Open-Ended Group Task: Consecutive Sums

Whole numbers are <u>consecutive</u> if each number is one more than the previous number.

- 2 and 3 are consecutive
- 7, 8, 9, 10, and 11 are consecutive
- 8, 10, and 12 are NOT consecutive
- 1, 2, 3, 5 are NOT consecutive

Consecutive sums are sums that are created by consecutive numbers.

- 2 + 3 + 4 is a consecutive sum that gives you 9.
- 7 + 8 + 9 + 10 + 11 is a consecutive sum that gives you 45.
- 90 + 91 is a consecutive sum that gives you 181.

YOUR GROUP'S TASK:
> *Explore the idea of consecutive sums. Try to find patterns.*

That's all! There are no "right answers" for this activity. Just explore and see what you can figure out! It's easy to get started – just pick some consecutive numbers, add them together, and see what happens! Or pick a number and see if you can figure out how to write it as a consecutive sum. The more you explore, the more patterns you will find. Here are some ideas for your group to explore:

- Try to find consecutive sums for each number between 1 and 40, or any other range you want
- Create several consecutive sums that all have the same number of terms and compare them
- Try to find numbers that are impossible to write as consecutive sums
- Try to find numbers that can be written as a consecutive sum in more than way

THE POSTER:

> After your group has made some discoveries, you will be responsible for creating a poster that displays them. You will likely be presenting this poster to the class. On your poster, include:

- Any patterns/rules you figured out
- For each pattern or rule, include some examples that show how it works
- GOING ABOVE AND BEYOND: Figure out WHY a rule is true and provide an explanation
- If you thought a rule was true but then you later figured out it was false, include this rule and the way you figured out that it was false

- IMPORTANT GUIDELINE: Organization is key! Your rules, patterns, and examples should all be neat and organized so that someone looking at the poster can easily see what you are talking about.

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RUBRIC

My Name: _____   My group mates: _____

Your Rules	Your group's rules are clearly explained and supported with examples.	_____ out of 15
Poster Quality	Your poster is neat and easily readable	_____ out of 5
Individual contribution	You contributed to the group adequately	_____ out of 5
Above & Beyond (bonus)	You may earn bonus points here for especially impressive discoveries or explanations.	

Total: _____ out of 25