



## Choosing the most appropriate NumberSense Workbook for a child

Children will benefit most from the NumberSense Workbook Series if they start with the workbook that matches their stage of number sense development. In that way they will be able to work confidently and independently through the workbook.

The workbooks are developmental in nature. Each workbook builds on the concepts and skills developed in the previous workbook. To gain as much as possible from the workbook series children should work through the materials in the sequence that they appear in the workbook.

To help you choose the NumberSense Workbook that is most appropriate for a particular child; three sample pages are available for each of the 26 workbooks in the series. These sample pages are available in all of the languages that the booklets have been translated into. The purpose of these sample pages is to assist you to decide on the first workbook that a child will start working in.

### Using the sample pages to choose the most appropriate workbook for a child

Use the *NumberSense Workbook Grade Guide* at [www.NumberSense.co.za](http://www.NumberSense.co.za) to determine the ideal workbook for a child based on their Grade and the time of the year. Then:

- Start with the sample pages from the workbook at least four workbooks before the ideal one.
- Let the child work through these pages by him/herself.
  - If the child finds the activities on the pages too easy (and gets all the answers correct); repeat the exercise with the sample pages from the next workbook.
  - If the child struggles with the pages then repeat the exercise with the sample pages from an earlier workbook in the series.

***The best initial workbook for a child is the workbook before the one in which the child starts to struggle.***

Having decided on an initial workbook for a child let him/her work through that workbook and those that follow at a pace of at least one page per day.



In mathematics, the order of operations convention is used to clarify the order in which the operations should be performed in an expression.

According to the convention multiplication is done before addition.

$$2 + 3 \times 4 = 14 \text{ and } 3 \times 4 + 2 = 14$$

If we want the addition in an expression to be performed first, we use brackets.

$$(2 + 3) \times 4 = 20 \text{ and } 3 \times (4 + 2) = 18$$



1. Use the order of operations convention to calculate the value of each expression. The correct answers are at the bottom of the page.

a.  $4 \times 5 + 3 = \underline{\hspace{2cm}}$

e.  $3 \times (7 + 4) = \underline{\hspace{2cm}}$

b.  $3 + 4 \times 5 = \underline{\hspace{2cm}}$

f.  $4 \times 5 + 3 \times 2 = \underline{\hspace{2cm}}$

c.  $(6 + 3) \times 4 = \underline{\hspace{2cm}}$

g.  $3 + (2 + 4) \times 6 = \underline{\hspace{2cm}}$

d.  $2 + 3 \times 4 + 2 = \underline{\hspace{2cm}}$

h.  $5 \times 5 + 4 \times 3 = \underline{\hspace{2cm}}$

2. Use the order of operations convention to calculate the value of each expression.

a.  $5 + 6 \times 5 = \underline{\hspace{2cm}}$

f.  $6 \times (3 + 2) = \underline{\hspace{2cm}}$

k.  $3 \times 5 + 2 \times 4 = \underline{\hspace{2cm}}$

b.  $6 \times 5 + 5 = \underline{\hspace{2cm}}$

g.  $(9 + 2) \times 4 = \underline{\hspace{2cm}}$

l.  $8 \times (2 + 2) = \underline{\hspace{2cm}}$

c.  $(7 + 5) \times 2 = \underline{\hspace{2cm}}$

h.  $8 \times 5 + 4 \times 2 = \underline{\hspace{2cm}}$

m.  $4 + 6 \times 7 = \underline{\hspace{2cm}}$

d.  $7 + 2 \times 3 = \underline{\hspace{2cm}}$

i.  $9 + 3 \times 7 = \underline{\hspace{2cm}}$

n.  $(7 + 4) \times 5 = \underline{\hspace{2cm}}$

e.  $2 \times 5 + 5 \times 4 = \underline{\hspace{2cm}}$

j.  $5 + 2 \times 6 + 4 = \underline{\hspace{2cm}}$

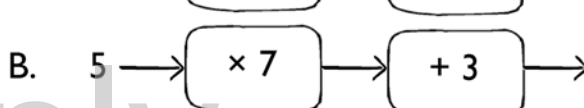
o.  $3 \times 4 + 6 \times 2 = \underline{\hspace{2cm}}$

3. Which flow diagram will give the correct value for each expression? Write the letter.

a.  $3 + 5 \times 7 \quad \underline{\hspace{2cm}}$

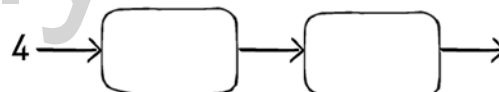


b.  $(3 + 5) \times 7 \quad \underline{\hspace{2cm}}$

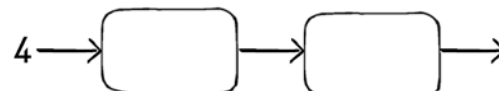


4. Complete the flow diagram for each expression.

a.  $8 + 4 \times 2$



b.  $2 \times (8 + 4)$



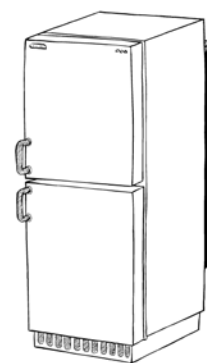
Answers to question 1.

a. 23 b. 23 c. 36 d. 16 e. 33 f. 26 g. 39 h. 37

1. Match the following temperatures to the most appropriate situation.

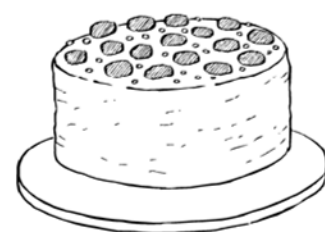
$-17^{\circ}\text{C}$  ;  $0^{\circ}\text{C}$  ;  $3^{\circ}\text{C}$  ;  $7^{\circ}\text{C}$  ;  $14^{\circ}\text{C}$  ;  $30^{\circ}\text{C}$  ;  $37^{\circ}\text{C}$  ;  $40^{\circ}\text{C}$  ;  $72^{\circ}\text{C}$  ;  $100^{\circ}\text{C}$

- A cold day: \_\_\_\_\_
- Water when it turns into ice: \_\_\_\_\_
- A household refrigerator: \_\_\_\_\_
- A mild day: \_\_\_\_\_
- A hot day: \_\_\_\_\_
- A household freezer: \_\_\_\_\_
- The temperature that milk is pasteurised to kill off most germs: \_\_\_\_\_
- A very hot day: \_\_\_\_\_
- Boiling water at the coast: \_\_\_\_\_
- A well person: \_\_\_\_\_



2. Complete.

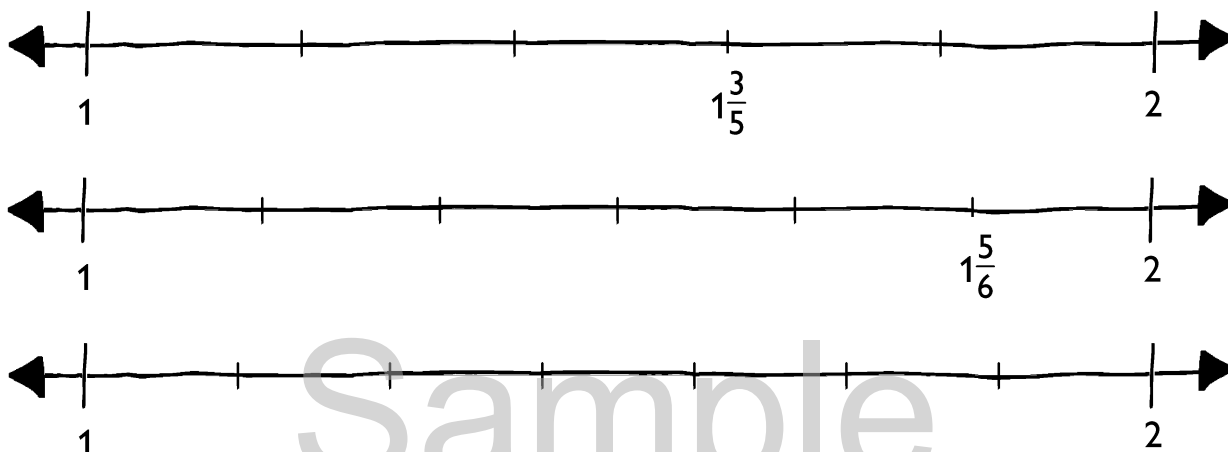
- |                                   |                                       |
|-----------------------------------|---------------------------------------|
| a. $1\text{ l} = \text{_____ ml}$ | b. $2\text{ 100 ml} = \text{_____ l}$ |
| $0,2\text{ l} = \text{_____ ml}$  | $750\text{ ml} = \text{_____ l}$      |
| $1,5\text{ l} = \text{_____ ml}$  | $50\text{ ml} = \text{_____ l}$       |
| $0,25\text{ l} = \text{_____ ml}$ | $5\text{ ml} = \text{_____ l}$        |
| $3,1\text{ l} = \text{_____ ml}$  | $10\text{ ml} = \text{_____ l}$       |



- Susan adds 5 ml vanilla essence to a cake. How many cakes can she flavour with a 250 ml bottle of vanilla essence?
- How many 750 ml bottles of grape juice can the farmer fill from a 10 l barrel of grape juice?
- How many 300 ml glasses of juice can you fill from a 1,5 l bottle of juice?
- A caterer orders 100 l of cooldrink for a big function.
  - How many 2 l bottles will that be?
  - How many  $1\frac{1}{2}\text{ l}$  bottles will that be?
  - How many 400 ml glasses will that be?

Work this out in an easy way. (Hint. How many 400 ml glasses can you fill from 1l?)

1. Complete.



Use the number lines to help you decide which is bigger:

- a.  $1\frac{1}{5}$  or  $1\frac{1}{7}$ ?
- b.  $1\frac{2}{6}$  or  $1\frac{2}{5}$ ?
- c.  $1\frac{2}{5}$  or  $1\frac{4}{7}$ ?
- d.  $1\frac{3}{5}$  or  $1\frac{4}{6}$ ?
- e.  $1\frac{5}{7}$  or  $1\frac{4}{6}$ ?
- f.  $1\frac{3}{5}$  or  $1\frac{4}{7}$ ?

2. Mrs Black uses  $\frac{5}{8}$  m of material to make one small table cloth. How many tablecloths can she make from 20 m of material?



3. Complete.

Diagram for problem 1: A number line with 11 boxes. The first box contains  $\frac{2}{5}$ . An arrow points right to the second box, which contains  $1\frac{1}{5}$ . An arrow points right to the third box, which contains  $1\frac{1}{5}$ . An arrow points right to the fourth box, which is empty. An arrow points right to the fifth box, which contains  $1\frac{3}{7}$ . An arrow points right to the sixth box, which is empty. An arrow points right to the seventh box, which contains  $\frac{6}{7}$ . An arrow points right to the eighth box, which is empty. An arrow points right to the ninth box, which is empty. An arrow points right to the tenth box, which is empty. An arrow points right to the eleventh box, which contains 1. Below the number line, there are several labels:  $+\frac{5}{8}$  is below the first box,  $+\frac{2}{7}$  is below the sixth box, and  $-\frac{7}{20}$  is below the second, third, fourth, and fifth boxes.