Dr Paul Swan & Narelle Rice

Year 1
Quick Curriculum Guide

A reference and guide to the Australian Curriculum Version 9

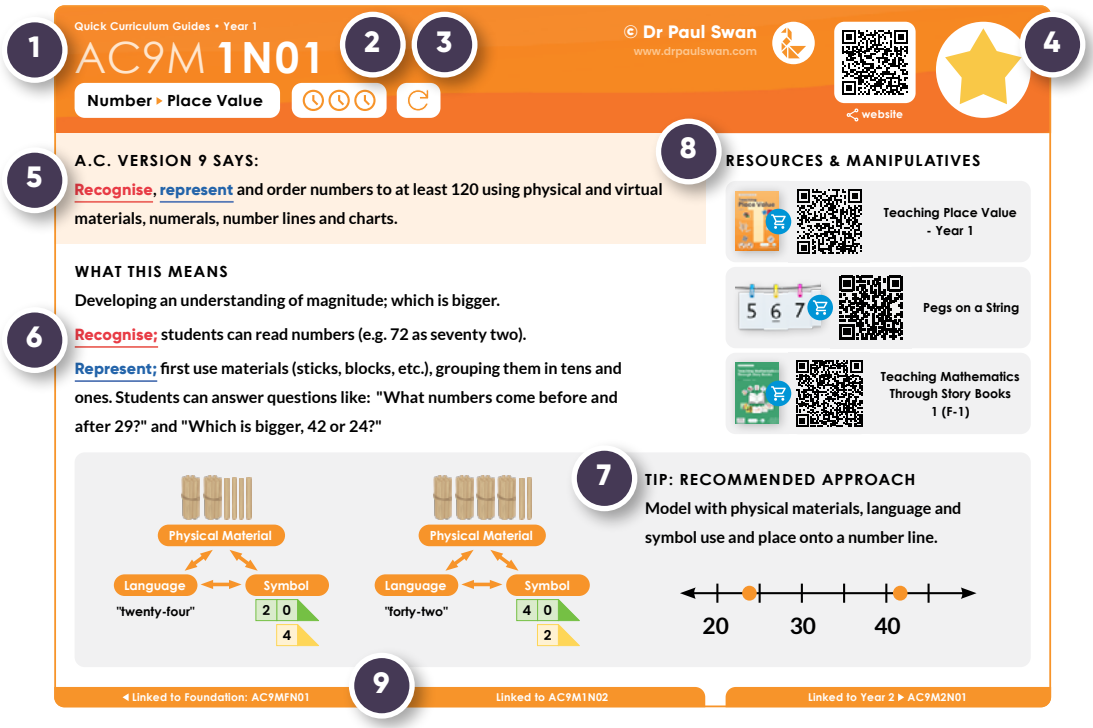
These Quick Curriculum Guides have been designed to take a look at the new Australian Mathematics Curriculum (AC9), explain terminology and provide interpretations. Narelle and I have used our professional judgement to put forward what is appropriate for students at this year level.

Using the Guide Cards

1. The Curriculum 9 code, strand, and our categorisation of content.

2. Our estimate of teaching time required.
   - = a short time (1 or a few lessons)
   - = more time (a few weeks)
   - = lots of time (3 weeks+)

3. This icon means we think this content is best approached with multiple exposures (interleaving).



4. The filled in star means, in our opinion, this is one of the most vital topics for the year level. Often these are pre-requisites for later learning.

5. Text from the curriculum. Terms we define are highlighted.

6. Our explanations, inferences, clarifications and suggestions.

7. Practical tips and sometimes activity ideas.

8. Resources and materials recommendations.

9. Links to other descriptors.
   Bottom left: previous year
   Middle: within this year
   Bottom right: next year

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Acknowledgements

Authors: Dr Paul Swan & Narelle Rice

We would like to also thank Linda Marshall and David Dunstan for comments and assistance.

Visual Overview

For a visual overview / planner, see our accompanying overview documents.

We have illustrated the direct connections that exist between and within year levels.

With this information, you can check out the directly related cards in the previous / next year. This is helpful to:

- understand what the students should be bringing in from previous years, and what might need revision,
- the exact difference in understanding from previous years to this year,
- the content that you may be able to bundle together, and,
- what the curriculum describes for next year, so you can avoid accidentally teaching beyond the year level.

These documents serve as general advice only and do not take into account your specific needs and conditions. While best care has been taken in compiling these materials, mistakes may exist.

AC9M 1N01

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Number ▸ Place Value

A.C. VERSION 9 SAYS:

Recognise, **represent** and order numbers to at least 120 using physical and virtual materials, numerals, number lines and charts.

WHAT THIS MEANS

Developing an understanding of magnitude; which is bigger.

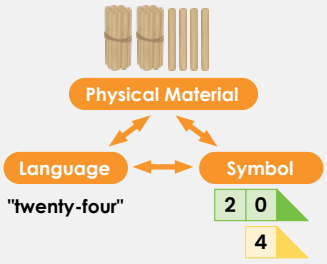
***Click the icon or QR to add resources to your cart.*

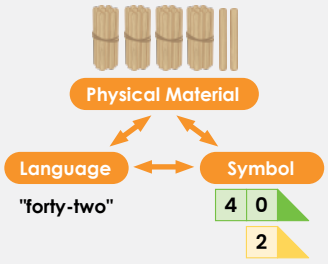
Recognise; students can read numbers (e.g. 72 as seventy two).

Represent; first use materials (sticks, blocks, etc.), grouping them in tens and ones. Students can answer questions like: "What numbers come before and after 29?" and "Which is bigger, 42 or 24?"

RESOURCES & MANIPULATIVES

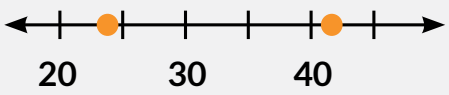
- Teaching Place Value - Year 1
- Pegs on a String
- Teaching Mathematics Through Story Books 1 (F-1)





TIP: RECOMMENDED APPROACH

Model with physical materials, language and symbol use and place onto a number line.



◂ Linked to Foundation: AC9MFN01 | Linked to AC9M1N02 | Linked to Year 2 ▸ AC9M2N01

AC9M 1N02

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Number ▸ Place Value

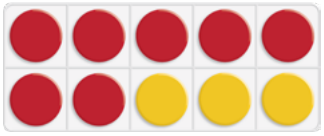
A.C. VERSION 9 SAYS:

Partition one- and two-digit numbers in different ways using physical and virtual materials, including partitioning two-digit numbers into tens and ones.

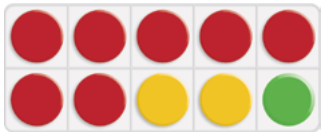
WHAT THIS MEANS

Partition (Split) numbers into parts. Known as number bonds for one-digit.

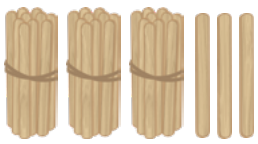
e.g. 10 is 7 and 3



Extend to more than two parts, e.g. 10 is 7 and 2 and 1



- **Partition two-digit;** Spilt two-digit numbers **according to place value.** e.g. 33 can be thought of as 30 and 3. It may also be thought of as 20 and 13.



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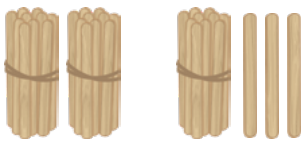

It may also be thought of as 20 and 13.

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RESOURCES & MANIPULATIVES

- Bond Blocks Core Addition and Subtraction Kit
- Teaching Place Value - Year 1
- Teaching with Ten Frames
- Tens Frames (Pack of 16)
- Interactive Ten Frames

Also try: Bundling Sticks, Pop Sticks and Elastic Bands, 10-faced dice (0-9)

Linked to AC9M1N01 and AC9M1N03 | Linked to Year 2 ▸ AC9M2N02

AC9M 1N03

Number ▸ Counting

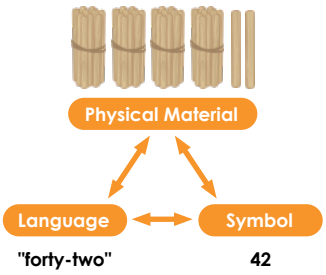
A.C. VERSION 9 SAYS:

Quantify sets of objects, to at least 120, by partitioning collections into equal groups using number knowledge and skip counting.

WHAT THIS MEANS

This is about grouping into **fives** and **tens** to make it easier to count large amounts.

- **Collections:** counting physical materials.



TIPS

- Help the student realise it is easier to group into fives or tens.
- **Activity:** Pour a large number of countable objects onto the floor and ask students to group to count. Repeat.

Counting play money dollar coins into stacks of ten is a great partitioning activity.

MANIPULATIVES

Transparent Counters

Tens Frames (Pack of 16)

Also try: Bundling Sticks, Pop Sticks and Elastic Bands

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◂ Linked to Foundation: AC9MFN03 | Linked to AC9M1N02

AC9M 1N04

Number ▸ Addition and Subtraction

A.C. VERSION 9 SAYS:

Add and subtract numbers within 20, using physical and virtual materials, part-part-whole knowledge to 10 and a variety of calculation strategies.

WHAT THIS MEANS

Learn to add and subtract numbers to 20. This would include 17 + 3 = 20.

- Link the addition and subtraction using part-part-whole thinking.

Whole	
Part	Part Unknown

9	
5	?

5 + ? = 9
9 − 5 = ?

Whole Unknown	
Part	Part

?	
5	4

5 + 4 = ?
? − 5 = 4

- Extend this to 15 + 4 = 19, 4 + 15 = 19, 19 - 15 = 4, 19 - 4 = 15
- **Calculation strategies:** e.g. Counting on from the larger number by 1, 2 or 3 & Partitioning to Bridge Ten (e.g **7 + 5 = 7 + 3 + 2** *that is, 10 + 2*)

RESOURCES & MANIPULATIVES

Bond Blocks Core Addition & Subtraction Kit

Tens Frames (Pack of 16)

Bead String 1-20

See also: Bead String Tug of War (Video on Dr Paul Swan YouTube)

***Click the icon or QR to add resources to your cart.*

◂ Linked to Foundation: AC9MFN04 | Linked to AC9M1N02 | Linked to Year 2 ▸ AC9M2N04 & AC9M2A02

AC9M 1N05

website

Number ▸ Addition and Subtraction

A.C. VERSION 9 SAYS:

Use mathematical modelling to solve practical problems involving additive situations, including simple money transactions; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem.

WHAT THIS MEANS

Mathematical modelling; Note: the term "***mathematical*** modelling" isn't the same as the regular "show the students how to do it" meaning of modelling.

In this year level Mathematical modelling requires using materials to help turn an addition or subtraction story into numbers or a number sentence to help *solve a story problem with a familiar, real-world basis.*

- Students might count objects or draw a diagram to help solve the problem.
- **Calculation strategies:** see definition on card AC9M**1N04**

TIPS

- Part-part-whole diagrams can help to model addition and subtraction problems.
- See ACARA's poster.

ACARA's Mathematical Modelling Process Poster

RESOURCES & MANIPULATIVES

Bond Blocks Core Addition & Subtraction Kit

My Classroom Shop Kit

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Linked to Year 2 ▸ AC9M2N06

AC9M 1N06

website

Number ▸ Division

A.C. VERSION 9 SAYS:

Use mathematical modelling to solve practical problems involving equal sharing and grouping; represent the situations with diagrams, physical and virtual materials, and use calculation strategies to solve the problem.

WHAT THIS MEANS

Solving Multiplication and Division problems. Use materials to help turn a grouping or sharing (division) story into numbers or a number sentence to help solve a problem (with no remainders).

- Sharing problems. Share 12 lollies equally among 3 people. One for you, one for you … until all lollies are **shared**. How many will each person have? (4).
- Grouping problems. 15 pencils. How many **groups** of 3 pencils can you make? Students move groups of three until there are none left. How many groups of 3? (4 groups of 3 pencils).

TIPS

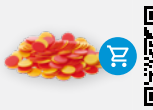
- The groups need to be clearly seen. Bowls will help.
- See ACARA's poster.

ACARA's Mathematical Modelling Process Poster

RESOURCES & MANIPULATIVES

Maths Cubes

Themed Counters (Dinosaurs, Bears, Bugs etc.)



Two Colour Counters

Also try: Counters in the Classroom Book, Cubes in the Classroom Book and Bowls for Sorting and Grouping.

***Click the icon or QR to add resources to your cart.*

◂ Linked to Foundation: AC9MFN06

Linked to Year 2 ▸ AC9M2N06

AC9M 1A01

Algebra ▸ Pattern

A.C. VERSION 9 SAYS:

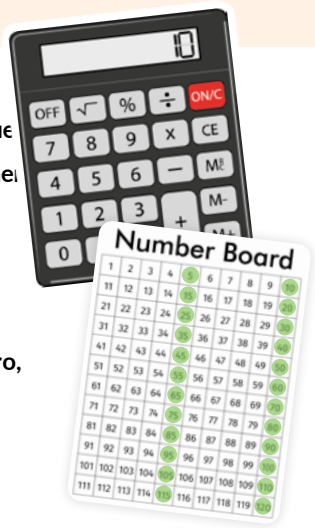
Recognise, continue and create pattern sequences, with numbers, symbols, shapes and objects, formed by skip counting, initially by twos, fives and tens.

WHAT THIS MEANS

Recognise **the repeating element** in pattern, then continue it. To create a pattern, students need to decide on the eleme that repeats.

- The focus in the elaborations is on number patterns.
- For example, when skip counting by 5, beginning at zero, the ones digit will alternate between 5 and 0.

"five, ten, fifteen..."



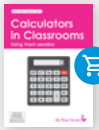
TIP

- On many calculators you can press (for example) 5+=== for it to count in fives with each press of the equals button.

RESOURCES & MANIPULATIVES

Pattern and Structure Mathematics Awareness Program (PASMAP) Book 1

Number Whiteboard (1-120)



Calculators in Classrooms

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◂ Linked to Foundation: AC9MFA01 | Linked to AC9M1A02 | Linked to Year 2 ▸ AC9M2A01

AC9M 1A02

Algebra ▸ Pattern

A.C. VERSION 9 SAYS:

Recognise, continue and create repeating patterns with numbers, symbols, shapes and objects, identifying the repeating unit.

WHAT THIS MEANS

Students **identify the repeating element** in a pattern created by someone else.

Students can record a pattern that they have made or someone else has made using symbols. For example, they might make a pattern by joining a two blue cubes then two red cubes. This might be recorded as BBRRBBRRBBRR. It is important that students can recreate the pattern from their recording.

Include physical & auditory patterns, for example:

TIPS, RESOURCES & MANIPULATIVES

- **Activity:** Students use patterns to make a necklace using coloured beads threaded onto a string.

Bond Blocks Core Addition & Subtraction Kit

Maths Cubes

Pattern and Structure Mathematics Awareness Program (PASMAP) Book 1

Also try: Threading Beads

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◂ Linked to Foundation: AC9MFA01 | Linked to AC9M1A01

AC9M 1M01

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Measurement ▸ Early Measurement

A.C. VERSION 9 SAYS:

Compare directly and indirectly and order objects and events using attributes of length, mass, capacity and duration, communicating reasoning.

TIP

- Don't use calibrated (unit labelled) materials at this year level.

WHAT THIS MEANS

Direct measurement means physically comparing two things.

Indirect measurement involves using a go-between to measure.

For example, a piece of string may be used to compare the lengths of two objects.

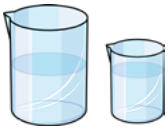
- This is a new concept in Year 1. Foundation only referred to direct measurement.
- 3+ objects is also new in Year 1.

Communicating reasoning; the student can explain why they have made that choice. For example, during a length activity a student may say; "This one sticks out more so it's **longer**."

Order; Comparative language begins with two objects. One can be **long** and the other **longer**. Later, when ordering three or more objects **longest** may be used.

Mass Comparisons
e.g. "heavy, heavier, heaviest" and "light, lighter, lightest".

Length Comparisons
e.g. "long, longer, longest" and "short, shorter, shortest".



Capacity Comparisons
e.g. "full, fuller, fullest" and "empty, emptier, emptiest".

Duration Comparisons
e.g. "long, longer, longest" and "short, shorter, shortest".

◂ Linked to Foundation: AC9MFM01

Linked to Year 2 ▸ AC9M2M01

AC9M 1M02

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Measurement ▸ Units

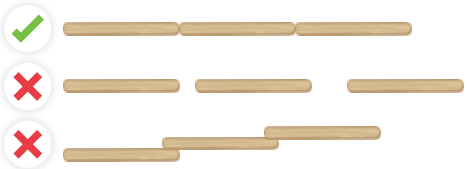
A.C. VERSION 9 SAYS:

Measure the length of shapes and objects using informal units, recognising that units need to be uniform and used end-to-end.

WHAT THIS MEANS

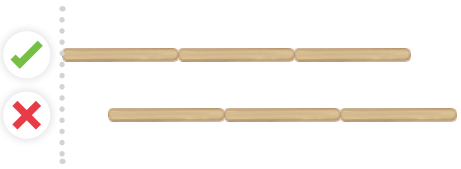
Measure Length.

Informal units are things like popsticks (not metric units). Informal units need to be uniform, that is, the same size (length). When measuring, the unit must:



- Join end to end, with no gaps or overlaps.

- Run in a straight line, not in a zig zag or at an angle.



- Start at the same point.

TIPS

- Students will learn that the smaller the unit the more of that unit that will be need to measure a length.
- **Activity: Pop sticks and Paperclips.** Ask students to measure lengths using pop sticks and paperclips and discuss the results.

Linked to Year 2 ▸ AC9M2M01

AC9M 1M03

Measurement ▸ Time

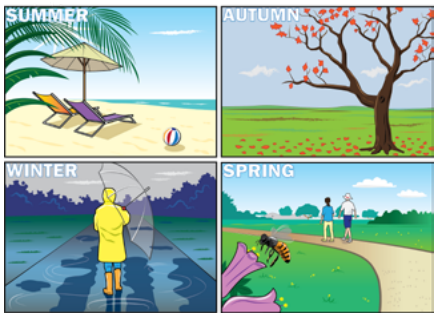
A.C. VERSION 9 SAYS:

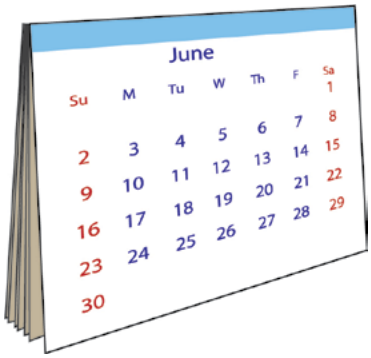
Describe the duration and **sequence** of events using years, months, weeks, days and hours.

WHAT THIS MEANS

This is the first mention of duration of time. Students are not expected to time events exactly but refer to events using the language of time.
e.g. "It takes a long/short time".

- No clocks. Clocks (analog) are first mentioned in Year 2.
- **Sequence** refers to the order in which events occur in a cycle. Explicit reference to the calendar can help focus them on cyclical events such as days of the week and the months of the year.





RESOURCE

Teaching Mathematics Through Story Books 1 (F-1)

***Click the icon or QR to add the book to your cart.*

Also try: Month and Year Calendars

◂ Linked to Foundation: AC9MFM02

Linked to Year 2 ▸ AC9M2M03

AC9M 1SP01

Space ▸ Shapes and Objects

A.C. VERSION 9 SAYS:

Make, compare and classify familiar shapes; recognise familiar shapes and objects in the **environment**, identifying the similarities and differences between them.

WHAT THIS MEANS

Play with and name various shapes.

- Familiar shapes and objects will depend on contexts, but most students will be familiar with circles, triangles and some quadrilaterals like rectangles and squares.
- Students should see shapes in different types, sizes and orientations, e.g. triangles:

Appropriate language:

- 2D: sides, corners
- 3D: faces, edges, corners (vertices)

TIPS, RESOURCES & MANIPULATIVES

- Pattern Blocks include a trapezium, rhombus and hexagon. Discuss these shapes with students.

Pattern Blocks Book

Attribute Blocks Book

Mystery Bag Book

Mini Geometric Solids

***Click the icon or QR to add resources to your cart.*

◂ Linked to Foundation: AC9MFSP01

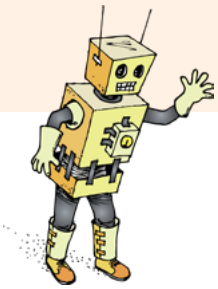
Linked to Year 2 ▸ AC9M2SP01

AC9M 1SP02

Space ▸ Direction

A.C. VERSION 9 SAYS:

Give and follow directions to move people and objects to different locations within a space.



WHAT THIS MEANS

Students are asked to provide/follow instructions.

- Words like "forward" and "backward" a number of steps and "turn" would be appropriate.

TIPS

- Students will likely experience difficulty with left and right.
- Many students will have issues with the working memory required for two-step instructions like *"turn left and move forward three steps."* It may be better to split up the instructions.
- **Activity: Simon Says.** Play the game with direction prepositions.
- **Activity: Robot.** where one person describes what the 'robot' has to do to get to another spot e.g. *"take 3 steps forward, turn right...,"* while another student follows the directions.

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RESOURCES & MANIPULATIVES

Barrier Games Book

Teaching Mathematics Through Story Books 1 (F-1)

Pocket Dice Book A

◂ Linked to Foundation: AC9MFSP02
Linked to Year 2 ▸ AC9M2SP02

AC9M 1ST01

Statistics ▸ (1) Gather, (2) Display

A.C. VERSION 9 SAYS:

Acquire and record data for categorical variables in various ways including using digital tools, objects, images, drawings, lists, tally marks and symbols.

WHAT THIS MEANS

Categorical data refers to sorting data into categories or types such as colour, types of pet, etc. The data then needs to be recorded in some way e.g. tallies.

Type of Fruit	Tally
Apples	III
Bananas	I
Oranges	II

Tally

Data - Gather (1ST01)

TIPS

- Do 1ST01 and 1ST02 together.
- We recommend that you provide students with post-it notes to keep spacing in the graphs consistent.

LINKING ST01 AND ST02

Elements of statistics:

(1) GATHER
Ask a question

→

(2) DISPLAY
Table, Graph

→

(3) INTERPRET & COMMUNICATE

◂ Linked to Foundation: AC9MFST01
Linked to AC9M1ST02
Linked to Year 2 ▸ AC9M2ST01

AC9M 1ST02

website

Statistics ▸ (2) Display, (3) Communicate

A.C. VERSION 9 SAYS:

Represent collected data for a categorical variable using one-to-one displays and digital tools where appropriate; compare the data using frequencies and discuss the findings.

WHAT THIS MEANS

Creating a simple pictograph (one-to-one) or tally chart.

Tallies may be counted to determine the frequency.

TIP

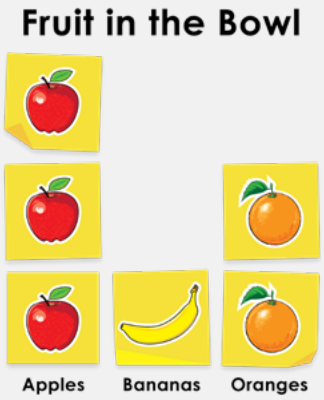
- **Note:** Frequencies are mentioned in this descriptor (1ST02) but not in 1ST01. "Total" is also appropriate.

Fruit	Tally
Apples	𝍸
Bananas	𝍸
Oranges	𝍸

Tally

Fruit	Tally	Frequency
Apples	𝍸	3
Bananas	𝍸	1
Oranges	𝍸	2

Tally & Frequency



Data - Gather (1ST01)

Graph - Display and Communicate (1ST02)

Linked to AC9M1ST01

Linked to Year 2 ▸ AC9M2ST02