

## Sharing Base-10 Blocks

Use base-10 blocks to model  $536 \div 4$ .

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### *Discussion, Suggestions, Possible Solutions*

*Each student (or group of students) will need at least 5 flats, 15 longs and 20 unit blocks.*

*There are two common interpretations of division: fair-sharing and measurement. With the given problem it can be either: if we share 536 among 4 groups fairly, how many will each group receive? or if each group receives 4, how many groups can share 536 equally?*

*With base-10 blocks, the former interpretation will be much simpler for this problem – the measurement interpretation may not be feasible simply because there are not enough unit blocks. Students who try to use the measurement interpretation will ask for more unit blocks. Encourage them to think of a different way as there are not enough unit blocks available.*

*As you observe children model this division, pay attention to children's actions. Most will probably start dealing the hundred blocks first, but there may be some who will start with unit blocks (just as they might have done with addition and subtraction). You may want to discuss why starting with unit blocks might not be the most efficient – if children can demonstrate each approach, they will notice this easily. Some children may deal each type of blocks first (1 hundred block and 1 unit block to each) then deal with what are left (1 hundred block, 3 ten blocks and 2 unit blocks).*

*As you discuss various approaches, help students realize the efficiency and simplicity of starting with the hundred blocks.*

*During the discussion, ask questions like:*

*“How many hundred blocks will each group receive?”*

*“How many hundred blocks will there be left over?”*

*“After you trade the left over hundred blocks, how many ten blocks will you have all together?”  
and so on.*

*These are the questions we want students to ask themselves explicitly during this process.*

Extension:

*As you pose additional questions, select the numbers carefully so that students will encounter different situations (for example, the leading digit is less than the divisor, 0 in a quotient, etc.). Also, make sure that you try each follow up problem yourself to make sure that students have enough base-10 blocks to model each problem.*