Napier's Bones (5th and 6th Class)

This multiplication method was used for more than 300 years until the invention of mechanical calculators. The reason they were called Napier's Bones, was because they were invented by John Napier (1550 – 1617) and made out of bones. Napier's invention made multiplication easier for the people of his time and nowadays it is a great activity for children of all ages.

Resources: Napier's Bones template (see below)

Strands: Addition, multiplication, place value.

Activity: This activity uses an interesting historical context to help pupils understand place value ideas. It is also a fun and interesting way of performing multiplication. Pupils can check their answer using a calculator or performing long multiplication.

Questions:

1. Study page number 2. What patterns can you see in Napier's Bones?
2. Can you fill in the empty template? (page 3)
3. With a classmate, can you find the value of simple multiplication statements e.g. 2x5, 3x4.
4. With your teacher's help, multiply larger, two digit numbers by one digit numbers.

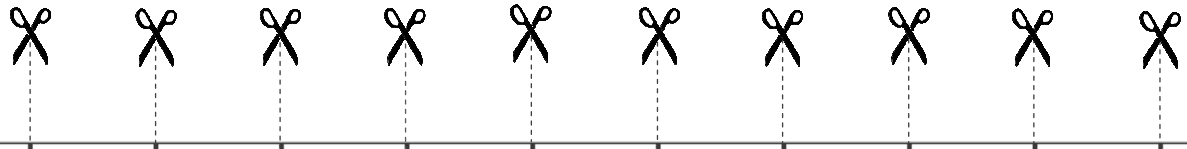
Challenge Questions:

- Is it possible to multiply three digit, or larger numbers by one digit numbers using Napier's Bones?

- Is it possible to multiply three digit numbers, or larger by two digit numbers?

Napier's Bones

Cut along vertical lines to make strips for each number.



×	0	1	2	3	4	5	6	7	8	9
1	0/0	0/1	0/2	0/3	0/4	0/5	0/6	0/7	0/8	0/9
2	0/0	0/2	0/4	0/6	0/8	1/0	1/2	1/4	1/6	1/8
3	0/0	0/3	0/6	0/9	1/2	1/5	1/8	2/1	2/4	2/7
4	0/0	0/4	0/8	1/2	1/6	2/0	2/4	2/8	3/2	3/6
5	0/0	0/5	1/0	1/5	2/0	2/5	3/0	3/5	4/0	4/5
6	0/0	0/6	1/2	1/8	2/4	3/0	3/6	4/2	4/8	5/4
7	0/0	0/7	1/4	2/1	2/8	3/5	4/2	4/9	5/6	6/3
8	0/0	0/8	1/6	2/4	3/2	4/0	4/8	5/6	6/4	7/2
9	0/0	0/9	1/8	2/7	3/6	4/5	5/4	6/3	7/2	8/1

Napier's Bones

Fill in the empty cells in such a way that the table below can be used as Napier's Bones.

×	0	1	2	3	4	5	6	7	8	9
1										
2										
3										
4										
5										
6										
7										
8										
9										

Napier's Bones

×									
1									
2									
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