

# Discussion Problems

## Step 1: Multiples

### National Curriculum Objectives:

Mathematics Year 5: (5C5a) [Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers](#)

### About this resource:

This resource has been designed for pupils who understand the concepts within [this step](#). It provides pupils with more opportunities to enhance their reasoning and problem solving skills through more challenging problems. Pupils can work in pairs or small groups to discuss with each other about how best to tackle the problem, as there is often more than one answer or more than one way to work through the problem.

There may be various answers for each problem. Where this is the case, we have provided one example answer to guide discussion.

We recommend self or peer marking using the answer page provided to promote discussion and self-correction.

More [Year 5 Multiplication and Division](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

# Multiples

1. Look at the numbers below.



Which numbers in the grid below are multiples of all the numbers above?

401	402	403	404	405	406	407	408	409	410
411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430
431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450
451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470
471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490
491	492	493	494	495	496	497	498	499	500




Investigate how your answer might change if 5 was swapped with 6, 7, 8 or 9.

DP

2. Harriet has these digit cards:



Harriet also has the list of numbers below and their lowest common multiples (LCM). She needs to add a digit card to each list so that the lowest common multiples remain unchanged. Investigate which digit cards she could use.

5	3	4		LCM =	60
6		7	5	LCM =	210
	8	5	6	LCM =	120

What is the lowest common multiple of the digit cards Harriet does not use?

DP

# Multiples

1. Look at the numbers below.

3      4      5

Which numbers in the grid below are multiples of all the numbers above?

401	402	403	404	405	406	407	408	409	410
411	412	413	414	415	416	417	418	419	420
421	422	423	424	425	426	427	428	429	430
431	432	433	434	435	436	437	438	439	440
441	442	443	444	445	446	447	448	449	450
451	452	453	454	455	456	457	458	459	460
461	462	463	464	465	466	467	468	469	470
471	472	473	474	475	476	477	478	479	480
481	482	483	484	485	486	487	488	489	490
491	492	493	494	495	496	497	498	499	500

Investigate how your answer might change if 5 was swapped with 6, 7, 8 or 9.

Various answers, for example: If 6 was used, 408, 420, 432, 444, 456, 468, 480 and 492 would be circled on the grid.

DP

2. Harriet has these digit cards:

2      3      4      5      6      7      8

Harriet also has the list of numbers below and their lowest common multiples (LCM). She needs to add a digit card to each list so that the lowest common multiples remain unchanged. Investigate which digit cards she could use.

Various answers, for example:

5      3      4      6      LCM = 60

6      3      7      5      LCM = 210

4      8      5      6      LCM = 120

What is the lowest common multiple of the digit cards Harriet does not use?

The unused digit cards would be 2, 5, 7 and 8. Their lowest common multiple is 280.

DP