesson 18: Compare fractions and whole numbers on the number line by reasoning about their distance from 0.</p> <p>G3 M5 Lesson 19: Understand distance and position on the number line as strategies for comparing fractions.</p> <p>G3 M5 Topic F: Comparison, Order, and Size of Fractions</p>
Measurement and Data	Cluster: Solve problems involving measurement and estimation of intervals of time, liquid volumes, and masses of objects.	
	<p>3.MD.1 Tell and write time to the nearest minute and measure time intervals in minutes. Solve word problems involving addition and subtraction of time intervals in minutes, for example, by representing the problem on a number line diagram.</p>	<p>G3 M2 Topic A: Time Measurement and Problem Solving</p> <p>G3 M2 Lesson 12: Round two-digit measurements to the nearest ten on the vertical number line.</p>
	<p>3.MD.2 Measure and estimate liquid volumes and masses of objects using standard units of grams (g), kilograms (kg), milliliters (ml), and liters (l). (Excludes compound units such as cubic centimeters [cc or cm³] and finding the geometric volume of a container.)</p>	<p>G3 M2 Topic B: Measuring Weight and Liquid Volume in Metric Units</p> <p>G3 M2 Lesson 12: Round two-digit measurements to the nearest ten on the vertical number line.</p> <p>G3 M2 Lesson 21: Estimate sums and differences of measurements by rounding, and then solve mixed word problems.</p>

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	<p>3.MD.3 Draw a scaled picture graph and a scaled bar graph to represent a data set with several categories. Solve one- and two-step “how many more” and “how many less” problems using information presented in scaled bar graphs.</p>	G3 M6: Collecting and Displaying Data
	<p>3.MD.4 Generate measurement data by measuring lengths using rulers marked with halves and fourths of an inch. Show the data by making a line plot where the horizontal scale is marked off in appropriate units—whole numbers, halves, or quarters.</p>	<p>G3 M6: Collecting and Displaying Data</p> <p>G3 M7 Lesson 19: Use a line plot to record the number of rectangles constructed from a given number of unit squares.</p> <p>G3 M7 Lesson 22: Use a line plot to record the number of rectangles constructed in Lessons 20 and 21.</p>
Cluster: Understand concepts of area and relate area to multiplication and addition.		
	<p>3.MD.5 Recognize area as an attribute of plane figures and understand concepts of area measurement.</p>	
	<p>a. A square with side length one unit, called “a unit square,” is said to have “one square unit” of area, and can be used to measure area.</p>	<p>G3 M4 Topic A: Foundations for Understanding Area</p> <p>G3 M4 Lesson 6: Draw rows and columns to determine the area of a rectangle given an incomplete array.</p>
	<p>b. A plane figure which can be covered without gaps or overlaps by n unit squares is said to have an area of n square units.</p>	<p>G3 M4 Topic A: Foundations for Understanding Area</p> <p>G3 M4 Lesson 6: Draw rows and columns to determine the area of a rectangle given an incomplete array.</p>

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	<p>3.MD.6 Measure area by counting unit squares (square centimeters, square meters, square inches, square feet, and improvised units).</p>	G3 M4: Multiplication and Area
	<p>3.MD.7 Relate area to the operations of multiplication and addition (refer to 3.OA.5).</p>	
	<p>a. Find the area of a rectangle with whole-number side lengths by tiling it, and show that the area is the same as would be found by multiplying the side lengths.</p>	G3 M4: Multiplication and Area
	<p>b. Multiply side lengths to find areas of rectangles with whole-number side lengths in the context of solving real-world and mathematical problems, and represent whole-number products as rectangular areas in mathematical reasoning.</p>	<p>G3 M4 Lesson 8: Find the area of a rectangle through multiplication of the side lengths.</p> <p>G3 M4 Lesson 11: Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property.</p> <p>G3 M4 Topic D: Applications of Area Using Side Lengths of Figures</p>
	<p>c. Use tiling to show in a concrete case that the area of a rectangle with whole-number side lengths a and $b + c$ is the sum of $a \times b$ and $a \times c$. Use area models to represent the distributive property in mathematical reasoning.</p>	G3 M4 Topic C: Arithmetic Properties Using Area Models

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	<p>d. Recognize area as additive. Find areas of rectilinear figures by decomposing them into non-overlapping rectangles and adding the areas of the non-overlapping parts, applying this technique to solve real-world problems.</p>	<p>G3 M4 Topic D: Applications of Area Using Side Lengths of Figures</p>
	<p>Cluster: Recognize perimeter as an attribute of plane figures and distinguish between linear and area measures.</p>	
	<p>3.MD.8 Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.</p>	<p>G3 M7: Geometry and Measurement Word Problems</p>
<p>Geometry</p>	<p>Cluster: Reason with shapes and their attributes.</p>	
	<p>3.G.1 Understand that shapes in different categories may share attributes, and that the shared attributes can define a larger category. Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.</p>	<p>G3 M7 Topic B: Attributes of Two-Dimensional Figures</p>

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	<p>3.G.2 Partition shapes into parts with equal areas. Express the area of each part as a unit fraction of the whole.</p>	<p>G3 M5 Topic A: Partitioning a Whole into Equal Parts</p>