## I Need a 10p Maths Investigation

Aim: I can use coins to give change.
Jacob needs a 10p coin, but he only has a $£ 5$ note. He goes into a shop to spend as little money as possible in order to receive a 10p coin in the change.

1. The shopkeeper gives change in the smallest number of coins. How much does Jacob need to spend in order to get a 10p coin in the change? Show all the coins he will receive.
2. If Jacob had wanted any other coin, what is the smallest spend for each?

| Required <br> coin | $1 p$ | $2 p$ | $5 p$ | $10 p$ | $20 p$ | $50 p$ | $£ 1$ | $£ 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Minimum <br> Spend |  |  |  |  |  |  |  |  |

## I Need a 10p Maths Investigation Answers

Aim: I can use coins to give change.
Jacob needs a 10p coin, but he only has a $£ 5$ note. He goes into a shop to spend as little money as possible in order to receive a 10p coin in the change.

1. The shopkeeper gives change in the smallest number of coins. How much does Jacob need to spend in order to get a 10p coin in the change? Show all the coins he will receive.
He must spend 11p, receiving $£ 4.89$ change.

2. If Jacob had wanted any other coin, what is the smallest spend for each?

| Required <br> coin | $1 p$ | $2 p$ | $5 p$ | $10 p$ | $20 p$ | $50 p$ | $£ 1$ | $£ 2$ |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Minimum <br> Spend | $\mathbf{2 p}$ | $1 p$ | $1 p$ | $11 p$ | $1 p$ | $1 p$ | $£ 1.01$ | $1 p$ |

