**Even number problem**

Pick an even number greater than 2.

e.g. 12

Write it as the sum of 2 primes.

e.g 12 = 5 + 7

Write down some even numbers and then work out 2 primes which sum to them.

Can you find an even number greater than 2 that cannot be written as the sum of 2 primes?

The proposition that every even number can be written as the sum of 2 primes is know as the Goldbach conjecture. In 300 years, no one has found an even number that can’t be written as the sum of 2 primes, or found a proof that it works for all even numbers. There was a prize of £1,000,000 for anyone who could prove this works for all even numbers!