SAVVAS

Grade 1

Let's Investigate Take and Teach

enVision+ MATHEMATICS

Real-World Math. Real-World Ready.

Let's Investigate

Lesson

9-8 Subtracting Tens

FOCUS

Mathematics Objective Investigate ways to subtract tens.

Language Objective Orally explain how to solve subtraction word problems.

Essential Understanding There are many ways to subtract tens.

COHERENCE

Look Back In previous lessons, students added tens using a hundred chart, an open number line, and models.

This Lesson Students investigate ways to subtract tens using the same strategies they employed when adding tens.

Look Ahead The next three lessons explicitly develop the strategy of using a hundred chart, an open number line, and models.

Cross-Cluster Connection Subtracting tens connects to adding tens in previous lessons.

RIGOR

Conceptual Understanding Students build on their understanding of subtracting numbers to 20 to subtracting multiples of ten.

Vocabulary

none

Materials

- Hundred chart (or Teaching Tool 33)
- Open number lines (or Teaching Tool 62)

Student Resources

Family Engagement

Intervention System (IS)
B44 Arrays and Multiplication

Teacher Resources

enVision on the Go

Exit Ticket Support for using the Exit Ticket is available online.

Step 1 Investigate

10–25 min

Investigate Scout Observational Assessment

Name _____

Subtracting Tens

Let's Investigate

Lesson 9-8

I can ... investigate ways to subtract tens.

Big Ideas of Focus Equal Expressions, Reasoning about Equality, Tens and Ones

Standards 1.NBT.4, 1.NBT.6, SMP.2, SMP.4, SMP.7

Story Match

Kai and Roshan wrote some number stories about a Lunar New Year festival.

A
When solved, which of Roshan's stories uses the same 3 numbers as my story about rice balls?

B
When solved, which of Kai's stories uses the same 3 numbers as my story about lanterns?

Kai's Stories

At a Lunar New Year dinner, we had 50 spring rolls. We ate 30 spring rolls. How many spring rolls do we have now?

I made 90 rice balls for the Lunar New Year party. I gave 30 rice balls to my neighbor. How many rice balls do I have left?

Roshan's Stories

I put up 30 Lunar New Year decorations. Then I put up 60 decorations. How many did I put up in all?

I made 20 lanterns for the Lunar New Year festival. Alex made 30 lanterns. How many lanterns did we make in all?

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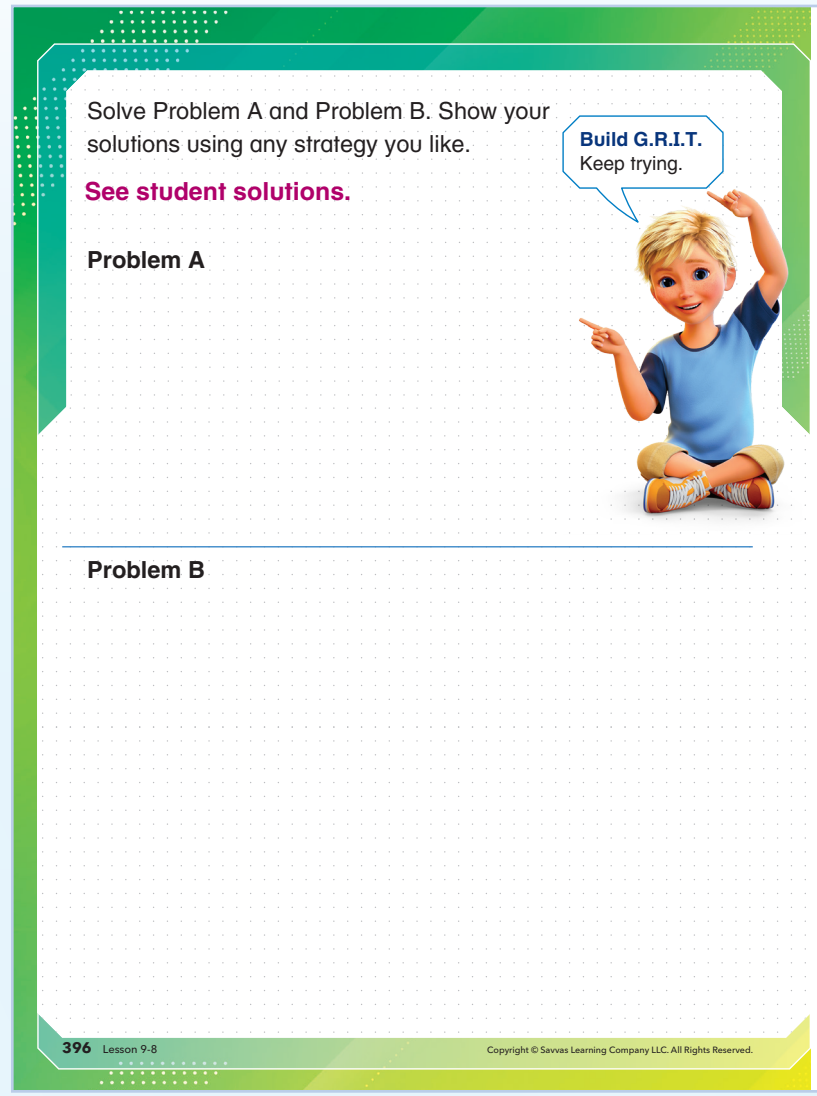

Solve Problem A and Problem B. Show your solutions using any strategy you like.

Build G.R.I.T.
Keep trying.

See student solutions.

Problem A

Problem B

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MTP Anticipate

Anticipate students' solution strategies. Think of various ways students might use their prior knowledge to solve the problems. See the next page for sample student work.

Introduce the Investigation

Use the Slow Reveal Slides You might use the slides to reveal part of the information. Then ask: What do you notice? What do you wonder?

Elevate Student Voice: Engage Students in the Context Have students bring their own unique experiences and ideas to the situation by using prompts like these:

- How do you celebrate the new year?
- What foods do you eat to celebrate the new year?
- Have you eaten rice balls or spring rolls? Describe these foods.

Check for Understanding

MLR6 Three Reads

Read the task to the class.

- What is the task about?

Read the task to the class a second time.

- What information is given in the task?
- What do the numbers describe?

Read the task to the class a third time.

- What is the task asking you to find?
- What questions did Marta ask?
- What questions did Emily ask?

Step 1 Investigate *continued*

Sample Student Work

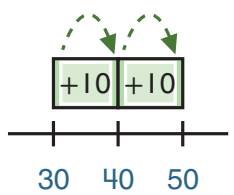
Marta's Problem A

At a Lunar New Year dinner, we had 50 spring rolls. We ate 30 spring rolls. How many spring rolls do we have now?

I made 90 rice balls for the Lunar New Year party. I gave 30 rice balls to my neighbor. How many rice balls do I have left?

- **Rico used an open number line.** He started at 30 and counted up by tens until he reached 50. Then he counted his tens to find the answer.

Rico's Work



30 + ? = 50

20 spring rolls

You might ask Rico: How would your open number line look different if you used subtraction to solve the problem? [Listen for "My jumps would be labeled −10 instead of +10."]

- **Journey used a hundred chart to answer the problem about spring rolls.** She started at 30 and colored the numbers from 31 to 50. Then she counted the colored numbers to find the answer.

Journey's Work

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

30 + ? = 90
30 + 60 = 90
60 spring rolls

You might ask Journey: Is there a more efficient way to find the answer? [Listen for "I can count by tens"]

Emily's Problem B

I put up 30 Lunar New Year decorations. Then I put up 60 decorations. How many did I put up in all?

I made 20 lanterns for the Lunar New Year festival. Alex made 30 lanterns. How many lanterns did we make in all?

- **Max used a hundred chart.** He started at 30 and colored the numbers from 31 to 60. **Misconception**: Max subtracted instead of adding to find the answer.

Max's Work

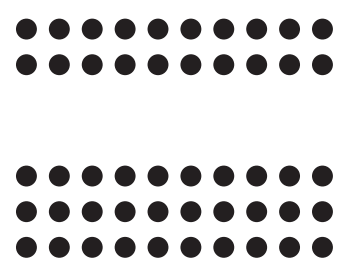
91	92	93	94	95	96	97	98	99	100
81	82	83	84	85	86	87	88	89	90
71	72	73	74	75	76	77	78	79	80
61	62	63	64	65	66	67	68	69	70
51	52	53	54	55	56	57	58	59	60
41	42	43	44	45	46	47	48	49	50
31	32	33	34	35	36	37	38	39	40
21	22	23	24	25	26	27	28	29	30
11	12	13	14	15	16	17	18	19	20
1	2	3	4	5	6	7	8	9	10

60 - 30 = 30

You might ask Max: What is the problem asking you to solve? What does *in all* mean?

- **Pia drew 20 circles for Emily and 30 circles for Alex.** The circles represent the lanterns.

Pia's Work



20 + 30 = 50

You might ask Pia: How could you draw the lanterns in a more efficient way? Think about tens. [Listen for "I could put a 10 inside a circle and then count by tens to find the answer."]

MTP Monitor

Monitor Students at Work Ask questions to assess and advance students' thinking.

Assessing Questions

Questions for Students to Understand Their Thinking

- Can you tell/show me what you did?
- What does your equation represent?

Questions for You as You Observe

- How do students represent the problem?
- What strategies do students use to solve the problem?
- What prior knowledge are they using to solve the problem?

Advancing Questions

Questions to Ask Students Who Need Help

- If students cannot get started, ask: What is the problem about? What numbers can you use to write your equation?
- If students' work is incorrect, ask: How did you get that answer? Listen for understandings and build on what they know.

Questions to Help Students Think More Deeply

- Is there another way to solve the problem?
- How does understanding fact families help you identify which word problems are related?

Early Finishers

Ask students to write their own word problem using multiples of ten and then solve it.

MTP Select and Sequence

Select and Sequence Students' Solutions for them to present with the goal of building understanding of key concepts.

Start with solutions that show a common error of subtracting on a hundred chart instead of adding. (Max)

Then show solutions that use a hundred chart correctly. (Journey)

Finally, show solutions that use a number line or a picture. (Rico, Pia)

MTP Connect

Name _____

Connect

1. **Use Structure** Kai changes his story about spring rolls. Solve Kai's new story.

Kai's Story
At a Lunar New Year dinner, we had 70 spring rolls. We ate 20 spring rolls. How many spring rolls do we have now?

50 spring rolls. Students' strategies will vary.

2. **Reason** How could you change Roshan's story about lanterns to match the 3 numbers in Kai's new story? Explain how you know.

Roshan's Story
I made 20 lanterns for the Lunar New Year festival. Alex made 30 lanterns. How many lanterns did we make in all?

Change Roshan's story so that Alex made 50 lanterns and they make 70 lanterns in all; 20 + 50 = 70. Kai now has 50 spring rolls left because 70 – 20 = 50. So, both stories use 20, 50, and 70.

3. **Model** Draw a picture to show 30 – 10. Write the difference.
20; Check students' drawings.

Talk About Ideas How is subtracting tens different from adding tens? How is it similar?

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Connect Solution Strategies Discuss students' work. Ask how the solutions are similar and different. Help students see that different strategies can be used to solve each problem; however, the answers will be the same.

Connect to Key Concepts Use the Connect questions to build understanding of the key concept at the top of the next page.

MTP Talk About Ideas

Have students engage in a think-pair-share to discuss adding and subtracting tens. Listen for students who can explain how subtracting tens is different from adding tens and can explain how adding and subtracting tens is similar.

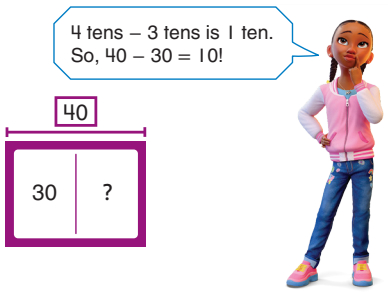
Step 3 Practice and Problem Solving

10–15 min

Interactive Practice Adaptive Practice

40 – 30 = ?

You know 40 is 4 tens.
You know 30 is 3 tens.
The difference is 1 ten.



Practice and Problem Solving

Lesson Help

Solve each problem any way you choose.

4. 4 tens – 1 ten = 3 tens

40 – 10 = 30

5. 6 tens – 2 tens = 4 tens

60 – 40 = 40

6. **Model** Stacy wants to make 90 keychains.
She has made 60 keychains.
How many more keychains does Stacy need to make?
Show your solutions using any strategy you like.
30 key chains; Students' strategies will vary.

398 Lesson 9-8

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MLL Multilingual Learners Listening

Use this activity for Item 6 modeling.

Emerging Use the three reads strategy with students. Read the problem aloud to students three times. After the first read, ask: What is the problem about? [Stacy making key chains] After the second read, ask: What are the numbers in the problem? [90 key chains, 60 made] After the third read, ask: What is the question you need to answer? [How many does she need to still make?]

Expanding Use the three read strategy with students. Have students work with a partner to answer each question. Read the problem aloud to students three times. After the first read, ask: What is the problem about? [Stacy making key chains] After the second read, ask: What are the numbers in the problem? [90 key chains, 60 made] After the third read, ask: What is the question you need to answer? [How many does she need to still make?]

Bridging Use the three reads strategy with students. Have students use their answers to the questions to summarize the information.

Reflection

Reflect on key concepts in the lesson with students. Have them look at Items 1 and 2. What numbers are used in each item? [20, 50, 70] What does this tell you? [The equations are related facts, or fact families.] Explain how 40 and 4 tens are the same. [40 has 4 tens and 4 tens equals 40.]

Error Intervention Item 4
If students write 30 tens instead of 3 tens,
then remind them to look at the format of the problem. Point out that single digits are used in the item. Use base-ten rods to help students visualize the subtraction problem.

Item 6 **Model with Math** You may wish to challenge students to come up with two different strategies to solve the problem, such as an open number line and a hundred chart.

MTP Quick Check

Formative Assessment

Check marks indicate items for prescribing differentiation. Items 4 and 5: up to 2 points. Item 6: 1 point. The online Quick Check is auto scored and auto prescribes differentiation.

Step 4 Assess and Differentiate

10–15 min

Additional Practice

Name _____

Subtracting Tens

Additional Practice

9-8

HOME ACTIVITY Ask your child to show you how to subtract 10 from 70. Then ask your child to show you how to subtract two other multiples of 10 from 70, such as 20 and 40. Ask your child to tell you how 70 changes each time.

Another Look!

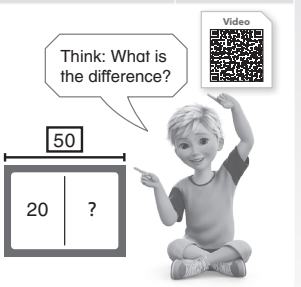
Video

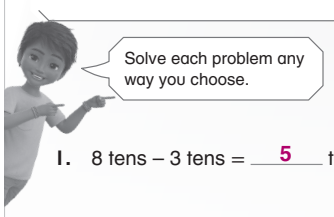
You can use what you know about tens to subtract.

50 – 20 = ?

5 tens – 2 tens = 3 tens

50 – 20 = 30





1. 8 tens – 3 tens = 5 tens 80 – 30 = 50
2. 7 tens – 4 tens = 3 tens 70 – 40 = 30
3. 9 tens – 5 tens = 4 tens 90 – 50 = 40

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Solve the problems any way you choose.
Show your work.

4. Mr Andrews has 50 papers to grade. He has graded 10 papers.

   How many more papers does he need to grade?

   40 papers; Students' strategies will vary.

5. **Model**

   Draw a picture to show 90 – 40. Write the difference.

   50; Students' strategies will vary.

6. **Higher Order Thinking**

   Circle the addition equation that can help you solve 70 – 30.

   Explain how you know.

   70 + 30 (30 + 40)

   I started at 30 and added on tens until I got to 70; 30 + 40 = 70 and 70 – 30 = 40.

7. **Assessment Practice**

   80 people are in the pool. 20 people leave.

   How many people are left in the pool?

   Ⓐ 100
   Ⓑ 60
   Ⓒ 20
   Ⓓ 10

   Student strategies will vary.

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Differentiation Library

The **Differentiation Library** at the beginning of this topic shows the differentiation options available, each of which can be appropriate for all students. However, based on the **Quick Check** results, you may prescribe:

0–3 points: Intervention Activity or Reteach to Build Understanding Activity

4–5 points: Enrichment Activity

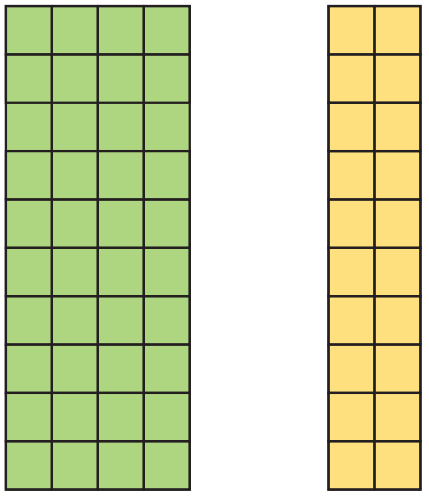
In addition, **Multilingual Learners** may benefit from the Build Mathematical Literacy Activity.

Intervention Activity

Materials Base-ten blocks (or Teaching Tool 70)

- Have students solve the following problem using base-ten blocks: I made 40 red decorations for the Lunar New Year on Monday. On Tuesday I made 20 more red decorations. How many red decorations did I make in all?
- Guide students to write an equation and then solve it using base-ten blocks. [40 + 20 = 60]
- Have students visually represent the equation using the base-ten blocks.

40 + 20 = 60
4 tens + 2 tens = 6 tens



- Have students work in pairs and repeat the process for the following word problem: I made 70 decorations. I put 30 of the decorations in the classroom. The rest I put in the gym. How many decorations were put in the gym?

Video Tutorial

Another Look Video

Intentional Blank Page

Name _____

Adding Tens and Ones

Let's Investigate

Lesson 9-1

I can ... investigate ways to add tens and ones.

World Food Festival

Alex and Jada are at a world food festival. The table shows some items from Guatemala and how many tickets you need for each.

Problem A
Choose two items. How many tickets would you need to buy them both?

Problem B
Choose another two items. How many tickets would you need to buy them both?

Item	Cost (Tickets)
Horchata	7
Rellenitos	22
Hilachas	30

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Solve Problem A and Problem B. Show your solutions using any strategy you like.

Item	Cost (Tickets)
Horchata	7
Rellenitos	22
Hilachas	30

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Name _____

Connect

A	B
26 + 2	26 + 20

1. **Generalize** Will Problem A or Problem B have the greater sum? Work with a partner. Explain how you know without adding.

2. Solve Problem A and Problem B. Show your work.

3. **Explain** Were you correct about which problem has the greater sum? Explain how you know.

Talk About Ideas What do you notice when you add ones? What do you notice when you add tens?

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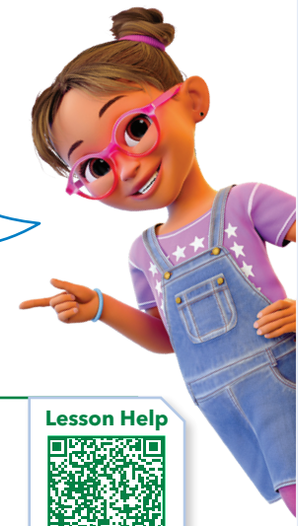
This table shows some items from Thailand and how many tickets you need for each.

Item	Cost (Tickets)
Nom Yen	5
Larb	30
Pad Thai	24

I bought Pad Thai and Nom Yen. 24 + 5 = 29, so I need 29 tickets.

5 more than 24 is 29!



Practice and Problem Solving

Lesson Help

Model Solve the problems.
Show your solutions using any strategy you like.

4. How many tickets would you need to buy Larb and Pad Thai?

5. How many tickets would you need to buy Nom Yen and Larb?

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