## Investigation NMCC 2017-18

# **Consecutive sums**

Some numbers are sums of consecutive numbers.

Can you make all the numbers this way?

Which numbers can be written in more than one way?

Ask and investigate at least one more question about consecutive numbers.

NB. Pay careful attention to the assessment criteria for the task before you start the investigation.

### A SUBJECT REPORT

The whole class should work on the problem and make a joint subject report which offers a thorough explanation of how the class has worked with the questions and what results you have reached.

#### **B EXHIBITION**

1 A NMCC polygon is a convex polygon where the length of the sides are consecutive numbers. Figure 1 and 2 are examples of polygons made of different NMCC polygons.



Fig 1. The NMCC polygons have two common sides

Fig 2. The NMCC polygons have one common side

Make a colourful polygon consisting of different NMCC polygons starting with:

- 1. A triangle with side lengths 2, 3 and 4
- 2. A quadrilateral with side lengths 3, 4, 5 and 6
- 3. A pentagon with side lengths 4, 5, 6, 7 and 8
- 4. A hexagon with side lengths 5, 6, 7, 8, 9 and 10
- 5. ... and so on

2 Make two different candy bowls.
Each candy bowl must be made of NMCC polygons.
Use at least two different NMCC polygons.

### **C PRESENTATION**

Make a presentation where the audience will get an insight into the inquiry based work and the exhibition, in such a way that it can awaken the interest of other young people.

