# Largest even number, largest odd number

This is based on an NRICH example "Largest Even" https://nrich.maths.org/7431 and a similar example called "Largest Odd".

Take nine playing cards numbered 1 to 9.

1) Ask the child to make the largest 2-digit EVEN number.
   Discuss.
   Does the child understand what is odd and what is even?
   If not, go through the definition and examples below.
   Does the child get to 98 as the answer?
   If not discuss strategies for comparing numbers and getting the largest number.

2) Ask the child to make the largest 2-digit ODD number.
   Discuss as above (with 97 as the largest number).

**Definition of odd and even**

An even number is a number which can be split into 2 equal parts. Thus 8 is even because 8 dots can be written as:

● ● ● ●
● ● ● ●

And 12 is even because 12 dots can be written as

● ● ● ● ● ●
● ● ● ● ● ●

(Alternatively, 8 = 2 times 4 and 12 = 2 times 6.)

However, 11 and 13 are odd because when you try to split them into two equal parts you have one dot left over:

● ● ● ● ●  ● ● ● ● ● ●
● ● ● ● ●  ● ● ● ● ● ● ●

This gives the pattern

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Odd | Even | O | E | O | E | O | E | O | E | O | E | O |

**Is 0 odd or even?**

Zero can be drawn as "no dots" which is in two equal parts (of no dots) and does not have one dot left over – so it is even. This fits the pattern above of odd and even alternating as you count.