SALE

Data Sheet

A store has a sale of four different types of goods.
The normal prices and the percentage reductions in the sale are given below.

MP3 Players	**10% off**
LOGIK 256MB LCD	£39.99
CREATIVE V200 FM 256Mb	£54.99
SUPPORT + Ellipse Silver 1Gb	£64.99
Q-Be 512Mb Pink	£84.99
SONY NWA1000 Black 6Gb	£159.99
ARCHOS AV7100 Multimedia	£549.99

Televisions	**20% off**
SAMSUNG LW15M23CX	£279.99
DAEWOO DSL17D3	£299.99
MAXIM 11-57	£599.00
HITACHI 37LD6600	£1499.99
PANASONIC 32LXD500	£1799.99
PHILIPS 50PF9966	£2999.00

DVD Players	**30% off**
MATSUI DVD227	£24.99
FERGUSON-DVD3051	£34.99
PHILIPS DVP3005	£39.99
TOSHIBA SD150E	£44.98
MAXIM 11-21	£49.99
SONY DVPNS52P	£69.99

Digital Cameras	**25% off**
KODAK C340	£99.89
PENTAX OPT60	£129.00
FUJI Z1 SILVER	£199.89
CANON IZOOM	£254.89
NIKON 7900	£259.89
OLYMPUS SP500	£299.89

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Worksheet

The normal prices and percentage reductions in the sale are given in the spreadsheet.

Finding the Reductions
The blue cell, C3 shows the price reduction on the first MP3 player. This is 10% of £39.99
Click on the C3 cell so that you can see the spreadsheet formula: **=0.1*B3**

This works because $10\% = \dfrac{10}{100} = \dfrac{1}{10} = 0.1$

Use formulae (or 'fill down') to find the price reductions on the other MP3 players.

The price reduction on televisions is 20%. As a decimal $20\% = \dfrac{20}{100} = \dfrac{2}{10} = 0.2$
Click on the blue C10 cell so that you can see the spreadsheet formula: **=0.2*B10**

Use formulae (or 'fill down') to find the price reductions on the other televisions.

DVD prices are reduced by 30% and digital camera prices by 25%.

Write these percentages as decimals   30% = ……………..   25% = ……………
(Ask your tutor to check your answers.)
Use formulae to find the price reductions on DVDs and digital cameras.

Finding the Sale Prices
The first green cell, D3, shows the sale price of the first MP3 player.
Click on the D3 cell so that you can see the spreadsheet formula: =B3-C3

Use formulae (or 'fill down') to find the sale prices of all the other goods.
Print your spreadsheet table.

The answers can be checked using estimates.

Example : The OLYMPUS SP500 (last in the table) normally costs £299.89
          This is roughly £300. One way of finding 25% of £300 is to find 10% first.
          As 10% is one tenth, just divide £300 by 10.

	10% of £300 = £30
	20% of £300 = £30 × 2 = £60
	5% of £300 = £30 ÷ 2 = £15
so	25% of £300 = £60 + £15 = £75
	Sale Price ≈ £300 – £75 = £225

> **Alternative Method for 25%**
>
> $25\% = \dfrac{1}{4}$, so we can estimate the reduction by dividing by 4:
>
> $$\begin{array}{r} 7\ 5 \\ \hline 4\ \overline{)\ 3\ 0\ ^2 0} \end{array}$$

Use estimates to check the other values on the spreadsheet.

Teacher Notes

Unit   Foundation Level, Managing money

Skills used in this activity:
- using spreadsheet formulae ('fill down' optional)
- writing percentages as decimals
- checking calculations using estimates

Preparation

Each student will need:
- a copy of the data sheet and worksheet
- to know how to use spreadsheet formulae and access to the Sale spreadsheet

Answers   30% = 0.3   25% = 0.25

SALE

MP3 Players 10% off	Normal Price	Reduction	Sale Price
LOGIK 256MB LCD	£39.99	£4.00	£35.99
CREATIVE V200 FM 256Mb	£54.99	£5.50	£49.49
SUPPORT + Ellipse Silver 1Gb	£64.99	£6.50	£58.49
Q-Be 512Mb Pink	£84.99	£8.50	£76.49
SONY NWA1000 Black 6Gb	£159.99	£16.00	£143.99
ARCHOS AV7100 Multimedia	£549.99	£55.00	£494.99
Televisions 20% off			
SAMSUNG LW15M23CX	£279.99	£56.00	£223.99
DAEWOO DSL17D3	£299.99	£60.00	£239.99
MAXIM 11-57	£599.00	£119.80	£479.20
HITACHI 37LD6600	£1,499.99	£300.00	£1,199.99
PANASONIC 32LXD500	£1,799.99	£360.00	£1,439.99
PHILIPS 50PF9966	£2,999.00	£599.80	£2,399.20
DVDs 30% off			
MATSUI DVD227	£24.99	£7.50	£17.49
FERGUSON-DVD3051	£34.99	£10.50	£24.49
PHILIPS DVP3005	£39.99	£12.00	£27.99
TOSHIBA SD150E	£44.98	£13.49	£31.49
MAXIM 11-21	£49.99	£15.00	£34.99
SONY DVPNS52P	£69.99	£21.00	£48.99
Digital Cameras 25% off			
KODAK C340	£99.89	£24.97	£74.92
PENTAX OPT60	£129.00	£32.25	£96.75
FUJI Z1 SILVER	£199.89	£49.97	£149.92
CANON IZOOM	£254.89	£63.72	£191.17
NIKON 7900	£259.89	£64.97	£194.92
OLYMPUS SP500	£299.89	£74.97	£224.92

Possible Extensions

Discuss other ways of checking the sale price. For example, a 10% reduction means the sale price is 90% of the normal price. The spreadsheet could be extended to include checks of this sort, or estimates used.

Students could set up a spreadsheet of their own to calculate other prices involving discounts, price increases or VAT.