



Your Ultimate Guide to **Counting, Numbers and Place Value**

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NO,A0,S0,M0,D0 – Counting Steps

Material:

Concrete objects: blocks, beads, counters, buttons, other

Whiteboards and erasable markers

Number Tent Cards

1. **One-to-one correspondence with manipulatives: Count and slide each object over one by one. Increase engagement by allowing students to choose the objects they want to count. Find the level of the student and repeat adding 1-3 numbers at a time until counting mastery. Recommendation: 5-10 minutes of counting objects per day. Make Counting Fun and Play with the manipulatives: Change voice (whisper, high pitch, etc.), songs, rhythmic clapping, etc. NO WRITING**
2. **Discuss and Question:**
 - A. **At the child's counting level, ask questions like:** How many are there? Separate objects into two or more groups. How many are here? How many are there? How many are altogether? How many are under my hand? Change the amounts in each group and repeat. Tell a story: I have 3 blocks and you have 2 blocks. How many blocks do we have altogether? **Have Fun with questions. Let the students ask you questions. NO WRITING**
 - B. **Introducing 5s and 10s. (Subitizing)** Ask are there better ways to group objects to make it easier to count? Group the objects into groups of 5s and 10s for easier counting. **NO WRITING**
3. **Show numbers with manipulatives (concrete objects) to drawings (visual). Practice counting. Ask students to draw the same number of objects on a whiteboard. Idea: Have fun. Show the amount quickly and cover it up with your hand. After students draw, check to see if they were right. DRAWING ON WHITEBOARDS ONLY**
4. **Show numbers with manipulatives (concrete objects), number tent cards (symbolic). Practice counting. Ask students to find the matching number with the number of objects. Idea: Play a matching game. Match the symbolic number with the objects as fast as you can. NO WRITING**
5. **Steps 3 and 4 together: Show numbers with manipulatives (concrete), drawings (visual) and number tents (symbolic). Ask students to find the matching number with the number of objects and ask them to draw the pictures on their whiteboards. Idea: Partner work. Partner A shows objects. Partner B draws the objects and finds the matching number. DRAWING ON WHITEBOARDS ONLY**
6. **Place manipulatives (concrete objects) on empty ten frame cards and match the number tents to the numbers. Place the manipulatives on an empty ten frame card and ask questions like what do you notice?**
7. **Notice number patterns while counting manipulatives. Numbers 1-10, Numbers 11-19. Ask, what do you notice? (Ask questions to guide students to notice that the 1-9 jumps over the zero of the 10. The numbers 1-9 repeat. When it changes to 20, then the numbers 1-9 repeat again. What happens after the number 29, 39, etc? NO WRITING**



NO,A0,S0,M0,D0 – Counting Steps

Material:

Concrete objects: blocks, beads, counters, buttons, pencils, other
Whiteboards and erasable markers
Number Tent Cards
100 board work

8. Practice counting 2 or 3 numbers after 19,29,39,49,59,69,79,89,99, etc. What do you notice? What are the names of the numbers? Why? Discuss teen = ten, ty = groups of ten.

9. Count objects backwards from 10-0, then 20-0, and progress to larger numbers. (helps with subtraction, activities in the subtraction book). Notice patterns, discuss. If I take one away, how many are left? **NO WRITING**

10. Counting in groups of 2,3,4,5,10 with manipulatives (beginning of skip counting to help with multiplication)

A. **Ask questions like:** Can you group the blocks in groups of 2? What would that look like? How can we count the blocks now? How many are there altogether? How do you know? How many are under my hand? Change the amounts in each group and repeat. Organize the manipulatives so they are easier to count. Guide students to group objects in rows and columns. Tell a story. There are 3 people and they each have 4 blocks. How many blocks does each person have? **Have Fun with questions. Let the students ask you questions. NO WRITING**

B. **Tell a sharing story:** Guide students towards sharing questions. If I have 6 blocks and 2 people, how many would each person have. (Beginning of division. What happens if I have 7 blocks shared between 2 people?) **NO WRITING**

11. Counting in groups of 2,3,4,5,6,7,8,9,10 with manipulatives and visual drawings on whiteboards. Write the numbers under each drawing for repeated addition. Link to 100 board patterns. Discuss the patterns. (Multiplication Book for skip counting and repeated addition practice).

A. Show repeated addition and/or multiplication Create equal groups with objects and draw a story on whiteboards. There are 3 people and they each have 4 blocks. How many blocks does each person have? Find patterns in a number chart. Have Fun with questions. Let the student ask you questions. **DRAWING THE STORY ON WHITEBOARDS WITH THE MATCHING EQUATION, SKIP-COUNTING MULTIPLICATION BOOK PRACTICE WHICH INCLUDES 100 BOARD WORK**

B. Tell a sharing story: Guide students towards sharing questions. If I have 6 blocks and 2 people, how many would each person have. (Beginning of division. What happens if I have 7 blocks shared between 2 people?) **DRAWING THE STORY AND WRITING THE EQUATION ON WHITEBOARDS**

*****TO NOTE:** Level mastery can take several days, weeks or months. Learning depends on many factors such as: working memory, background experiences, processing speed, home environment, etc.



**Samples From
Numbers
Resource Book**

Directions

For each level:

Preparation: Prepare whiteboards or clipboards with white paper in page protectors and dry-erase or erasable markers for all students. Alternatively, the pages in this book can be photocopied and placed into page protectors for repeated practice.

- 1. Teaching Each Level (10-20 minutes):** Show the video to students and discuss and re-explain using fingers (concrete), dot cards (visual) and number tent cards (symbolic). Teacher size [number cards and dot cards](#) are available for whole class practice. Encourage a discussion and allow students to share and explain their thinking.
- 2. Whiteboard Preparation (3-5 minutes):** Pass out whiteboards or clipboards to all students. Depending on the step, draw or write the table, and/or title on the board for students to copy.
- 3. Teacher Guided Written Practice (5-10 minutes):** One at a time, say each number out loud and allow all students to write down their answer. Walk around correcting right away and refer back to the teaching using fingers, dot cards or tent cards.
- 4. Student Verbal Practice (1-2 minutes):** Students reread their numbers out loud individually or with a partner. Walk around while correcting and referring back to the teaching.
- 5. Extra Practice (5-10 minutes):** Ask students to erase their boards and repeat the steps. Re-explain the level to the whole class as needed.
- 6. Daily Practice:** Repeat steps 1-5 as necessary for each step. After the first lesson, the teaching portion can be a 1-3 minute review, followed by a 5-15 minute practice session.
- 7. Recommendation:** Daily practice 3-5 times per week. Change levels when students are ready and repeat steps 1-6.
- 8. For Students who Need Extra Practice:** If a few students need extra practice with one level, then extra one-on-one practice for a few minutes a day will benefit. (Before recess, before playtime, guided home practice, etc.)

*****To note:** For students to master a level, it could take weeks, months or years. Each child is different and learning factors include: verbal comprehension, working memory, processing speed, fluid reasoning, visual spatial understanding, background experiences, attitude, anxiety, etc.***



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Levels N1 – N11

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N1 – Numbers 1-10

Explanation and Games Videos

1. The best way to learn the numbers 1-10 is through games. Click and watch the videos for the game explanation.

[N1 - Numbers 1-10 Garbage Game](#)



This game practices number recognition from 1-10. It can be modified to practice the numbers 1-5. Add numbers when child is ready.

[N1 - Numbers 1-10 7-Up Game](#)



The game of 7-up practices the number sequence from ace to king.

Practice

1. This page along with a deck of cards can be sent to parents to practice games at home with their children.
2. For more game ideas, [click here](#).

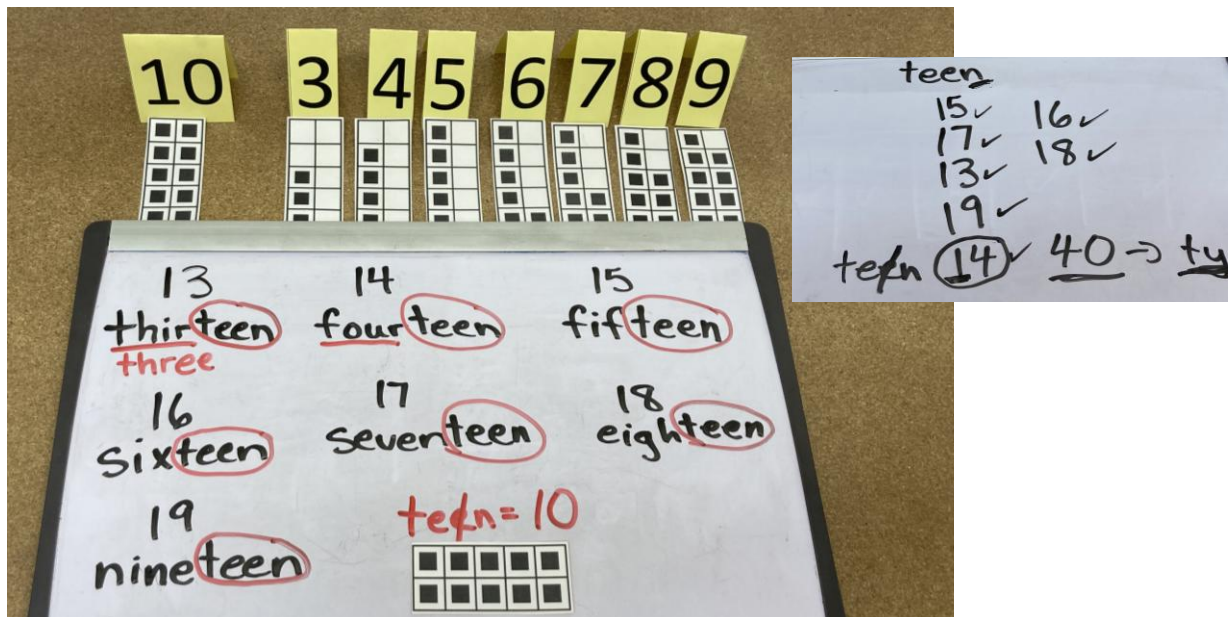


N3 – Teen 13-19

Explanation and Video

1. Click and watch the video explanation. Re-explain using tent cards and ten frame cards (square dot cards) as needed.

[N3 - Teen 13-19 Explanation and Practice](#)



Practice

1. For each student, place the printable sheet into a page protector and provide a dry-erase or washable marker. Alternatively, use a whiteboard and dry-erase marker.
2. Say numbers randomly as students write them down one at a time in the correct column.
3. Student reads the numbers individually or with a partner. Walk around the class correcting errors while re-explaining with the videos, tent cards and ten frame cards (square dot cards.) Erase and repeat. When the student is confident and reads the numbers error-free, move to the next step or level.
4. Practice for 5 - 10 minutes 3-5 times a week and work through all levels one at a time until level 11 (N11) is complete.



N3 – Teen 13-19

Educator - Say random numbers between 13-19.

Student - Write the numbers down one at a time in the correct column. Read the numbers out loud.

13	14	15	16
	17	18	19



N3 – Teen 13-19

Educator - Say random numbers between 13-19.

Student - Write the numbers down one at a time in the box. Read the numbers out loud.

13 - 19



N3 – Teen 13-19

Educator - Ask student to read the numbers out loud and correct errors while re-explaining with the videos, tent cards and ten frame cards. As soon as the student can read the numbers confidently, quickly and error-free, advance to the next level.

Student - Read each number out loud.

14

18

13

19

16

15

13

15

18

17

19

14

15

17

16

