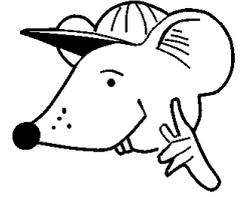




MATHEMATICS



**Y6 Number and Place Value
6120**

Revise rounding whole numbers.

Equipment

Paper, pencil

MathSphere

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Concepts

Numbers to the nearest 100 (revision)

When rounding to the nearest 100 the key figure is the tens digit. If the tens digit is 5 or above, round up. If it is below 5 round down.

e.g. **279** is **300** to the nearest **100** **249** is **200** to the nearest **100**

(Note that it does not matter what the **units** digit is, it is the **TENS** digit that must be looked at.)

Numbers to the nearest 1 000

When rounding to the nearest 1 000 the key figure is the hundreds digit. If the hundreds digit is 5 or above, round up. If it is below 5, round down.

e.g. **2 750** is **3 000** to the nearest **1 000**.
2 199 is **2 000** to the nearest **1 000**

(Note that it does not matter what the **tens** or **units** digits are, it is the **HUNDREDS** digit which must be looked at.)

Be careful that when rounding, children do not write:

$$2\ 345 = 2\ 000$$

because 2 345 does not equal 2 000.

2 345 is 2 000 'to the nearest 1 000' should always be added, or it can be written: 2 345 → 2 000

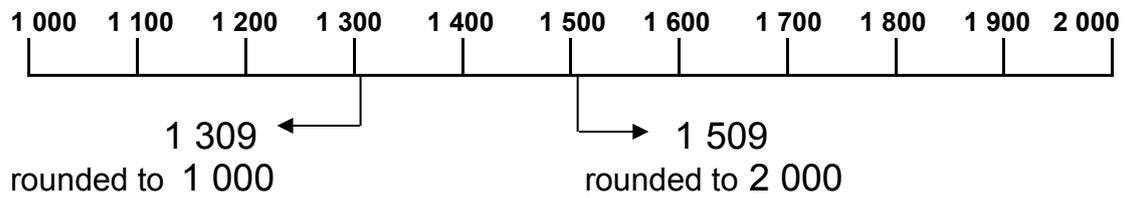
Rounding larger numbers

Larger numbers can be rounded in just the same way as above, always referring to the digit below the one you want to round.

e.g. rounding to a million, look at the hundred thousand digit:

2 345 456 is **2 000 000** (two million) to the nearest million

2 987 654 is **3 000 000** (three million) to the nearest million

ROUNDING TO NEAREST THOUSAND

Write these numbers to the nearest whole thousand:

1. 3 759

2. 5 935

3. 8 065

4. 7 216

5. 2 060

6. 2 593

7. 34 603

8. 98 837

9. 19 246

10. 21 767

11. 25 504

12. 19 701

13. What is the nearest thousand to 45 680 ?

14. What is the nearest thousand to 12 521 ?

15. What is the nearest thousand to 91 499 ?

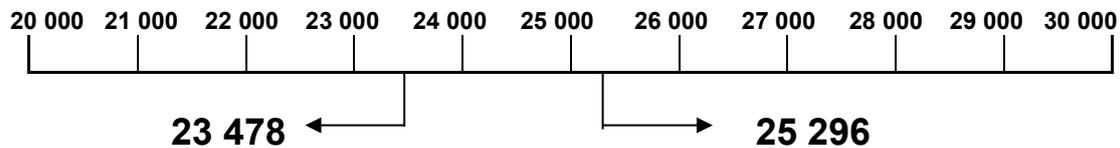
16. Round 71 656 to the nearest thousand.

17. Round 75 288 to the nearest thousand.

18. What whole thousand is nearest to 19 535 ?

Look at the hundreds when deciding whether to round up or down to the nearest thousand.



ROUNDING TO NEAREST TEN THOUSAND

23 478 rounded to the nearest ten thousand is 20 000.

25 296 rounded to the nearest ten thousand is 30 000.

Write these numbers to the nearest whole ten thousand:

1. 27 844

2. 35 129

3. 93 203

4. 48 039

5. 17 310

6. 23 561

7. 40 576

8. 96 654

9. 19 050

10. 25 067

11. 41 653

12. 18 919

13. What is the nearest ten thousand to 56 838 ?

14. What is the nearest ten thousand to 38 759 ?

15. What is the nearest ten thousand to 47 147 ?

16. Round 55 716 to the nearest ten thousand.

Look at the **thousands** when deciding whether to round up or down.



ROUNDING TO THE NEAREST MILLION

3 267 499 is 3 000 000 (three million) to the nearest million

3 988 611 is 4 000 000 (four million) to the nearest million

When rounding to the nearest million it is the hundreds of thousands digit that needs to be considered.

If it is five or above, round up.

If it is below five, round down.

Round these numbers to the nearest million:

1. 2 434 980

2. 5 657 121

3. 8 654 347

4. 3 978 909

5. 6 289 051

6. Below is a chart showing the area of some of the oceans and seas in the world. Re-draw the table rounding off these areas to the nearest million square km:

OCEAN/SEA	AREA (in sq. km)
Arctic Ocean	9 485 000 sq km
Coral Sea	4 791 000 sq km
Arabian Sea	3 864 000 sq km
South China Sea	3 686 000 sq km
Caribbean Sea	2 753 000 sq km

1. Below are the population figures for some states of the USA. They have already been rounded to the nearest thousand but now round them to the nearest million:

STATE	POPULATION
Arizona	3 489 000
California	28 314 000
Hawaii	1 098 000
Kansas	2 495 000
Oklahoma	3 242 000

2. Write down in figures a number between six million and seven million which is nearer to seven million than six million.

3. Paris has a population of 8 707 000 whilst London has a population of 6 735 000. To the nearest million, how much bigger is Paris than London ?

4. The planet Mercury orbits the sun at an average distance of 57 909 200 km. Round this to the nearest million km.

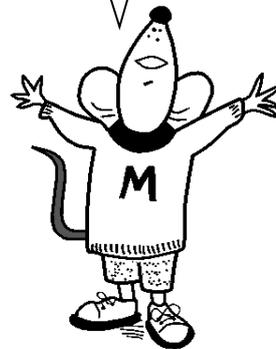
5. The Sahara desert covers an area of 9 269 590 sq km. Round this to the nearest million km.

6. The length of the main road system in the USA totals an incredible 6 284 598 km. Round this to the nearest million km.

1. Write down populations of these South American countries to the nearest million people:

Bolivia	6 917 485
Brazil	144 369 840
Colombia	30 007 645
Ecuador	10 154 389
Peru	20 681 529
Argentina	31 506 944
Chile	12 760 860

Wow! All those people!!



2. The Pacific Ocean has an area of about 166 241 578 sq. km. Round this off to the nearest million sq. km.
3. Each year about 60 584 378 tourists visit France. What is this figure to the nearest million ?
4. If Venus is 108 325 081 kilometres from the sun, what would this be to the nearest million km ?
5. Greenland has an area of 2 175 590 sq. km. What is this to the nearest million sq km ?

1. Which of these is the best approximation for $7\ 164 + 2\ 898$?

- a. $7\ 100 + 2\ 900$ b. $7\ 100 + 3\ 000$ c. $7\ 200 + 3\ 000$ d. $7\ 200 + 2\ 900$

2. Which of these is the best approximation for $8\ 378 - 1\ 709$?

- a. $8\ 300 - 1\ 700$ b. $8\ 400 - 1\ 800$ c. $8\ 300 - 1\ 800$ d. $8\ 400 - 1\ 700$

3. Which of these is the best approximation for 578×84 ?

- a. 500×80 b. 600×90 c. 500×90 d. 600×80

4. Which of these is the best approximation for $632 \div 39$?

- a. $630 \div 40$ b. $640 \div 40$ c. $600 \div 30$ d. $630 \div 30$

5. Work out approximate answers to the following sums by rounding to the nearest thousand:

a. $5\ 720 + 3\ 033$

b. $21\ 777 + 4\ 489$

c. $64\ 355 + 4\ 669$

d. $32\ 699 + 1\ 151$

e. $67\ 930 + 2\ 499$

Remember to look at the hundreds when rounding to whole thousands!



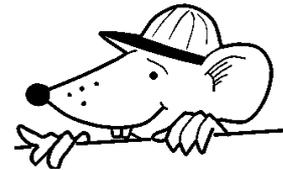
6. What is 72 643 to the nearest whole ten?

7. What is 72 643 to the nearest whole one hundred?

8. What is 72 643 to the nearest whole one thousand?

1. What is the approximate answer for $(3\,482 + 85) \div 20$
2. What is the approximate answer for $(10\,158 - 189) \div 100$
3. Work out approximate answers to the following sums by rounding to the nearest thousand:
 - a. $73\,229 + 5\,280$
 - b. $47\,778 + 7\,777$
 - c. $51\,900 + 2\,199$
 - d. $42\,366 + 7\,839$
 - e. $22\,818 + 8\,348$

Tens of thousands eh!
Tricky stuff!



4. What is 59 201 to the nearest thousand?
5. What is 76 170 to the nearest thousand?
6. To the nearest thousand what is half of 70 499?
7. To the nearest thousand what is double 22 199?
8. Round 73 678 to the nearest 10.
9. Round 73 678 to the nearest 100.
10. Round 73 678 to the nearest 1 000.

If you were giving estimates for the following numbers would you round them to the nearest ten, hundred, thousand, ten thousand, hundred thousand or million (or even more!)?

1. The number of children in a class.
2. The number of children in a school.
3. The distance, in kilometres, from the Earth to the sun.
4. The distance, in kilometres, from London to Dover.
5. The number of people in the world.
6. The number of people on a full coach.
7. The number of insects in the world.
8. The number of types of sweets in a supermarket.
- 9. Draw and complete the table below, rounding the numbers to ten, hundred, thousand and ten thousand:**

NUMBER	ROUND TO 10	ROUND TO HUNDRED	ROUND TO THOUSAND	ROUND TO TEN THOUSAND
26 489				
37 591				
46 668				
21 012				
38 903				

Answers**Page 3**

1. 4 000 2. 6 000 3. 8 000 4. 7 000 5. 2 000 6. 3 000
 7. 35 000 8. 99 000 9. 19 000 10. 22 000 11. 26 000 12. 20 000
 13. 46 000 14. 13 000 15. 91 000 16. 72 000 17. 75 000 18. 20 000

Page 4

1. 30 000 2. 40 000 3. 90 000 4. 50 000 5. 20 000 6. 20 000
 7. 40 000 8. 100 000 9. 20 000 10. 30 000 11. 40 000 12. 20 000
 13. 60 000 14. 40 000 15. 50 000 16. 60 000

Page 5

1. 2 000 000 2. 6 000 000 3. 9 000 000 4. 4 000 000 5. 6 000 000
 6. Arctic 9 000 000 sq km Coral 5 000 000 sq km Arabian 4 000 000 sq km
 South China 4 000 000 sq km Caribbean 3 000 000 sq km

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1. Arizona 3 000 000 California 28 000 000 Hawaii 1 000 000
 Kansas 2 000 000 Oklahoma 3 000 000
 2. any number between 6 500 001 and 6 999 999 3. 2 (million) 4. 58 000 000 km
 5. 9 000 000 sq km 6. 6 000 000 km

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1. Bolivia 7 000 000 Brazil 144 000 000 Colombia 30 000 000
 Ecuador 10 000 000 Peru 21 000 000 Argentina 32 000 000 Chile 13 000 000
 2. 166 000 000 sq km 3. 61 000 000 4. 108 000 000 5. 2 000 000 sq km

Page 8

1. d. $7\,200 + 2\,900$ 2. a. $8\,300 - 1\,700$ 3. d. 600×80 4. a. $630 \div 40$
 5 a. 9 000 b. 26 000 c. 69 000 d. 34 000 e. 70 000
 6. 72 640 7. 72 600 8. 73 000

Answers cont.

Page 9

1. 180 2. 100 3 a 78 000 b. 56 000 c. 54 000 d. 50 000 e. 31 000
4. 59 000 5. 76 000 6. 35 000 7. 44 000 8. 73 680 9. 73 700 10. 74 000

Page 10

1. ten 2. Ten or hundred 3. million 4. ten 5. one/ten/hundred million 6. ten
7. one/ten/hundred million or more 8. Ten or hundred

9.

26 489	26 490	26 500	26 000	30 000
37 591	37 590	37 600	38 000	40 000
46 668	46 670	46 700	47 000	50 000
21 012	21 010	21 000	21 000	20 000
38 903	38 900	38 900	39 000	40 000