## Ordering and rounding – teacher notes

### Learning Outcomes

* Use the vocabulary of estimation and approximation. Consolidate rounding an integer to the nearest 10, 100, and 1000.
* Round a number with two decimal places to the nearest tenth or to the nearest whole number.
* Solve a problem by representing, extracting and interpreting data in tables.

# **Resources**

#### Copies of ‘Ordering and Rounding’ worksheet

# **Oral and mental starter**

#### Repeat the activity from lesson 1

# **Main Activity**

Write on the board the following river lengths and discuss them:

|  |
| --- |
| River Lengths (in km) |
| Nile | 6 695 |  | Amazon | 6 570 |  | Yangtze | 6 380 |
| Missouri | 3 969 |  | Zambesi | 2 650 |  | Rhine | 1 320 |

Bring out the fact that they are in order and are very accurately stated (to the nearest kilometre). Ask the pupils to round the lengths to the nearest hundred kilometres. Write their answers on the board and say that these approximate lengths might well be quoted when discussing rivers.

*The Nile is approximately (about) 6700 km long.* Ask for the approximate difference in length between some of the rivers, e.g. Nile and Rhine (5400 km). The pupils then start work on the ‘Ordering and Rounding’ worksheet.

### Differentiation

#### More able: Ask this group to measure their books, their pencils etc… and round to the nearest cm.

Less able: Discuss the first two examples with this group before starting work on the sheet.

**Plenary**

# Mark the first two examples with the pupils. Question 1 could have been the same answer of 2000 if rounded to the nearest 1000, so be careful when rounding.

# **Ordering and rounding**

1. a) Put these car odometer readings in descending order (largest to smallest):

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 10 050 | 17 216 | 4414 | 78 506 | 17 941 | 1528 | 1650 |

1. Round each reading to the nearest 100 miles.
2. Round each reading to the nearest 1000 miles.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  a) |  | b) |  | c) |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

1. Here are some Olympic champions’ times for the 400 metres between 1896 and 1968 (not all the Olympic Games are shown):

|  |  |
| --- | --- |
| 1896 T.E. Burke (USA) 54.2 sec | 1900 M.W. Long (USA) 49.4 sec |
| 1904 H.L. Hillman (USA) 49.6 sec | 1920 B.G.D. Rudd (S Africa) 43.6 sec |
| 1964 M.D. Larrabee (USA) 45.1 sec | 1968 L. Evans (USA) 43.8 sec |

a) Did the athletes always get faster? If not, say when they didn’t.

b) What is the difference between the times taken in 1896 and 1968?

1. a) Put these mountain heights in order with the highest first:

|  |  |
| --- | --- |
| Rakaposhi | 7780 metres |
| Bonete | 6870 metres |
| K2 | 8610 metres |
| Logan | 6050 metres |
| Ben Nevis | 1340 metres |
| Everest | 8850 metres |

# b) How accurate are the heights, do you think?

1. Round each of these decimals to the **nearest tenth** and to the **nearest whole number**.

|  |  |  |  |
| --- | --- | --- | --- |
| a) 16.72 | b) 136.48 | c) 0.134 | d) 41.95 |
| a) | b) | c) | d) |
| a) | b) | c) | d) |