

Year 2: Addition: Use $9+1=10$ to add and subtract 9 mentally.

9s to 100

Aim of the Game

Be the first to reach 100 by adding or subtracting 9s.

You will need



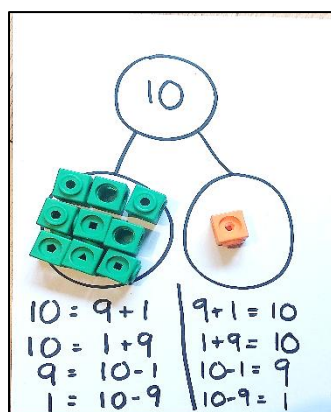
Before you play...

Can they add 10 and subtract 10 quickly?

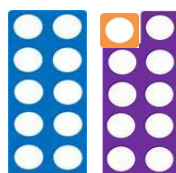
- Explain that the game today is about adding/subtracting 9s - but you can only play it if you know how to add/subtract 10 quickly!
- Check the child knows how to add/subtract 10 from any number on the 100 square (go down/up one row) - practise and praise! Can they do it without the 100 square?
- Agree that they are brilliant at adding/subtracting 10 in their head or with the 100 square but 9 is a bit harder to do in our heads so we will learn a strategy to do it very quickly!

Do they understand $10=9+1$ and $9=10-1$?

- Explain we are going to use what we know about 10 and 9 to add and subtract 9 quickly.
- Use cubes with a part/whole model to show the 10/9/1 fact family, discuss inverse as opposite.
- Numicon, if available, can also be used to reinforce the relationship between 10/9/1 by laying the 9 and 1 over the 10 to show they are the same, taking 1 away to leave the 9 or taking the 9 away to leave to 1.



The inverse of $9+1=10$ is $10-1=9$



If I know $9 = 10 - 1$, then I know that adding 10 then subtracting 1 is the same as adding 9.

Practice

- Practise adding 9s from any number mentally using the strategy $+10-1$ with the 100 square to support them. Prompt them to notice what is happening on the 100 square: they are going down 1 row ($+10$) and back 1 (-1).
- When ready, move on to subtracting 9. Look at the part/whole model again - what do you know?
- Practise subtracting 9 from any number using $-10+1$ and the number square.
- Prompt them to notice what is happening on the 100 square - it is the *inverse (opposite)* of when we added 9. To subtract 9 we go up one row (-10) and forward 1 ($+1$)
- Practise subtracting 9s from any number mentally using this strategy (Numicon and 100 square).

Play

- Label the blank die $+9, +9, +9, +9, -9, ?$ (? = choose to add or subtract 9)
- Take turns to roll the labelled die and mentally add or subtract 9, moving your counter to the correct number on the 100 square.
- Don't go into negative numbers - just notice you 'that would be less than zero' and roll again.
- Think out loud to show the strategy in use.
- Bonus points for landing exactly on 100 but passing 100 is a win too.

Reflect

- How did you feel about adding and subtracting 9s at the start? Has that changed?

Adapt

- Do either adding or subtracting until confident.

Maths talk

In this game, children **practise mentally maths strategies** and build on their **understanding of inverse, the relationship between addition and subtraction and the number system**. They need to be secure in number bonds to 10 and finding one more and one less.

Things to look out for

- Is their place value knowledge secure?
- Can they add/subtract 10s mentally?
- Are they getting confused? Give plenty of support with concrete resources or come back to it another time.