

Spotlight 5: a learning check

Has difficulty in choosing suitable methods for calculations that cross boundaries: addition

Opportunity for: explaining and discussing



Cross-boundary shout

Time 15–20 minutes

Resources

- At least two children
- Someone to act as ‘banker’
- Empty number lines
- Place value (arrow) cards
- Calculator
- Number cards 0–9 (Resource sheet 1)
- Cubes or rewards
- *Blank loop track* (Resource sheet 21)
- Dice

Check: does the child use key vocabulary?

- | | |
|---------------------|-----------|
| count on | partition |
| count back | predict |
| how many jumps? | estimate |
| nearest ten/hundred | calculate |
| boundary | check |
| pattern | |

Teaching activity

‘This game, **Cross-boundary shout**, will help you with your adding when you have to cross a boundary.’

Pairs can cooperate to play, or players can race each other to read the total.

Choose a total to make, for example 200.

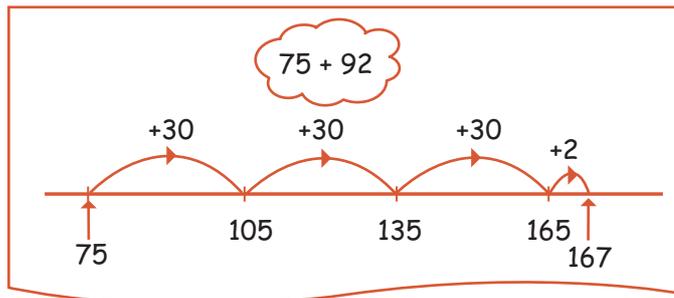
One person acts as ‘banker’. They take the number cards out of the bag, showing them to all players at the same time. The banker can also have a calculator just in case there are disputes about totals. The banker also controls the rewards.

Pairs or players keep their running total on a number line.

Each pair or player starts with five rewards.

How to play

1. The banker takes two number cards from the bag and makes sure everyone sees them at the same time. The first pair or player makes a two-digit number. For example, if the cards are 5 and 7, they can make fifty-seven or seventy-five. They record their chosen number on a number line.
2. The cards are put back in the bag and the banker takes two more cards for the next player.
3. On the second turn for the first player, the banker must be very careful to show all the players the cards at the same time. If any player thinks that the new cards are going to mean that player has to cross a hundred boundary, they shout 'cross boundary'.
For example, if a player had seventy-five on the first go, then 2 and 9 are taken out of the bag, they will be crossing the tens and hundreds boundaries by adding seventy-five and twenty-nine, or the hundreds boundary by adding seventy-five and ninety-two.



4. The player or pair that shouts first, wins another reward. (Or if they both shout it, they both get a reward.)
5. However, that reward has to be given back if they are wrong and the player can prove they don't cross a boundary.
6. Players must add their numbers together, showing how they do it on a number line and keeping a running total.
7. Play can't continue until everyone is sure the players have calculated correctly at each turn.
8. If at any time a player or the banker thinks a player has not calculated correctly, everyone stops and helps to calculate. If that player really has calculated incorrectly, they lose a reward.

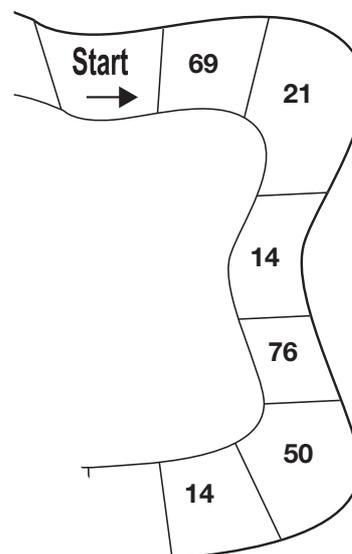


? What other method could you use to check you are right?

9. The winner is the first to get to the total, but only if they have more rewards than the others.

Variations

- Play with just picking up one single-digit number and adding it to a running total. Race to see who can get to one hundred first.
- Fill in the spaces on the blank track with numbers to suit the children. Players take turns to throw a standard 1–6 dice and move around the board, landing on numbers and keeping a running total of those numbers they land on. Race to get to three hundred or another suitable target, or race for ten minutes and see who has the largest total.



Learning outcomes

By the end of this set of activities children should be able to:

- tackle related learning tasks with increased motivation and confidence;
- use and understand connected mathematical vocabulary;
- make decisions about the most suitable method for calculating when crossing boundaries;
- estimate, calculate and check their work.