

#### NUMBER EXPANDER

### Important Note:

Bundling Sticks as should always be used before Base Ten Blocks as the sticks are easy to break apart into tens and to bundle up again. Base Ten Blocks, whilst they are an efficient method of quickly representing large numbers, do not break apart in the physical form,. The Number Expander Gadget represents this concept well though.

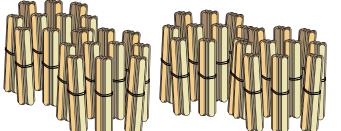
### Understanding that hundreds are made up of 10 tens

**Note:** Each of the hundreds must already be grouped as 10 tens before starting.

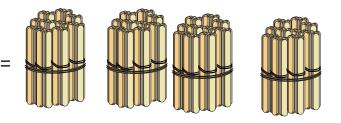
- 1. Explore unbundling a number such as 300 3 hundred bundles, into tens.
- Have the students show 3 hundred bundling sticks, that is 3 bundles of 10 tens. Have the students unbundle just the first hundred into tens.
- Ask: 1 hundred is made up of how many tens? (10 tens)



- Repeat with other numbers of hundreds.
- Show sets of 10 tens such as 40 tens.
- Ask: How many tens are there? (40 tens)
- Ask: If I bundle them up into set of 10 tens, they will be hundreds. How many hundreds will there be? (4 hundreds)

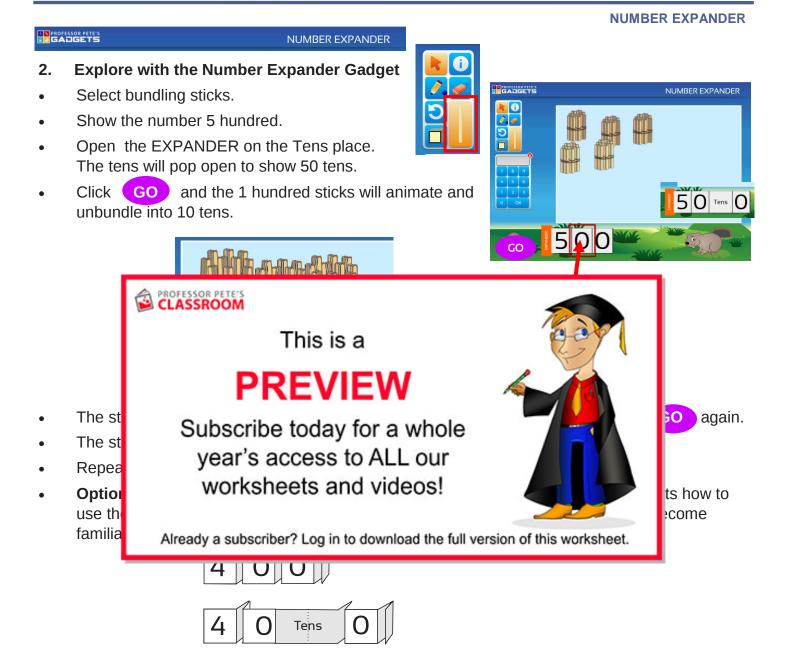


- Bundle them up and show them that it is correct.
- Repeat with other numbers.

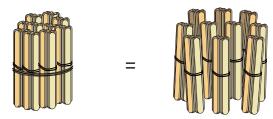


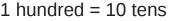
# PROFESSOR PETE'S

## Lesson 4a



- Show them more numbers of hundreds on the Number Expander Gadget and show the bundling sticks animating.
- Use pictures of bundling sticks (see templates used in earlier lessons) and glue them into their workbooks, with wording such as:

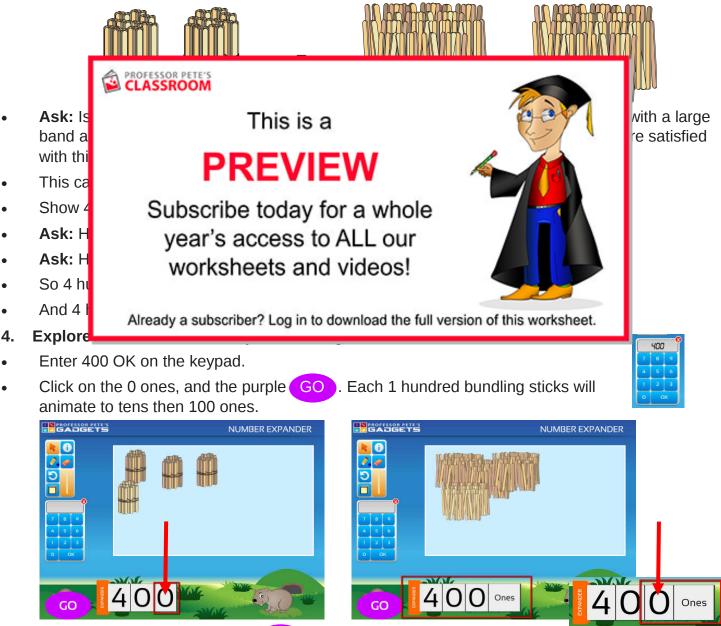




NUMBER EXPANDER

### Understanding that hundreds are made up of 100 ones

- 3. Explore unbundling a number such as 200 2 hundred bundles, into tens, then the tens into ones.
- Have the students show 2 hundred bundling sticks, that is 2 bundles of 10 tens. Have the students unbundle just the first hundred into tens then the tens into ones.
- Ask: 1 hundred is made up of how many ones? (100 ones)
- Unbundle the next hundred.
- Ask: This hundred is made up of 100 ones too. How many ones do we have now? (200 ones)



- Click on the 0 ones again then GO and the ones will animate back to 4 hundreds.
- Repeat with other numbers of hundreds.