

Math: Grade 1, Lesson 20, 10 Less, 10 More

Lesson Focus: Identify numbers that are 10 less than and 10 more than a given number.

Practice Focus: Students will use models, drawings, and mental math to find numbers that are 10 less than and 10 more than a given number.

Objective: Students will explore how to identify numbers that are 10 less then and 10 more than a given number.

Key Vocabulary: 10 more than, 10 less than, group(s) of 10

TN Standards: 1.NBT.C.5

Teacher Materials:

- Printed Task Cards (See Appendix)
- Base 10 Blocks
- Paper and/or Chart Paper
- Document Camera or Interactive Board
- Markers
- Student Practice Packet

Student Materials:

- Paper
- Pencil

Teacher Do	Student Do
<p><u>Opening</u> (1 min)</p> <p>Hello! Welcome to Tennessee’s At Home Learning Series for math! Today’s lesson is for all our 1st graders out there, though all children are welcome to tune in. This lesson is the twentieth in our series.</p> <p>My name is ____ and I’m a ____ grade teacher in Tennessee schools! I’m so excited to be your teacher for this lesson! Welcome to my virtual classroom!</p> <p>If you didn’t see our previous lesson, you can find it on the TN Department of Education’s website at www.tn.gov/education. You can still tune in to today’s lesson if you haven’t seen any of our others. But, it might be more fun if you first go back and watch our other lessons since we’ll be talking about things we learned previously.</p> <p>Today we will be learning about how to identify numbers that are 10 less or 10 more than a given number in mathematics. Before we get started, to participate fully in our lesson today, you will need:</p> <ul style="list-style-type: none">● Paper● Pencil	<p>Students get materials ready for the lesson.</p>

<ul style="list-style-type: none">• The student packet for Math, Grade 1, Lesson 20 which can be found at www.tn.gov/education													
<p>Ok, let's begin!</p>													
<p><u>Intro</u> (3 min.)</p> <p>[Teacher will post problem as written and read aloud.</p> <p>A box of markers has 10 markers. Tony has 2 boxes of markers and two more markers. Pat has 10 fewer markers than Tony. Jan has 10 more markers than Tony. How many markers does each child have?]</p> <p>What do we know about our problem?</p> <p>[Pause]</p> <p>Yes. We know that Tony, Pat, and Jan all have markers. What do we need to find?</p> <p>[Pause]</p> <p>We need to find out how many markers each child has. How can we solve the problem?</p> <p>[Pause]</p> <p>I know... I will draw a chart to show how many markers Tony, Pat, and Jan have.</p> <p>[Teacher models making a chart and labeling with each child's name.]</p> <table><tr><th>Child's Name</th><th>Quick Draw</th><th>Answer</th></tr><tr><td>Pat</td><td></td><td>___ markers</td></tr><tr><td>Tony</td><td></td><td>___ markers</td></tr><tr><td>Jan</td><td></td><td>___ markers</td></tr></table> <p>The problem states that Tony has two boxes of markers and that each box has 10 markers in them. He also has 2 extra markers that are not in a box. That means he has two groups of ten markers and two extra markers. I can draw a model to represent how many markers Tony has.</p> <p>I will use a quick draw to represent base 10 blocks. One line will represent one group of 10. One circle will represent one.</p>	Child's Name	Quick Draw	Answer	Pat		___ markers	Tony		___ markers	Jan		___ markers	<p>Student observes.</p>
Child's Name	Quick Draw	Answer											
Pat		___ markers											
Tony		___ markers											
Jan		___ markers											

Beside Tony's name, I will draw two lines to represent each box of markers Tony has. Two lines will represent two groups of 10.

[Teacher models drawing two lines to represent two groups of ten markers on the chart beside Tony's name.]

I also know Tony has two extra markers that are not in the boxes. I can draw two circles to represent the two extra markers Tony has that are not in the boxes of ten.

[Teacher models drawing two circles to represent the two extra markers that are not in the boxes of ten markers beside Tony's name.]

I can count to find out how many markers Tony has.

[Teacher points to chart and counts 10-20...21-22.]

Now, that I know Tony has 22 markers, I can find out how many markers Pat has.

[Teacher points to problem.]

The problem states Pat has 10 fewer markers than Tony.

How can I use a model to find out how many markers Pat has?

[Pause]

Yes! Pat has 10 fewer markers than Tony, so I can start by looking at Tony's markers.

[Teacher points to Tony's marker model in the chart.]

He has 2 groups of tens and 2 ones, or 22 markers.

I can take away 1 group of ten to show Pat has 10 fewer markers.

That leaves 1 group of ten and 2 ones, or 12 markers for Pat.

Let's fill in the chart to represent how many markers Pat has.

[Teacher models drawing one line to represent a group of ten and 2 circles to represent two ones on the chart beside Pat's name. Then points to the chart as he/she states how many markers Tony and Pat each have.]

We know that Tony has 22 markers and Pat has 12 markers.

What is next?

[Pause]

Yes. Now we can find out how many markers Jan has.

Let's re-read our problem.

[Teacher re-reads the problem to find out that Jan has 10 more markers than Tony.]

That means Jan has one more group of ten than Tony.

[Teacher points to Tony's groups of ten on the chart.]

Tony has two groups of ten. One more group of ten would be 3 groups of ten. That means Jan has 3 boxes of markers.

I'll draw three lines representing 3 groups of ten on the

<p>chart by Jan's name to represent the 3 boxes of markers Jan has. [Teacher draws three lines to represent the 3 groups of ten (boxes of markers) on the chart beside Jan's name.] Now I will draw the 2 extra markers to represent the markers that are not in the box. [Teacher draws 2 circles to represent the two extra markers not in the box beside Jan's name.] Let's count to see how many markers Jan has. [Teacher points to Jan's name on the chart and counts 10-20-30...31-32.] That's right. Jan has 32 markers. Let's look at our chart. [Teacher points to the chart and fills in the answer column.] Our quick drawings show that Tony has 22 markers, Pat has 12 markers, and Jan has 32 markers.</p> <p>When you find 10 less or 10 more than a number, what happens to the number of ones? [Teacher points to the 2 circles beside Tony, Pat and Jan's names.] Did you say the number of ones stay the same? You are right! The number of ones stayed the same...Tony, Pat, and Jan each have 2 extra markers that are not in the boxes. When you find 10 less or 10 more than a number, what happens to the groups of ten? [Teacher points to groups of ten (tens) beside Tony, Pat, and Jan's names.] The tens digit only changes by 1. That means you can find 10 less or 10 more by subtracting or adding 1 to the group of tens.</p> <p>Wow! That was fun. Thank you for helping me find numbers that are 10 less or 10 more than a given number.</p>	
<p><u>Teacher Model</u> (10 mins.)</p> <p>Objective 1: Teacher will use base 10 blocks to model 10 less and 10 more than a number.</p> <p>For our first problem, I will be using base 10 blocks to model 10 more than and 10 less than a number. [Teacher posts problem directions. This will be a chart with 3 columns. The given number will be in the center column. The middle column will allow space to model the number given.]</p>	<p>Objective #1: Students will be observing how to use base ten blocks to model 10 less than and 10 more than a number.</p>

The column to the left and right will provide space to model 10 less and 10 more. The final answer will be recorded at the bottom of each column.]

Directions: Model and write the numbers that are 10 less and 10 more than a given number.

10 less	34	10 more
_____	<u>34</u>	_____

I see I have to model the number 34. I know the number 34 has 3 groups of 10s and 4 1s. I will use my chart to lay out 3 groups of 10 and 4 1s under the number 34.

[Teacher lays down 3 groups of 10s and 4 1s.]

My directions tell me to find a number that is 10 less.

What should I do to model 10 less than the number 34?

[Pause]

You're right! I need one less group of 10.

So, since 34 has three groups of 10, the number 10 less will have 2 groups of 10. I will lay 2 groups of 10 here...10-20...

[Teacher lays 2 groups of 10 in column 1.]

What happens to the number of 1s?

[Pause]

Right. The number of 1s stays the same. I will put 4 ones here.

[Teacher lays 4 1s beside the 2 10s in column 1.]

Let's count, like we did before, to find the number 10 less than 34.

[Teacher models counting 2 10s and 4 1s.]

10-20...21-22-23-24. 10 less than 34 is 24. I will write my answer here.

[Teacher writes the number 24 at the bottom of column 1.]

Great job! Now we need to find the number 10 more than 34.

What should I do to model 10 more than the number 34?

[Pause]

You're right! I need one more group of 10.
So, since 34 has three groups of 10, the number 10 more will have 4 groups of 10. I will lay 4 groups of 10 here...10-20-30-40...

[Teacher lays 4 groups of 10 in column 3.]

What happens to the number of 1s?

[Pause]

Right. The number of 1s stays the same. I will put 4 ones here.

[Teacher lays 4 1s beside the 4 10s in column 3.]

Let's count, like we did before, to find the number 10 more than 34.

[Teacher models counting 4 10s and 4 1s.]

10-20-30-40...41-42-43-44. 10 more than 34 is 44. I will write my answer here.

[Teacher writes the number 44 at the bottom of column 3.]

Fantastic! Thank you for helping me find 10 less than and 10 more than the number 34.

Let's take a look at our next problem.

Objective 2: Teacher will demonstrate how to identify a model and corresponding number that is 10 more than and 10 less than a given number.

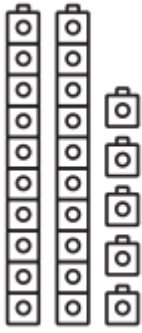
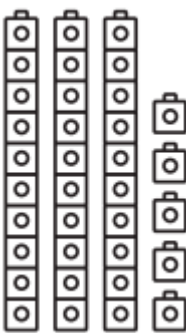
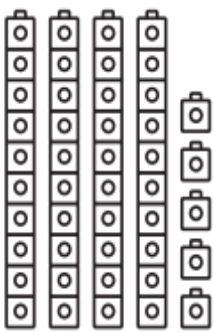
Let's take a look at our next problem.

[Teacher posts problem directions. This will be a chart with 3 columns. The given number will be in the center column. Row 2 of the cart will be prefilled with images of base 10 blocks. The final answer will be recorded at the bottom of each column.]

Directions: Write the numbers that are 10 less and 10 more than a given number.

Objective #2:

Students will be observing how to identify a model and corresponding number that is 10 less than and 10 more than a given number.

10 less	35	10 more
		
<div style="border-bottom: 1px solid black; width: 50px; margin: 0 auto;"></div>	<div style="border-bottom: 1px solid black; width: 50px; margin: 0 auto; text-align: center;">35</div>	<div style="border-bottom: 1px solid black; width: 50px; margin: 0 auto;"></div>

I see I have the number 35. Let's count to see how many groups of tens and ones are in the number 35.
 [Teacher touches and counts groups of tens and ones aloud. 10-20-30...31-32-33-34-35.]
10-20-30...31-32-33-34-35.

My directions tell me to find the number that is 10 less than the number 35 and 10 more than the number 35.
I notice this time the model is given.

What should I do to find the number that is 10 less than the number 35?
 [Pause]
You're right! The model shows one less group of 10.
 [Teacher touches model in column 1 as he/she speaks.]
Since 35 has three groups of 10, the number 10 less has 2 groups of 10...10-20.
 [Teacher touches and counts 2 groups of 10 in column 1.]
What happened to the number of 1s?
 [Pause]
Right. The number of 1s stayed the same. The number 10 less than 35 also has 5 1s..1-2-3-4-5.
 [Teacher touches and counts 5 1s beside the 2 10s in column 1.]

Let's count, like we did before, to find the number 10 less than 35.
 [Teacher models counting 2 10s and 5 1s.]
10-20...21-22-23-24-25. 10 less than 35 is 25. I will write my answer here.
 [Teacher writes the number 25 at the bottom of column 1.]

Great job! Now we need to find the number 10 more than 35.

What should I do to find the number that is 10 more than the number 35?

[Pause]

You're right! The model shows one more group of 10.

[Teacher touches model in column 3 as he/she speaks.]

Since 35 has three groups of 10, the number 10 more has 4 groups of 10...10-20-30-40.

[Teacher touches and counts 4 groups of 10 in column 3.]

What happened to the number of 1s?

[Pause]

Right. The number of 1s stayed the same. The number 10 more than 35 also has 5 1s..1-2-3-4-5.

[Teacher touches and counts 5 1s beside the 4 10s in column 3.]

Let's count, like we did before, to find the number 10 more than 35.

[Teacher models counting 4 10s and 5 1s.]

10-20-30-40...41-42-43-44-45. 1 more than 35 is 45. I will write my answer here.

[Teacher writes the number 45 at the bottom of column 3.]

Fantastic! Thank you for helping me find 10 less than and 10 more than the number 35.

Are you ready to look at our next problem?

Objective 3: Teacher will solve a contextual problem. Teacher will demonstrate using mental math to find a number that is 10 less than and 10 more than a given number.

[Teacher will post problem as written.]

Directions. Use mental math. Find the numbers that are 10 less and 10 more.

10 less	Number	10 more
_____	70	_____

Objective 3: Students will be observing how to use mental math to find a number that is 10 less than and 10 more than a given number.

[To enact prior knowledge, teacher will model counting forwards and backwards by 10s.]

The directions are asking us to use mental math.

Before we begin, let's get our brains thinking about groups of 10.

Can you count groups of 10 with me...

[Teacher posts a number strip... OR...120 chart]

10	20	30	40	50	60	70	80	90	100
----	----	----	----	----	----	----	----	----	-----

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
101	102	103	104	105	106	107	108	109	110
111	112	113	114	115	116	117	118	119	120

First, let's count on by 10s.

10-20-30-40-50-60-70-80-90-100-110-120

Great!

Remember, we can also count back by 10s. You count along with me.

120-110-100-90-80-70-60-50-40-30-20-10.

That was fun!

Now, for our problem....

I see I have the number 70. How many groups are in the number 70?

[Pause]

Yes. 70 has 7 groups of 10.

How many groups of 10 would be 10 less than 70? Which way would we count?

[Short pause.]

Would we count on one group of 10 or would we count back one group of 10?

You're right! To find 10 less than 70, we count back 1 group of 10 because (6 groups of 10) is one less group of 10 than (7 groups of 10).

Tying the learning together:
Students will listen to the teacher do a think aloud.

What number is 6 groups of 10?

[Pause]

Yes. 6 groups of 10 is 60. Let's write our answer in our chart.

[Teacher writes the number 60 in column 1 in the chart.]

Next we need to find the number that is 10 *more than* the number 70.

How many groups of 10 would be 10 *more than* 70? Which way would we count?

[Short pause.]

Would we *count on* one group of 10 or would we *count back* one group of 10?

You're right! To find 10 more than 70, we *count on* 1 group of 10 because (8 groups of 10) is *one more group of 10* than (7 groups of 10).

What number is 8 groups of 10?

[Pause]

Yes. 8 groups of 10 is 80. Let's write our answer in our chart.

[Teacher writes the number 80 in column 3 in the chart.]

Tying the learning together:


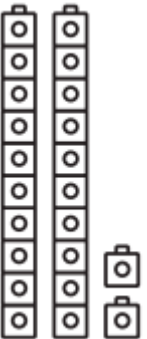
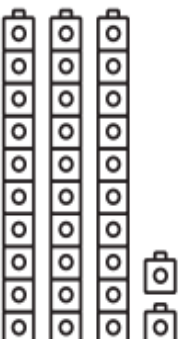
Great job! Thanks for following along with me. So far, we used models, drawings, and mental math to find 10 less and 10 more than a number.

Guided Practice (13 mins.)

[I Do - A think aloud where the student works alongside the teacher.]

[Teacher posts TASK CARD B and reads the problem aloud.]

Directions: Write the numbers that are 10 less and 10 more than a given number.

10 less	22	10 more
		
_____	<u> 22 </u>	_____

Students will be observing how to identify a model and corresponding number that is 10 *less than* and 10 *more than* a given number.

I see I have the number 22. Let's count to see how many groups of tens and ones are in the number 2.

[Teacher touches and counts groups of tens and ones aloud.
10-20-...21-22.]

10-20-...21-22.

My directions tell me to find the number that is 10 less than the number 22 and 10 more than the number 22.

I notice this time the model is given.

What should I do to find the number that is 10 less than the number 22?

[Pause]

You're right! The model shows one less group of 10.

[Teacher touches model in column 1 as he/she speaks.]

Since 22 has two groups of 10, the number 10 less has 2 groups of 10...10.

[Teacher touches and counts 1 group of 10 in column 1.]

What happened to the number of 1s?

[Pause]

Right. The number of 1s stayed the same. The number 10 less than 22 also has 2 1s..1-2.

[Teacher touches and counts 2 1s beside the 1 10s in column 1.].

Let's count, like we did before, to find the number 10 less than 22.

[Teacher models counting 1 10s and 2 1s.]

10-20...21-22. 10 less than 22 is 12. I will write my answer here.

[Teacher writes the number 12 at the bottom of column 1.]

Great job! Now we need to find the number 10 less than 22.

What should I do to find the number that is 10 more than the number 22?

[Pause]

You're right! The model shows one more group of 10.

[Teacher touches model in column 3 as he/she speaks.]

Since 22 has two groups of 10, the number 10 more has three groups of 10...10-20-30.

[Teacher touches and counts 3 groups of 10 in column 3.]

What happened to the number of 1s?

[Pause]

Right. The number of 1s stayed the same. The number 10 more than 22 also has 2 1s..1-2.

[Teacher touches and counts 2 1s beside the 3 10s in column 3.]

Let's count, like we did before, to find the number 10 more than 22.

[Teacher models counting 3 10s and 2 1s.]

10-20-30...31-32. 10 more than 22 is 32. I will write my answer here.

[Teacher writes the number 32 at the bottom of column 3.]

Fantastic! Thank you for helping me find 10 less than and 10 more than the number 32.

[We Do - Intentional pauses for student to do work and then receive answers along the way.]

[Teacher will prompt students to get paper and pencil and draw/model along with the teacher.]

For our next problem, you will need your paper and pencil to model and solve along with me. I will get my paper and pencil ready too.

[Teacher sets up supplies under a document camera.]

[Teacher will use a quick draw to model 10 less and 10 more than a number.]

[Teacher posts problem.

Find the numbers that are 10 less and 10 more than the number 41.]

I think I will use a quick draw to solve this problem.

Let's get our chart ready to organize our work.

[Teacher models drawing the chart below.]

10 less	41	10 more
_____	<u>41</u>	_____

[Teacher moves into modeling to solve.]

Students work alongside teacher to draw a model to find 10 less than and 10 more than a number.

I know the number 41 has 4 groups of 10s and one 1s. I will use my chart to draw 4 groups of 10 and one 1s under the number 41. You draw in your chart along with me.

[Teacher draws 4 groups of 10s and one 1s; 4 lines/1circle.]

Make sure your drawing looks like mine. Let's count to check our drawing. I have 4 groups of 10...10-20-30-40...and one 1...41. Great!

We need to find a number that is 10 less than the number 41.

What should we do to model 10 less than the number 41?

[Pause]

You're right! We need one less group of 10.

So, since 41 has 4 groups of 10, the number 10 less will have 3 groups of 10. I draw 3 groups of 10 here. You draw along with me.

[Teacher draw 3 groups of 10 in column 1 and counts as he/she goes.]

...10-20-30... Great!

What happens to the number of 1s?

[Pause]

Right. The number of 1s stays the same. I will draw 1 circle here. You draw your ones.

[Teacher draws 1 1s beside the 3 10s in column 1.]

Let's count, like we did before, to find the number 10 less than 41. I will touch my model as I count, you touch your drawing as you count.

[Teacher models counting 3 10s and 1 1s.]

10-20-30...31.

I think we have our answer....What is 10 less than 41?

[Pause]

Yes. 10 less than 41 is 31. Let's write our answer in our chart.

[Teacher writes the number 31 at the bottom of column 1.]

Great job! Now we need to find the number 10 more than 41.

What should we do to model 10 more than the number 41?

[Pause]

You're right! We need one more group of 10.

So, since 41 has 4 groups of 10, the number 10 more will have 5 groups of 10. Let's draw 5 groups of 10 here. You draw too....10-20-30-40-50.

[Teacher draws 5 groups of 10 in column 3.]

What happens to the number of 1s?

[Pause]

Right. The number of 1s stays the same. I will draw 1 circle here. You draw your one 1s too.

[Teacher draws 1 1s beside the 5 10s in column 3.]

Let's count, like we did before, to find the number 10 more than 41. You count along with me.

[Teacher models counting 5 10s and 1 1s.]

Great job! So....what number is 10 more than 41?

[Pause]

Yes....10-20-30-40-50-51...10 more than 41 is 51. Let's write 51 in our chart.

[Teacher writes the number 51 at the bottom of column 3.]

Fantastic! Thank you for helping me find 10 less than and 10 more than the number 41.

[You Do - The student independently working and then the teacher showing their work and answer.]

[Teacher will prompt students to independently find 10 less and 10 more than a given number.]

Now it is your turn. You will use your pencil and paper to find 10 less than and 10 more than a given number.

[Teacher posts problem.

Find the numbers that are 10 less and 10 more than the number 66.]

[Teacher pauses to allow students time to work the model problem.]

Alright...let's check your work.

[Teacher posts solution and walks students through solving the problem. Teacher may use base 10 blocks, quick draw, or mental math to discuss solution.]

10 less	66	10 more
<u> 56 </u>	<u> 66 </u>	<u> 76 </u>

Additional Problems (if needed):

Students will independently find 10 less than and 10 more than a number. Students can choose a quick draw or mental math to solve.

1. Find the numbers that are 10 less and 10 more than the number 18.
2. Find the numbers that are 10 less and 10 more than the number 72.

Independent Practice (3 min.)

Great work! Today, we practiced finding 10 less than and 10 more than a given number. You sure did a great job! After the video, you will have some tasks practicing on your own.

I will show you the independent practice tasks now, or you can find them in the student practice for this lesson posted on our website, www.tn.gov/education.

[Teacher shows student practice page under document camera or camera zooms in on student practice page.]

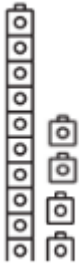
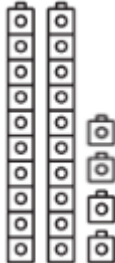
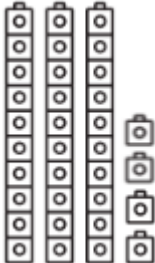
Good luck and do your best! To get you started, I will read the problems aloud.

[Teacher posts student work page.]

[Teacher reads directions.]

Grade 1: Lesson 20 Students will use models and mental math to find 10 less than and 10 more than a number.

1. Use a models. Write the numbers that are 10 less and 10 more than a given number.

10 less	24	10 more
		

_____	24	_____
-------	----	-------

2. Use a quick draw to model. Write the numbers that are 10 less and 10 more than a given number.

10 less	36	10 more
_____	36	_____

3. Use mental math. Write the numbers that are 10 less and 10 more than a given number.

10 less		10 more
_____	18	_____
_____	57	_____
CHALLENGE _____ 80	_____ _____ _____	_____ _____ _____

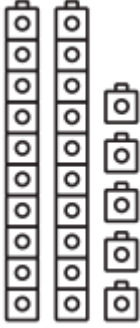
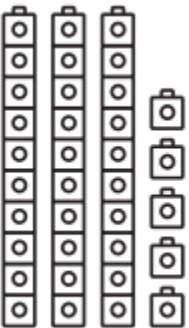
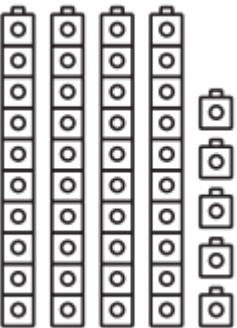
Closing (1 min)

I enjoyed learning how to find 10 less than and 10 more than a given number. Thank you for inviting me into your home. I look forward to seeing you in our next lesson in Tennessee's At Home Learning Series!


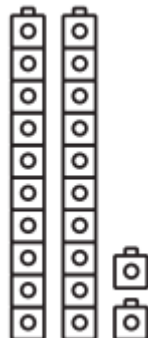
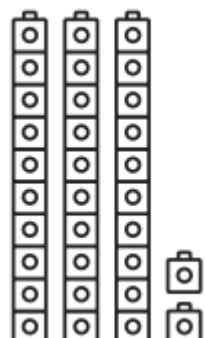
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TASK CARD A

10 less	35	10 more
		
_____	<u>35</u>	_____

TASK CARD B

10 less	22	10 more
		
_____	<u>22</u>	_____

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