



Oh Hail the Elephant!

The problem you will work on today is one of the world's unsolved problems in mathematics, which is, in itself very cool. It involves a sequence of numbers called a Hailstone sequence. The sequence is called this because the numbers go up and down again, like this:

20 - 10 - 5 - 16 - 8 - 4 - 2 - 1

Hailstones do this - they start in a cloud as drops of rainwater, then they are pushed higher in the atmosphere by wind where they freeze, sometimes several times, before eventually falling back to Earth. The number sequences are called hailstone sequences because they go up and down like hailstones.



In mathematics people make conjectures - it is an idea that you think might be true but you do not know for sure. Conjectures are very important in mathematics, and making conjectures is something you can be doing as a math student.

Try working with some hailstone strings of numbers that have different starting numbers and make conjectures about what you find out.

A hailstone string follows these rules:

- If a number is even, divide it by 2
- If a number is odd, multiply it by 3 and add 1.

Do the following problems in your spiral notebook or composition book:

Use the Hailstone sequence for the four numbers given and then create four of your own. Show all your steps

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