

Activity: Totalling sets of coins

You will need:

Real or plastic coins (several of 1p, 2p, 5p, 10p, 20p, 50p), a purse or a tub/box with a lid, paper and pencil, copy of *Items Below £3 Master* or items labelled with prices from 15p to £3.00.

Before you start:

Check children can recognise the value of all coins.

Instructions:

- Put coins on the table in front of you and ask children to collect some 10p coins. Ask each child to tell you how many coins they have and then their value. Support children with counting in tens or using their 10 x table facts if necessary.
- Do the same with 2p coins. Ask children to put the 2p coins in a line and write the multiplication fact, e.g. $7 \times 2p = 14p$.
- Ask children to place a 20p coin underneath each of their 2p coins and to work out the value of their 20p coins. Support them in counting in 20s and writing the multiplication fact, e.g. $7 \times 20p = 140p$.
- Discuss the relationship between the calculations, e.g. $7 \times 2p = 14$ and $7 \times 20p = 140p$. Each 20p coin is worth 10 times as much as a 2p coin, so the total value is 10 times as great.
- Repeat with 5p and 50p coins.
- Put a mixture of coins into the purse/box and ask each child to pick 4 coins and to work out their total value. Encourage children to count the coins of larger value first. They should record their calculation, e.g. $50p + 10p + 10p + 1p = 71p$. Ask children to look at the priced items (*Items Below £3 Master* or labelled items) and to choose one item that they have enough money to buy.



Activity: Totalling sets of coins



- How many (2p) coins do you have? What multiplication fact can you write to show this?
- Look at the pair of facts you have written (e.g. $7 \times 2p = 14p$, $7 \times 20p = 140p$). What do you notice?
- Can you suggest another multiplication fact for 20p/50p coins? How do you know the answer?
- How did you work out the total of your four coins? Which coins did you add/count first? Why?
- Have you got enough money to buy a (e.g. pencil)? How do you know? Which other objects could you buy?

The Mathematics

This activity is designed to support children in finding the total value of a small number of coins and to identify the associated calculation. Initially, children rehearse counting in 10s, 2s, 20s, 5s and 50s to find the total of small sets of the same coin and to record this using multiplication. Children are encouraged to explore the relationship between linked multiplication facts, for example, using 2-times table facts to work out 20-times table facts. Children move on to find the total of a small set of mixed coins using addition, rehearsing the strategy of starting with the coins of largest value first.

Simplifications:

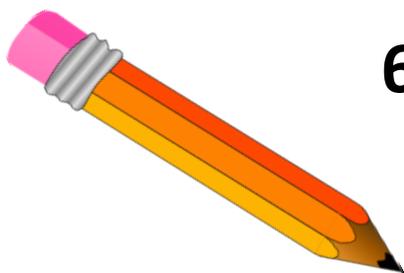


- Limit the coins considered to 1p, 2p, 5p and 10p coins.
- Use number lines to help children work out the total value of their coins.
- Reduce the number of coins.

Challenges:

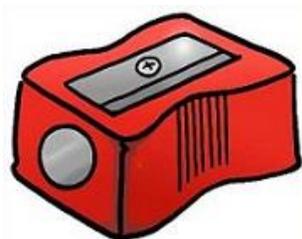
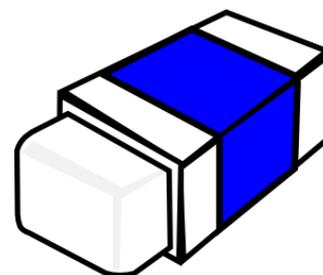


- Encourage children to write totals in pence only and in pounds and pence.
- Increase the number of coins.
- Encourage children to use multiplication to find totals as efficiently as possible.



65p

19p



29p

37p



82p



99p



£2.99

£1.25

