

Further Challenges Nrich

If you are looking to further your learning, try one of these NRICH problem solving challenges. These will not be marked via google classroom, but you are welcome to explore and complete these at home. 😊

Chocolate Maths

Age 11 to 14 ★

This is cool chocolate maths!!!



1. First of all, pick the number of times a week that you eat chocolate. This number must be more than one but less than ten.
2. Multiply this number by 2 (just to be bold).
3. Add 5 (for Sunday).
4. Multiply it by 50.
5. Add 1750.
6. Add the last two digits from the year you last had a birthday. So if your last birthday was in 2009, add 9, if the your last birthday was in 2011 then add 11.
7. Now subtract the four digit year that you were born (if you remember).

You should now have a three digit number. The first digit will be your original number (i.e. how many times you eat chocolate each week). The next two digits give your age. Can you explain why it works?

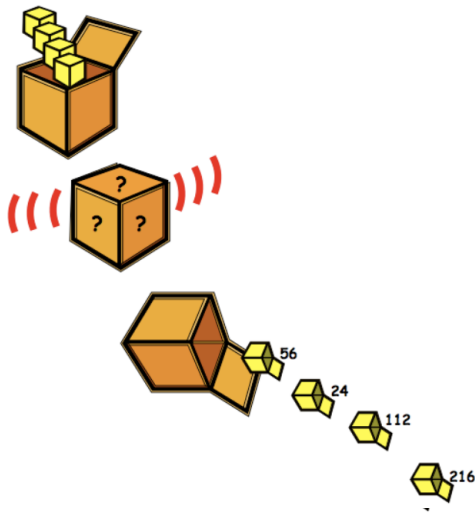
NRICH Number

<https://nrich.maths.org/793>

What's in the Box?

Age 7 to 11 ★

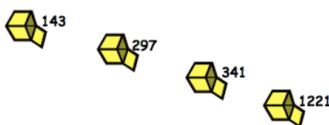
Four numbers in little boxes are put into a special big box that does a multiplication, then four new numbers come out at the end:



We only used whole numbers to go in, so, what multiplication might have gone on in the big box to get the answers in the picture above?

What was the largest number that could have been used to multiply by, in that big box?

Imagine four new boxes now (with new numbers in) and the large box multiplying by a different number this time. The numbers that come out are these:



What would be the number that the big box is multiplying by?
How are you working these out?

NRICH Number

<https://nrich.maths.org/5576>

Three Neighbours

Age 7 to 11 ★★

Take three numbers that are 'next door neighbours' when you count. These are called consecutive numbers.

Add them together.

What do you notice?

Take another three consecutive numbers and add them together.

What do you notice?

Can you prove that this is always true by looking carefully at one of your examples?

NRICH Numbers

<https://nrich.maths.org/8108>

You can also complete any other NRICH Investigations about the four operations and number.