



Place Value with Base Ten Blocks and Ten Frames for 1st Grade

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Being an educator that has taught lower and upper grades math subjects, it was very noticeable that place value is one of the most important math concepts students need to understand. It supports future skills like addition, subtraction, and understanding larger numbers. First grade is when place value is learned as a foundational skill. At this age, many children can count well, but place value teaches them that numbers are made of groups, not just counted one by one.



At times this can be a challenge to teach because students may see a number like 15 as a 1 and a 5, instead of viewing it as one ten and five ones. I have seen in the classroom that when students do not understand this, they struggle with future concepts like two-digit addition and subtraction.

When I used ten frames and base ten blocks and had students build numbers using these tools, place value became to teach. When you add in drills, worksheets, and interactive lessons, students can master this skill in no time.

Place Value: What Does It Mean?

In first grade, students focus on:

- Ones
- Tens

When thinking of place value, students are looking at the value of a digit based on its position in a number. The place value of a digit changes when the digit moves to a position. Each place tells us something. The ones place shows how many single units are in a number. The tens place shows how many groups of ten are in a number. The important rule to teach children in place value is, that ten ones equal one ten. When students learn this rule, they start to understand how numbers are built.

Teaching with Base Ten Blocks

Base ten blocks is one of the best tools for teaching place value because they allow children to build numbers with their hands.

The main pieces first graders use are:

- ones cubes (represents 1)
- tens rods (represents 10)

To build 23, students would use:

- 2 tens rods
- 3 ones cubes

This helps students understand that:

$$23 = 2 \text{ tens} + 3 \text{ ones}$$

Using Ten Frames

A ten frame is a grid, with ten spaces arranged in two rows of five. Students put counters or any object, on the ten frame to show one. Ten frames let children see numbers as groups. Ten frames are useful when teaching teen numbers. Ten frames work well because ten frames show that ten is a group.

When I would use these in the classroom I would have a student look at 14 and they would:

- fill one full ten frame to make 10
- add 4 more counters

So students see that:

$$14 = 10 + 4$$

or

$$14 = 1 \text{ ten} + 4 \text{ ones}$$

Place Value Learning Activities

To teach place value successfully and effectively, students need repeated practice using visual models and hands on tools. Kids Academy offers a variety of resources that support teaching place value through worksheets, drills, lessons, and quizzes.

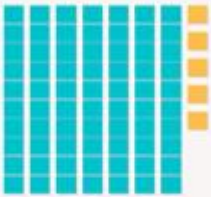
Start with Place Value Drills

Just like most new skills learned, students need repeated practice with visuals and hands on tools to learn place value. Kids Academy provides worksheets, drills, lessons and quizzes that help students practice the concept. In first grade, many children still rely on counting each object one by one, so drills encourage them to begin recognizing groups of ten automatically through bite-sized repeated exercises.

Try these place value practice drills:

- Learn how to count ones and tens with base ten blocks and ten frames ([8 drills](#))

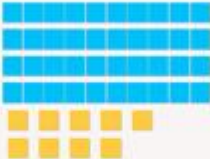
What number do the longs and cubes show? Click the correct number.



22 47 75 86

CHECK

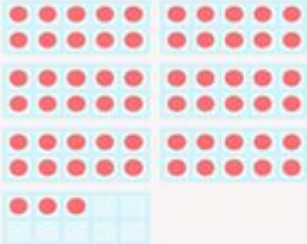
What number do the longs and cubes show? Type the correct number.



1 2 3 4 5 6 7 8 9 0
+ - × ÷ () = ←

CHECK


What number do the ten frames show? Click the correct number.



94 63 72

CHECK

What number do the longs and cubes show? Click the correct number.



43 27 32 24

CHECK

- Learn how to compose two-digit numbers using place value ([7 drills](#))

The image displays four interactive math game cards arranged in a 2x2 grid. Each card features a question, three options (A, B, C), a 'CHECK' button, and a 'PDF' icon with a heart.

- Top Left Card:** Question: "Which picture shows 1 ten and 8 ones?"
Options:
A) Two ten frames, each with 8 purple dots (total 16 ones).
B) Two ten frames, each with 8 green dots (total 16 ones).
C) One ten frame with 8 orange dots and one ten frame with 2 orange dots (total 10 ones).
Buttons: A, B, C, CHECK, PDF.
- Top Right Card:** Question: "Which picture shows 1 ten?"
Options:
A) One ten frame with 9 red dots and one empty ten frame (total 9 ones).
B) One ten frame with 9 green dots and one ten frame with 1 green dot (total 10 ones).
C) One ten frame with 9 yellow dots and one ten frame with 2 yellow dots (total 11 ones).
Buttons: A, B, C, CHECK, PDF.
- Bottom Left Card:** Question: "Which number is described below? Click the correct number."
Description: "2 tens and 0 ones"
Options: 20, 21, 19
Buttons: CHECK, PDF.
- Bottom Right Card:** Question: "How many tens and ones does this number have? Click the correct answer."
Number: 19
Options: 1 ten and 9 ones, 1 ten and 5 ones, 2 tens and 0 ones
Buttons: CHECK, PDF.

Next, Printable Worksheets

When I would intentionally pick worksheets, I noticed they can help students strengthen place value skills through independent practice because they give children a chance to apply what they've learned without relying on manipulatives or teacher support. Here are a few helpful worksheet options:

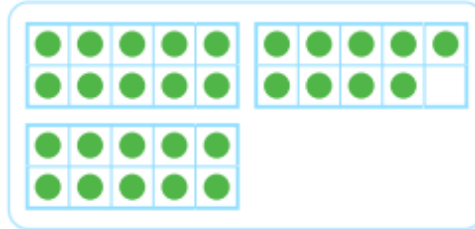
- [Place Value with Ten Frames](#)
- [Trading Ones for Tens](#)

Place Value with Ten Frames



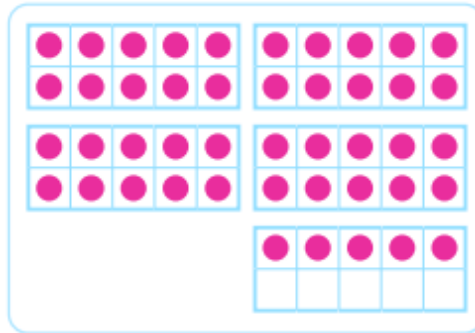
Trace on the dotted line to the number that matches the amount shown on the **ten** frames.

29



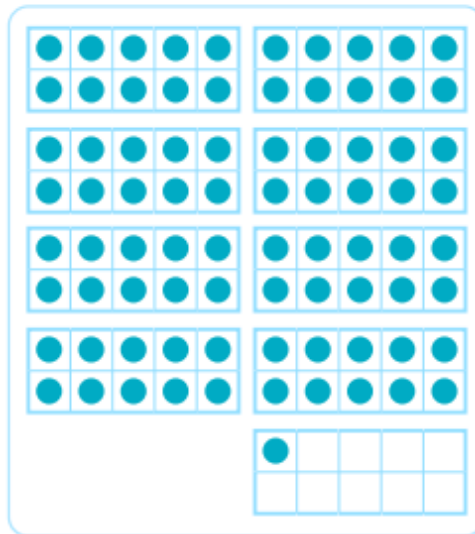
36

54



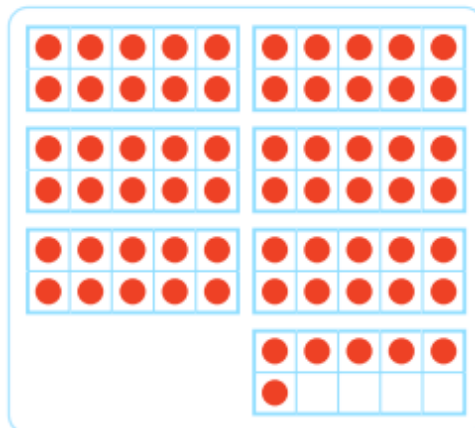
45

81



71

66

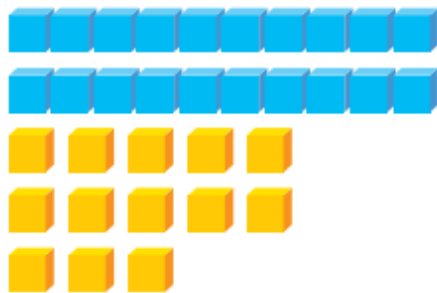


65

Trading Ones for Tens



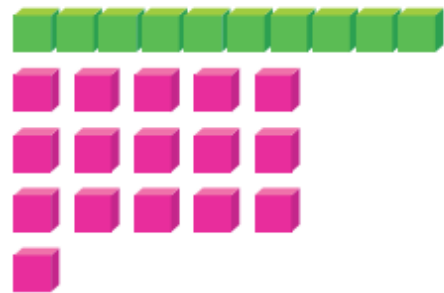
Trade ones for tens and regroup the following numbers. Check the correct answers.



2 tens and 13 ones equals ____.

3 tens and
9 ones

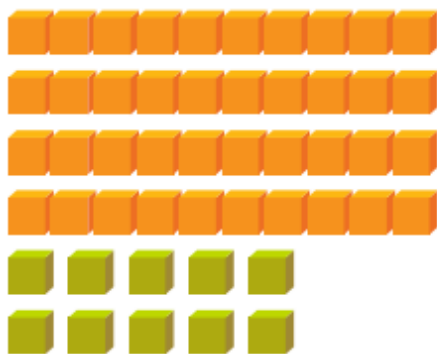
3 tens and
3 ones



1 ten and 16 ones equals ____.

2 tens and
6 ones

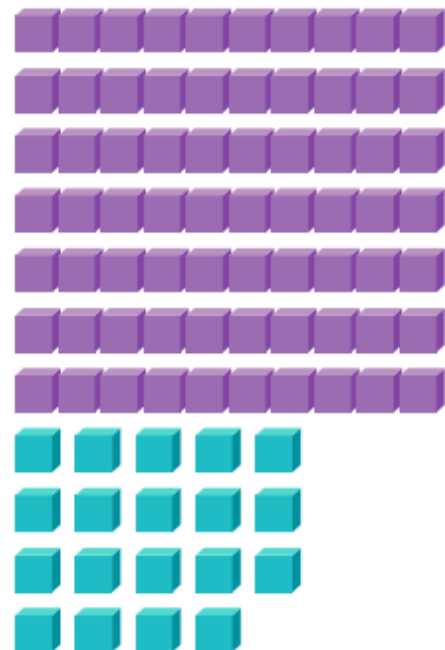
6 tens and
2 ones



4 tens and 10 ones equals ____.

4 tens and
5 ones

5 tens and
0 ones



7 tens and 19 ones equals ____.

7 tens and
9 ones

8 tens and
9 ones

Then, Teach with Interactive Lessons

Interactive lessons were very useful for me when I had students that needed guided instruction and clear explanations. While worksheets and drills are great for practice, some students need to see and hear the concept explained before they can work independently. Try one of these lessons:

• [Place Value: Ones and Tens](#)

Estimated classroom time: 17 min Chapter: Place Value Unit: Foundations in Operations Within 100

Click on any activity below to start learning.

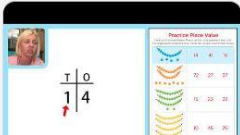
1st 4:00 min

2nd 3:00 min


3rd 3:00 min

4th 3:00 min

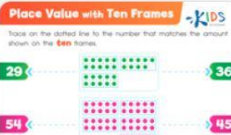
5th 4:00 min



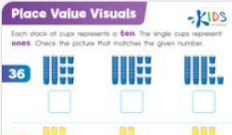
Practice Place Value
Video



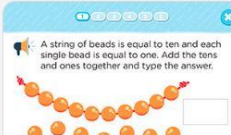
Practice Place Value
Printable
Worksheet



Place Value with Ten Frames
Worksheet



Place Value Visuals
Worksheet



Place Values with Tens
and Ones
Quiz

• [Place Value: Trading Ones for Tens](#)

Estimated classroom time: 13 min Chapter: Place Value Unit: Foundations in Operations Within 100


Click on any activity below to start learning.

1st 3:00 min


2nd 3:00 min

3rd 4:00 min


4th 3:00 min



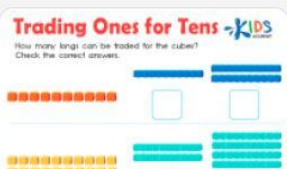
Lets Trade Tens
Worksheet



Trading Tens
Worksheet



Trading Ones for Tens
Video



Trading Ones for Tens
Worksheet: Part 2
Worksheet

Finally, Check Mastery with Quizzes

After the students practice, quizzes can tell if the students have mastered the concept. In my experience, quizzes give a picture of mastery. Parents and teachers can look at quizzes to find the skills that a child still needs help with. Quizzes highlight the gaps that the child still has.

Use these quizzes to assess understanding:

• [Identify Groups of Ten and Trade Ones for Tens](#)



1

2

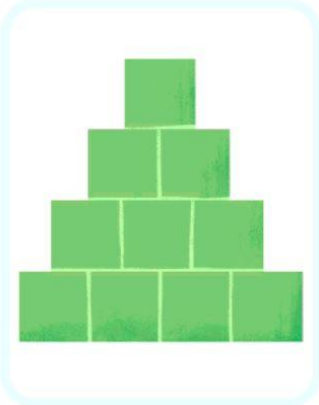
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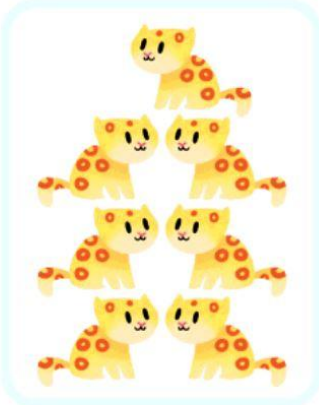
4

5

6

 Find all the groups of ten.








Confirm

• [Place Values: Tens and Ones](#)



1


2

3

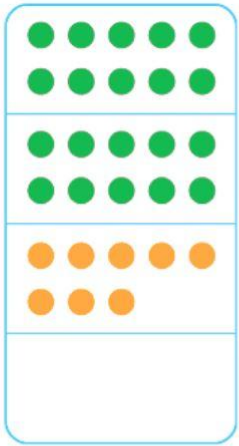
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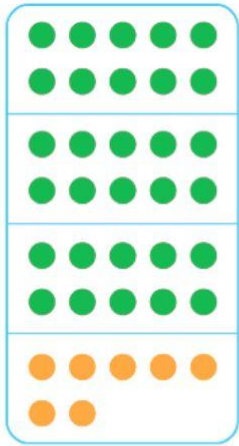
5

6

 Choose the group of ten frames that show **28**.

28





Confirm

Place value is a big step for 1st grade math because it teaches the students that the numbers are made from groups of tens and ones. When children see this, they begin to notice patterns in the numbers and develop math reasoning. The tools I used in the classroom, like base ten blocks and ten frames because they turn ideas into concrete concepts. When students practice constantly, using these resources, they can become masters of reading, writing, and understanding numbers and their values.

Check out our web-based [Kids Academy Classroom](#) to create curated classes on different topics including Place Value and share them with your students! Explore more resources and check out the full Kids Academy library at www.kidsacademy.mobi. You can find interactive lessons, worksheets, quizzes, with practice materials to support learning at home or in the classroom.

