

1 Math Unit 10: Use Models and Strategies to Add Tens and Ones

Content Area: **Mathematics**
 Course(s):
 Time Period: **April**
 Length: **2 Weeks**
 Status: **Published**

Unit Overview

A rigorous curriculum emphasizes conceptual understanding, procedural skill and fluency, and applications.

CONCEPTUAL UNDERSTANDING

- **Strategies Based on Place-Value Concepts** In Topic 10, addition strategies that use place-value blocks allow students to physically count a sum. Strategies that use a hundred chart generalize the representation of the blocks to numbers arranged in a pattern. Strategies that use an open number line provide another way of representing what the digits in a number mean. These strategies all build towards understanding that in adding two-digit numbers, one adds tens and tens, one and ones; and sometimes it is necessary to compose a ten.

$$24 + 30 = ?$$

Start at 24.

Move down 3 rows to add 30.

You stop at 54.

So, $24 + 30 = 54$.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

PROCEDURAL SKILL AND FLUENCY

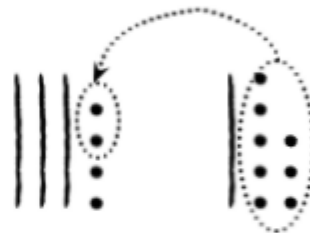
There are no fluency expectations in Topic 10.

- **Use Addition Strategies** Throughout Topic 10, students use concrete models, drawings, and strategies to find sums within 100. This includes adding a two-digit number and a one-digit number, and adding a two-digit number and a multiple of 10.

Find $34 + 18$.

Draw blocks to model the problem situation.

Can you make a 10?



There are 5 tens.

There are 2 ones.

$$34 + 18 = 52$$

APPLICATIONS

- **Real-World Applications** Throughout Topic 10, students solve real-world problems that involve addition situations. The situations include “add to” and “put together.”

Seth collects model sailboats.

He has 34 large sailboats.

He has 18 small sailboats.

How many model sailboats does Seth have in all?

Model the problem situation using blocks or a number line.

Then write an equation to show the problem.

Standards

MA.1.NBT.B.2

Understand that the two digits of a two-digit number represent amounts of tens and ones. Understand the following as special cases:

MA.1.NBT.B.2a

10 can be thought of as a bundle of ten ones — called a “ten.”

MA.1.NBT.B.2c

The numbers 10, 20, 30, 40, 50, 60, 70, 80, 90 refer to one, two, three, four, five, six, seven, eight, or nine tens (and 0 ones).

MA.1.NBT.C.4

Add within 100, including adding a two-digit number and a one-digit number, and adding a

two-digit number and a multiple of 10, using concrete models (e.g., base ten blocks) or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used. Understand that in adding two-digit numbers, one adds tens and tens, ones and ones; and sometimes it is necessary to compose a ten.

MA.1.NBT.C.5

Given a two-digit number, mentally find 10 more or 10 less than the number, without having to count; explain the reasoning used.

Materials

Core Materials:

- [EnVision Math](#)
- 10.1-Add Tens Using Models
- 10.2-Mental Math: Ten More Than a Number
- 10.3-Add Tens and Ones Using a Hundred Chart
- 10.4-Add Tens and Ones using an Open Number Line
- 10.5-Add Tens and Ones Using Models
- 10.6-Make a Ten to Add
- 10.7-Add using Place Value
- 10.8-Practice Adding Using Strategies
- 10.9-Model with Math

Supplemental Materials:

- [ST Math](#)
- [Happy Numbers](#)
- [3 Act Lessons](#)
- [Building Fact Fluency Kit](#)
- [Brainiaccamp Manipulatives](#)
- [Nearpod Lessons](#)
- [Brainpop Resources](#)
- [Math Diagnosis and Intervention System](#)
- [Online Resources](#)

Technology

Algorithms & Programming

8.1.2.AP.1: Model daily processes by creating and following algorithms to complete tasks.

8.1.2.AP.4: Break down a task into a sequence of steps.

Data & Analysis

8.1.2.DA.1: Collect and present data, including climate change data, in various visual formats.

- 8.1.2.DA.3: Identify and describe patterns in data visualizations.

- 8.1.2.DA.4: Make predictions based on data using charts or graphs.

Assessment

Formative Assessment

- Teacher Observation
- Daily Quick Checks
- Quizzes
- Exit Tickets

Summative Assessment

- Topic Tests
- Benchmark Tests
- Alternative Assessments: Performance Tasks & Projects

Accommodations & Modifications

Special Education

- Follow IEP Plan which may contain some of the following examples...
- In class/pull out support with special ed teacher
- Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Limit number of questions
- Scribe
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

- In class/pull out support with special ed teacher Additional time during intervention time
- Preferred seating
- Questions read aloud
- Extended time for completing tasks Graphic organizers
- Vocabulary support Mnemonic devices
- Songs/videos to reinforce concepts Limit number of questions
- Scribe Manipulatives Calculators Reteach pages Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System Another look homework video
- Practice buddy

ELL

- Translation device/dictionary
- In class/pull out support with ESL teacher
- Preferred seating
- Questions read aloud
- Extended time for completing tasks
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Math Diagnosis & Intervention System

At-risk of Failure

- Additional time during intervention time
- Questions read aloud
- Graphic organizers
- Vocabulary support
- Mnemonic devices
- Songs/videos to reinforce concepts
- Manipulatives
- Calculators
- Reteach pages
- Leveled homework
- Lesson intervention activities
- Math Diagnosis & Intervention System
- Another look homework video
- Practice buddy

Gifted & Talented

- Independent projects
- Enrichment pages
- Online games
- Leveled Homework
- Extension Activities

- Today's Challenge

Interdisciplinary Connections

Topic 1 Math and Science Project - Using different presentations tools, students will collect different types of paper. Talk about the uses of paper. Tell how strong each type of paper is. Tell how the paper feels. Tell if the paper can soak up water.

ELA:

RI.2.10. Read and comprehend informational texts, including history/social studies, science, and technical texts, at grade level text complexity proficiently with scaffolding as needed.

Science:

K-2-ETS1-2. Develop a simple sketch, drawing, or physical model to illustrate how the shape of an object helps it function as needed to solve a given problem.

21st Century Life Literacies & Key Skills

Critical Thinking and Problem Solving

- 9.4.2.CT.2: Identify possible approaches and resources to execute a plan (e.g., 1.2.2.CR1b, 8.2.2.ED.3).
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

Technology Literacy

- 9.4.2.TL.3: Enter information into a spreadsheet and sort the information.
- 9.4.2.TL.4: Navigate a virtual space to build context and describe the visual content.
- 9.4.2.TL.7: Describe the benefits of collaborating with others to complete digital tasks or develop digital artifacts

Career Ready Practices

- CRP1. Act as a responsible and contributing citizen and employee.
- CRP2. Apply appropriate academic and technical skills.
- CRP4. Communicate clearly and effectively and with reason.
- CRP8. Utilize critical thinking to make sense of problems and persevere in solving them.

- CRP12. Work productively in teams while using cultural global competence.