Brombacher & Associates

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 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.

1. Planks are sold in lengths of 2,6 m. Mr Khumalo buys 8 planks. How many metres is that altogether?

> Planks are sold in lengths of 3,2 m. Mr Brown buys 8 planks. How many metres is that altogether?
>
> 3,2 × 8
> I do it by multiplying the parts.
> That is 3 × 8 = 24, and
> 0,2 × 8 = 1,6.
> So 24 + 1,6 = 25,6 m.
>
> 3,2 × 8
> I do it by doubling three times.
> Double 3,2 is 6,4
> Double 6,4 is 12,8
> Double 12,8 is 25,6 m.
>
> 25,6 m. I double and halve.
> 6,4 × 4 is the same as 3,2 × 8
> 12,8 × 2 is the same as 6,4 × 4
> 25,6 × 1 is the same as 12,8 × 2.

2. Use these strategies to calculate.

   a. 2,7 × 4 = _____

   b. 4,8 × 5 = _____

   c. 3,3 × 6 = _____

   d. 2,4 × 8 = _____

   e. 3,4 × 4 = _____

   f. 1,8 × 8 = _____

   g. 7 × 2,3 = _____

   h. 5 × 4,6 = _____

3. Complete.

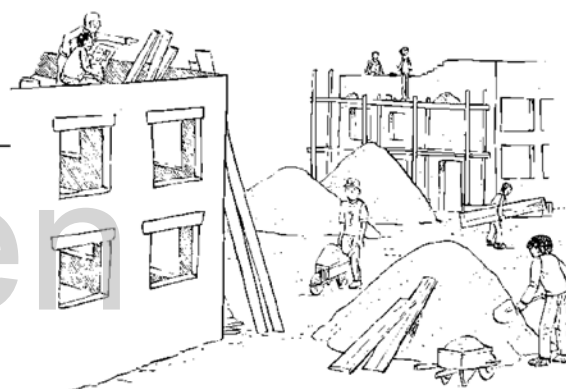   a. $0,5 = \dfrac{1}{}$ b. $0,25 = \dfrac{}{4}$ c. $0,75 = \dfrac{}{}$

> The engineer needs 8 iron rods. Each iron rod is 3,75 m long. How many metres is that?
>
> 3,75 × 8 That is:
> 3 × 8 = 24, and
> $\dfrac{3}{4}$ × 8 = 6.
> So 24 + 6 = 30 m.
>
> Xolile uses his knowledge of common fractions to calculate with decimals.
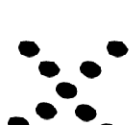
4. Use your knowledge of common and decimal fractions and a "multiplying the parts" strategy to calculate.

   a. 8 × 7,5 = _____   c. 2,25 × 8 = _____   e. 4,75 × 4 = _____

   b. 6 × 4,5 = _____   d. 3,25 × 12 = _____   f. 3,75 × 8 = _____

1. Sindi makes pictures with dots. The first three pictures make a pattern.
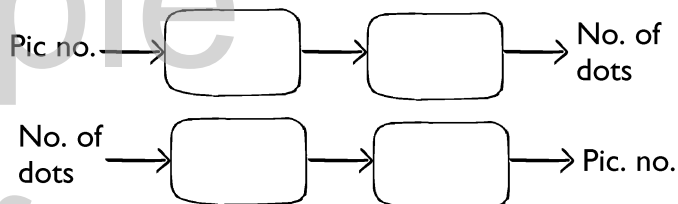

| Picture 1 | Picture 2 | Picture 3 | Picture 4 | Picture 5 |

a. Draw the fourth and fifth pictures in the pattern.

b. Complete the table and the flow diagrams.

Picture no.	1	2	3	4	5
No. of dots	5	9			

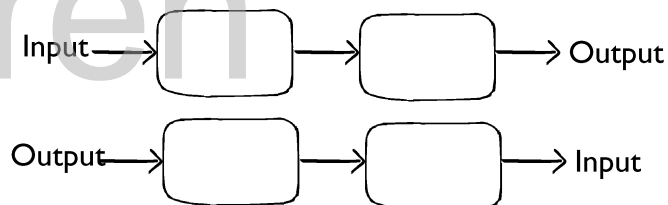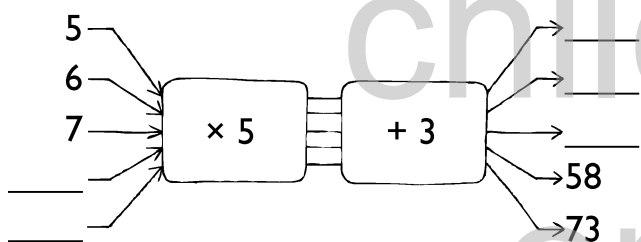Pic no. → ☐ → ☐ → No. of dots

No. of dots → ☐ → ☐ → Pic. no.

c. Solve the equations.

- $6 \times 4 + 1 = \square$
- $15 \times 4 + 1 = \square$
- $\square \times 4 + 1 = 133$

- $\square \times 4 + 1 = 25$
- $\square \times 4 + 1 = 61$
- $\square \times 4 + 1 = 181$

d. Describe how the flow diagrams helped you to solve the equations.

2. a. Complete the flow diagrams.

5, 6, 7, __, __ → × 5 → + 3 → __, __, __, 58, 73
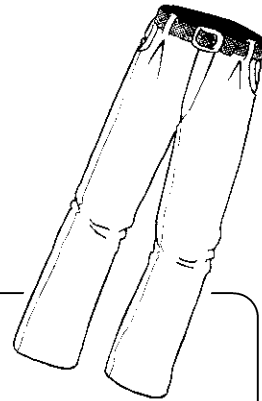
Input → ☐ → ☐ → Output

Output → ☐ → ☐ → Input

b. Solve the equations.

- $8 \times 5 + 3 = \square$
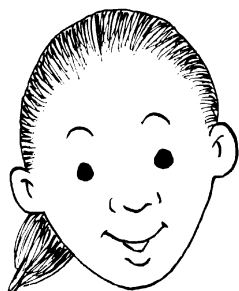- $15 \times 5 + 3 = \square$
- $\square \times 5 + 3 = 43$

- $\square \times 5 + 3 = 33$
- $\square \times 5 + 3 = 78$
- $\square \times 5 + 3 = 103$

c. Describe how the flow diagrams helped you to solve the equations.

1. A pair of pants costs R120. Zeb received a 5% discount for paying cash. How much money did he save?

A dress costs R240. Sara received a 5% discount for paying cash. How much money did she save?

5% of R240
That is half of 10%.
*$\frac{1}{10}$ of R240 is R24 and half of R24 is R12.*

5% of R240
That is $\frac{1}{20}$ × R240.
R240 ÷ 20 = R12.

2. Calculate.

    a. 5% of R260 = _____   d. 5% of R760 = _____   g. 5% of R16,80 = _____

    b. 5% of R480 = _____   e. 5% of R720 = _____   h. 5% of R36,40 = _____

    c. 5% of R640 = _____   f. 5% of R250 = _____   i. 5% of R44,20 = _____

3. Bulani has 36 biscuits in his tin of biscuits. He gave 3 biscuits to his little brother and 6 biscuits to his friend Vusi. Then he ate 9 biscuits.

    a. What fraction of the tin of biscuits did he give to his brother? ___

    b. What fraction of the tin of biscuits did he give to Vusi? ___

    c. What fraction of the tin of biscuits did he eat? ___

    d. What fraction of the tin of biscuits was left over? ___
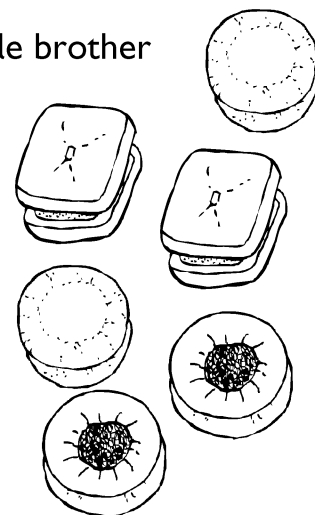
4. Use your work in question 3 to write as one fraction.

    a. $\frac{1}{12} + \frac{1}{6}$ c. $\frac{3}{36} + \frac{6}{36}$

    b. $\frac{1}{2} + \frac{1}{4}$

5. Complete.

$7\frac{3}{8}$ → ☐ → $10\frac{2}{7}$ | $5\frac{5}{8}$ → ☐ → $7\frac{3}{4}$