FREE CLASSROOM RESOURCE · ENGLISH SHORT SCALE

Big numbers, small steps

A 15-minute lesson, reusable place-value charts, three practice levels and checked answer keys.

Choose what to print

Pages	Resource
2-3	Completed reference and blank place-value chart
4	Beginner: thousands and millions
5	Intermediate: millions and billions
6	Advanced: billions and trillions
7-8	Answer keys and teaching notes (keep separate)

Teach it in 15 minutes

1. **Model (3 minutes).** Write 1 | 250 | 000 | 000. Name each period and read: one billion, two hundred fifty million.
2. **Try together (4 minutes).** Place 8,004,012 in the chart. Ask why 004 needs two zeros. Compare it with 8,000,012: which period is now empty?
3. **Practise (6 minutes).** Choose one level. Learners write their answers and explain one zero placeholder to a partner.
4. **Check (2 minutes).** Use the key, then ask learners to write a new number containing an empty period and read it aloud.

> Choose a level by confidence, not age. Accept regional uses of “and” when the place values are correct. Say the number before checking the answer.

Reading guide · Create more worksheets · Big Number Explorer

Free for personal, home and classroom educational use. Share the resource link with colleagues. Please do not sell or re-publish it as your own. No account required.

Every digit has a place

Read groups from left to right. Build groups from right to left.

Worked example: 1,250,000,000

Trillions			Billions			Millions			Thousands			Ones		
Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One
-	-	-	-	-	1	2	5	0	0	0	0	0	0	0

> **One billion, two hundred fifty million.**

The billions period contains 1. The millions period contains 250. The thousands and ones periods are empty, so we skip their names when reading. Dashes show places before the first digit.

Another example: 4,032,005,017

Trillions			Billions			Millions			Thousands			Ones		
Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One
-	-	-	-	-	4	0	3	2	0	0	5	0	1	7

> **Four billion, thirty-two million, five thousand, seventeen.**

A zero inside a period still holds a place: 032 is thirty-two million, not three hundred twenty million. Keep every digit after the first period, including zeros.

The pattern repeats

One place left	One period left
Multiply a digit's value by 10.	Multiply a period's value by 1,000.

Million = 1,000,000 · Billion = 1,000,000,000 · Trillion = 1,000,000,000,000.

Open the 1,250,000,000 example in the Explorer.

Your place-value workspace

Write one digit per box. Leave unused boxes on the left blank.

Name: _____ Date: _____

8,004,012

Trillions			Billions			Millions			Thousands			Ones		
Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One

In words:

40,006,000,009

Trillions			Billions			Millions			Thousands			Ones		
Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One

In words:

Choose your own number

Trillions			Billions			Millions			Thousands			Ones		
Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One	Hundred	Ten	One

In words:

> Start at the right. Each period after the first needs three digits. Use 000 for a missing period. When reading aloud, skip empty periods but keep their places in the written number.

THOUSANDS AND MILLIONS

Beginner practice

Name: _____ Date: _____

Show your grouping or explain your reasoning. Check the answer key after you finish.

1. Write 72,406 in words.

2. Add commas: 4205018

3. Write in digits: eight million, twelve.

4. What is the value of the digit 6 in 46,205,731?

5. Which three-digit period is 000 in 8,000,012?

6. Write 3,050,007 in expanded form.

MILLIONS AND BILLIONS

Intermediate practice

Name: _____ Date: _____

Show your grouping or explain your reasoning. Check the answer key after you finish.

1. Write 1,250,000,000 in words.

2. Add commas: 4032005017

3. Write in digits: forty billion, six million, nine.

4. What is the value of the digit 3 in 4,032,005,017?

5. Which three-digit period is 000 in 907,000,018?

6. Write 9,003,000,015 in expanded form.

BILLIONS AND TRILLIONS

Advanced practice

Name: _____ Date: _____

Show your grouping or explain your reasoning. Check the answer key after you finish.

1. Write 2,003,004,000,005 in words.

2. Add commas: 12000045006007

3. Write in digits: six hundred four billion, two million, seven hundred thousand, eighty-one.

4. What is the value of the digit 7 in 47,200,500,000,123?

5. Which three-digit period is 000 in 12,000,045,006,007?

6. Write 3,050,000,000,007 in expanded form.

Answer key

Beginner worksheet: page 4. Intermediate worksheet: page 5.

Beginner answers

1. Seventy-two thousand, four hundred six.
2. 4,205,018
3. 8,000,012
4. 6,000,000. It is in the millions place.
5. The thousands period. Keep its zeros in the numeral; skip its name when reading aloud.
6. 3,000,000 + 50,000 + 7

Intermediate answers

1. One billion, two hundred fifty million.
2. 4,032,005,017
3. 40,006,000,009
4. 30,000,000. It is in the ten millions place.
5. The thousands period. Keep its zeros in the numeral; skip its name when reading aloud.
6. 9,000,000,000 + 3,000,000 + 10 + 5

Answer key & teaching notes

Advanced worksheet: page 6.

Advanced answers

1. Two trillion, three billion, four million, five.
2. 12,000,045,006,007
3. 604,002,700,081
4. 7,000,000,000,000. It is in the trillions place.
5. The billions period. Keep its zeros in the numeral; skip its name when reading aloud.
6. 3,000,000,000,000 + 50,000,000,000 + 7

Look for understanding

- A learner should explain why 40,006,000,009 needs the empty thousands period.
- In 4,032,005,017, 3 is worth 30,000,000. The digit and its value are different.
- For expanded form, add only the non-zero digit values. Their sum must equal the original number.

Word answers use English short-scale names. Regional “and” and punctuation variations are acceptable when the number is unchanged.

Use the online chart or make a fresh worksheet for another lesson.