

# Master Odd and Even Numbers 11 to 20 A

## Rationale

In this practical step, pupils develop their understanding of odd and even numbers. They will use concrete apparatus to explore patterns which determine whether numbers between 11 and 20 are odd or even and will be able to recognise these from representations. They will understand that if all of the concrete apparatus are paired, the number is even and if one of the concrete apparatus remains unpaired, the number is odd. Pupils will develop their learning further by identifying that the pattern of odd and even numbers continues to alternate when counting in 1s using concrete apparatus to 20



## Key Stem Sentences

- All \_\_\_s are paired.
- One \_\_\_ is unpaired.
- \_\_\_ is an odd / even number.
- The pattern of numbers is \_\_\_, \_\_\_



## Key Vocabulary

- odd / even
- paired / unpaired
- pattern



## Common Errors or Misconceptions

- Pupils may miscount the number of bears that they need to start with.
- Pupils may think an odd number represented by Numicon is even because the Numicon piece for 10 is even. For example, 13 is represented by a 10 piece and a 3 piece.



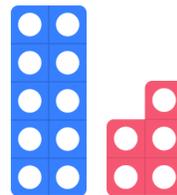
## Key Representations

### Counting bears

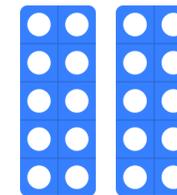


All bears are paired. 12 is an even number.

### Numicon



One Numicon hole is unpaired.  
15 is an odd number.



All Numicon holes are paired.  
20 is an even number.



## Pupils will FLOURISH if they can ...

- recognise that if all of the concrete apparatus are paired, the number is even.
- recognise that if one of the concrete apparatus remains unpaired, the number is odd.
- explain their understanding using verbal sentences and concrete apparatus.

