

Games and activities

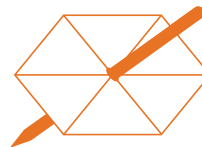
Pupils can use the following activities and games to generate their own exercises using dice, spinners and place value cards. Such involvement helps pupils' motivation but needs care because:

- each game should precisely target the particular skill required
- the additions generated will not be well graded and easier problems may not come first
- assessment should be built into the activity.

Pupils should have a basic competence before trying these activities. Assessment could take the form of self-and peer-assessment with pairs of pupils working together to throw the dice, do the addition and then compare answers.

You will need the following resources.

- six-sided blank dice
- blank hexagonal spinners
- sets of place value cards



Step 1: Two-digit addition no carrying

Label two dice or spinners with the numbers 10, 20, 20, 30, 30, 40 and 1, 2, 2, 3, 3, 4, and provide two sets of place value cards with the values 10, 20, 20, 30, 30, 40 and 1, 2, 2, 3, 3, 4.

Ask the pupils to work in pairs.

- Pupil A throws the two dice, spins the two spinners or selects one card from each pack to create a two-digit number, such as 31. (The selected cards are then returned to the packs.)
- Pupil B repeats to create a second two-digit number, such as 12.

They add their two numbers independently and compare their answers. If they agree, they continue with another addition. If they disagree, they work out the correct answer before continuing.

Step 2: Three-digit addition no carrying

Repeat the Step 1 activity, using a third dice, spinner or set of cards with the values 100, 200, 200, 300, 300, 400.

Step 3: Three-digit addition carrying 1 ten

Repeat the Step 1 activity, using three dice, spinners or sets of cards with the values: 100, 200, 200, 300, 300, 400 and 10, 20, 20, 30, 30, 40 and 3, 4, 5, 6, 7, 8.

Not all additions generated will require carrying a ten.

Step 4: Three-digit addition carrying 1 hundred

Repeat the Step 1 activity, using three dice, spinners or sets of cards with the values: 100, 200, 200, 300, 300, 400 and 30, 40, 50, 60, 70, 80 and 1, 2, 2, 3, 3, 4.

Not all additions generated will require carrying a hundred.

Games and activities continued

Step 8: Three-digit addition carrying twice

Repeat the Step 1 activity, using three dice, spinners or sets of cards with the values: 100, 200, 200, 300, 300, 400 and 30, 40, 50, 60, 70, 80 and 3, 4, 5, 6, 7, 8.

Not all additions generated will involve carrying twice. Pupils will become skilled in knowing when to carry.

Addition in context

These activities can be set in the context of buying two items (such as a magazine and a toy).

Ask the pupils to work in pairs.

- Pupil A generates the cost of one item.
- Pupil B generates the cost of the second item.
- The answer to the addition gives the total cost for two items.

For example, for Step 3: Three-digit addition (carrying one ten), you will need:

- a box containing cards labelled 3p, 4p, 5p, 6p, 7p and 8p
- a box containing cards labelled 10p, 20p, 20p, 30p, 30p and 40p
- a box containing cards labelled 100p, 200p, 200p, 300p, 300p and 400p.

Pupils can record their prices and totals either solely in pence or in pounds and pence.