

Bundling ten: ten little ones make one ten

CURRICULUM ALIGNMENT

NUM.PVT.2a

understand that digits have different values depending on their place or position in a number.

INTERACTIVES **Place Value Blocks (Dienes)** · challenge, display, explore

WHAT THIS LESSON TEACHES

Ten loose unit cubes can be traded for one ten-rod. The amount stays the same but the count becomes tidier on the place-value mat.

→ Ten unit cubes traded for one ten-rod still make 10.

→ One ten-rod and three unit cubes make 13.

MODEL THIS ON THE BOARD

BUILD 13 WITH A TRADE

- 1 Start with thirteen loose unit cubes on the mat.
- 2 Gather **ten** of the units and trade them for **one** ten-rod.
- 3 Place the ten-rod in the tens column and the **three** leftover units in the units column.
- 4 Write 13 as 1 ten and 3 units.

LESSON ARC

Open with the bundled lolly-sticks photo on the IWB so the class sees one tidy group of ten before any blocks appear. Move to the place-value-blocks interactive: ten loose units in the units place, then the fair trade for one ten-rod. Pupils take turns building 11, 14, 16 and 18 — loose units first, trade the moment ten are gathered. A quick copybook draw of one rod and three units for 13, then Class Challenge runs 10, 12, 15 and 19 with the class checking each build.

TEACHING MOVES

1. **Getting Started.** Show the bundled-sticks photo. Take three quick hands-up guesses for the total, then point to the elastic-banded bundle so the class sees one clear group of ten. Keep it short — that bundle is the idea they will meet as a ten-rod next.
2. **Watch and Notice.** Work the four snapshots live. Start on ten loose units still in the units place; ask how many, then reveal the trade to one ten-rod. Stress fair trade: same amount, now one tidy rod. For 13 tap the rod first (that is the ten) then the three units. Hold out for 'one ten and ____' before the teen name every time.
3. **Try It Together.** Call 11, 14, 16, 18 in order. Each pupil at the board builds with loose units first, then trades ten for a rod the moment ten are gathered — class calls 'trade!' at that beat. Watch for rods placed without gathering ten, and for all units left loose past ten; revoice 'ten loose ones become one ten-rod'.
4. **Draw the rod and units.** Whole-class paper practice, not marking. A tall rectangle for the rod and three small squares for the units is enough; write 13 beside them. Glance along the rows as they draw.
5. **Class Challenge.** Keep board work brisk. Order: 10 (one rod, no extras), 12, 15, 19. Ask before each check: how many loose units before we can trade? If a build still shows ten units loose, prompt the trade rather than accepting it. Class confirms each build before the next number.

6. **What Did We Notice?** Point to a build the class just made. Ask what made the rod possible. Listen for 'a full ten ones make one rod; leftovers stay as units.' Revoice: ten ones make one ten — that is why we trade at ten.

COMMON MISCONCEPTIONS

⚠ Pupils place a ten-rod on the mat without first gathering ten loose units — they treat the rod as a free 'teen starter' rather than a trade.

Stop and clear the mat. 'Show me the ten loose ones first.' Only when ten units sit in the units place do you allow the swap for one rod. Revoice: same amount, tidier count.

⚠ Pupils leave eleven or more units all loose and read the heap as the teen number, never bundling. Ask 'how many loose units before we can trade?' Count to ten with them, call 'trade!', and move the rod into the tens place so the leftovers become the units they can see.

⚠ Pupils name 15 as 'fifteen' straight away and skip the tens-and-units reading, so the rod's value stays hidden.

Cover the total. Tap the rod — 'how many tens?' — then the loose cubes — 'how many units?' Hold for 'one ten and five' before you let the class say fifteen.

DIFFERENTIATION

EMERGING

- Stay on 10 and 11 only: one rod with zero or one loose unit. Teacher gathers the ten units on the IWB and the pupil only completes the trade and names 'one ten and ___'.
- Pre-draw the tall rod rectangle in the copybook so the pupil only adds the unit squares and the numeral.

DEVELOPING

- After a correct build, hide the rod and ask: if I give you two more loose units, what do you say now — still one ten and how many?
- On 19, ask before the check: one more loose unit and what would we have to do?

PROFICIENT

- Stretch on the IWB: start from 18, add one loose unit at a time, and have the pupil narrate the moment a second trade becomes possible — without building two tens yet, just predict it.
- After Class Challenge, set 'build me a number that is one ten and seven — then change it to one ten and two by removing units only' as a teacher-narrated board turn.

➤ **Cross-curricular:** Link to PE kit count — bundle spare bibs or cones into groups of ten before naming how many are left loose.

ANSWER KEY

a) 1 | 2

b) 1 | 5

c) 1 | 9

Q1: 1 ten and 0 units

Q2: 1 ten and 2 units

Q3: 1 ten and 5 units

Q4: 1 ten and 9 units

Q5: 1 ten and 1 unit

a) Always : The trade keeps the same amount; only the grouping changes.

b) Always : Each of those numbers holds one full group of ten plus leftover units.

c) Never : Leftover units belong in the units column, not the tens.

d) Never : The total stays the same; the display only becomes tidier.

EXTENSION SHEET · STRETCH ANSWERS

S1: 4 tens and 9 units

S2: 4 tens and 8 units

S3: 4 tens and 1 units

S4: 5 tens and 2 units