

# Negative numbers

## National Curriculum attainment target

- Count backwards through zero to include negative numbers

## Lesson objective

- Count backwards through zero to include negative numbers

### Previous related lesson

None

### Prerequisites for learning

Pupils need to:

- understand the number system
- be able to count backwards from any two-digit number

### Vocabulary

negative number, positive, negative

### Future related lesson

Unit 9, Week 1, Lesson 3

### Success criteria

Pupils can:

- continue counting beyond zero
- use the pattern of positive numbers to count in negative numbers



## Getting Started

- Choose an activity from Number – Number and place value.
- Choose an activity from *Fluency in Number Facts: Y3/Y4 – Number and place value.*

## Teach

### Resources

mini whiteboard, pen and eraser (per child)

**Collins**  
Connect  
Year 4, Unit 5,  
Week 1



- Count backwards as a class from 20 to 0.
- Ask: **What happens to numbers when we get to zero? Do they just stop?**
- Listen to children's ideas. Say: **When numbers get to zero, they just carry on. Any number less than zero is called a negative number. Numbers above zero, the numbers we usually count in, are called positive numbers.**
- Write the words "negative" and "positive" on the board.
- Display: a Number line from -10 to 10 with intervals of 1. Ask: **What do you notice about negative numbers?**
- Discuss as a class. Establish that the numbers follow the same pattern as positive numbers, but the difference is that the value works in the opposite way.
- Circle 3 and 7 on the number line. Ask: **Which of these numbers has the highest value?**
- Circle -3 and -7 on the number line. Ask: **Which of these negative numbers has the highest value?**
- Establish that negative numbers work the opposite way to positive numbers.
- Say: **Negative numbers are sometimes hard to understand as we do not use them for objects we can count.**
- Ask: **Where do negative numbers get used?** Share children's ideas. Establish that we use them for temperatures and bank accounts.
- Say: **We can count in negative numbers, just like we count in positive numbers.** Count as a class in negative numbers from different starting points, for example, count from -12, -13, -14, -15 and so on.
- Ask: **Can we count in negative numbers in our heads?** Write -18 on the board. Tell the class that every time you gently clap your hands, they are to count back in their heads, starting from -18. When you fold your arms you are finished. Clap in a rhythmic way at an appropriate speed for your class. Fold your arms after about ten claps.



- Ask several children what number they have in their head.
- Repeat from a different starting number.
- Display: a Number line from  $-30$  to  $0$  with intervals of  $1$ . Circle  $-23$  on the number line.
- Ask: **If I count back five from this number, what number will I land on?** Ask a pair to explain how they worked it out. Children may say they counted back five. Some may say they used their understanding of number to work out the answer, for example,  $23$  and  $5$  more is  $28$ .
- Repeat with different numbers.

## Individualised Learning

Refer to Activity 4 from the Learning Activities on page 205.

**Pupil Book 4B:** – Page 7: Negative numbers  
**Progress Guide 4:** – Extension, Year 4, Unit 5, Week 1, Lesson 4: Temperature



## Plenary



- Display: the Thermometer tool and select scale  $-20^{\circ}\text{C}$  to  $30^{\circ}\text{C}$ .
- Children who have completed the Extension resource will have already worked with a thermometer.
- Say: **On this thermometer, we can see the negative numbers continuing beyond zero.**
- Ask: **What is the weather like when the temperature is a minus number?** Discuss as a class.
- If the weather is cold, you may wish to put the class thermometer outside and look at the temperature on a daily basis. This will give the children a real context for negative numbers.
- Set the temperature for three degrees.
- Ask: **If the weather gets colder by five degrees, what will be the temperature?**
- Discuss answers as a class and then move the temperature on the thermometer to show the answer.
- Repeat for different changes of temperature.

## Overcoming Barriers

- Children may find negative numbering challenging as it is an abstract concept. Give them lots of counting opportunities supported by a number line so they have a visual image.