

Discussion Problems

Step 3: Common Factors

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](#)

Mathematics Year 5: (5C8a) [Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes](#)

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.

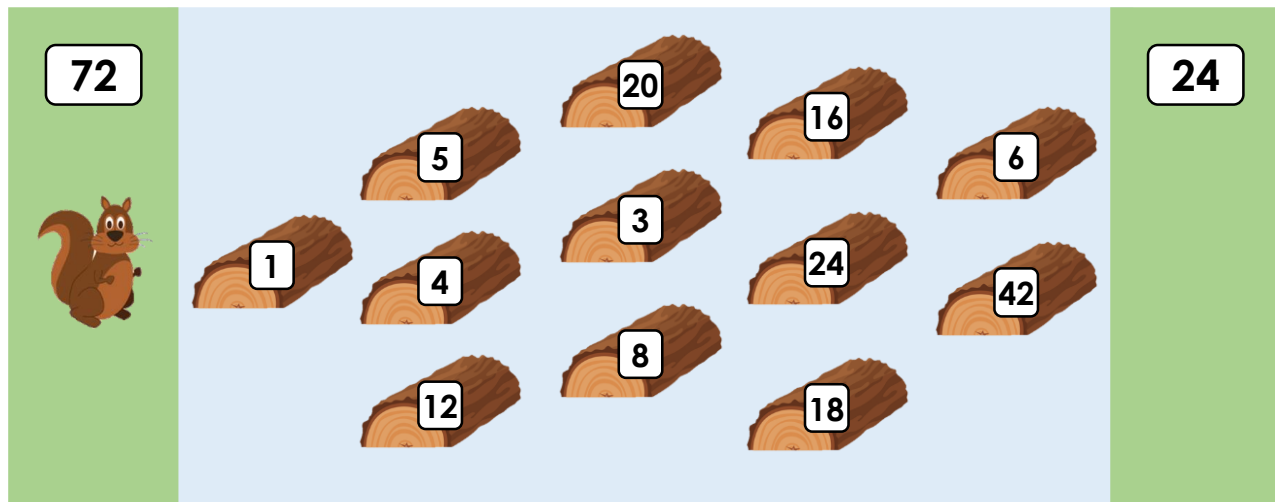
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Common Factors

1. Squeak the Squirrel wants to cross the river.

He can only step on the logs which are common factors of the numbers on both banks.

Explore the route Squeak could take. Is there more than one possible route?



DP

2. Wilf the Wizard is trying to combine two potions in order to create a spell.

He says,

The two potions that are needed for the spell have an even number of common factors.



Potion A



48

Potion B



66

Potion C



60

Potion D



30

Potion E



96

When matching the two potions, the common factors they share cannot be lower than 5 factors otherwise they will explode!

Explore the different combinations of potions Wilf could use to create his spell.

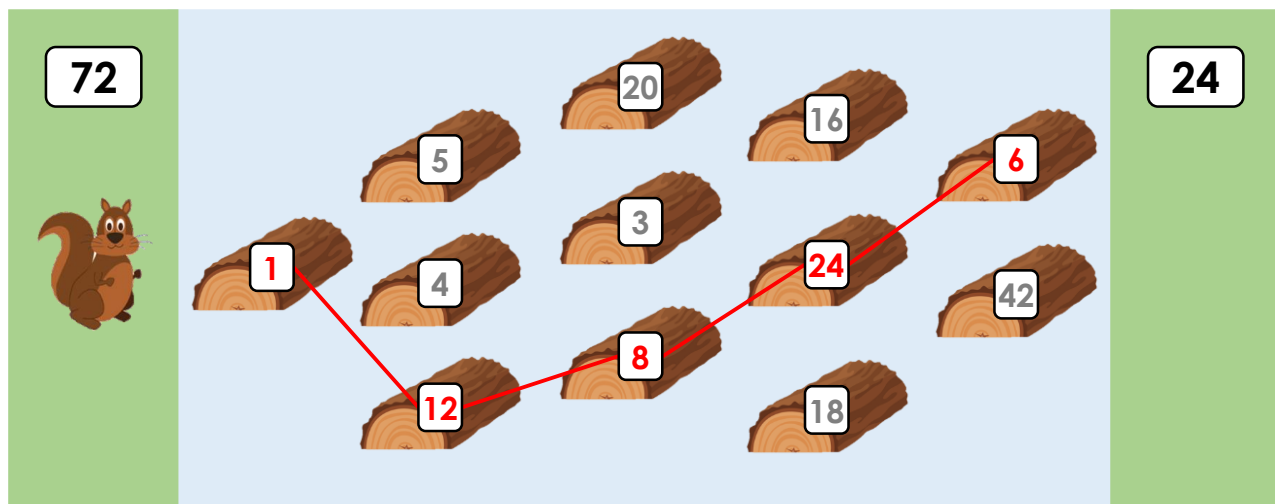
DP

Common Factors

1. Squeak the Squirrel wants to cross the river.

He can only step on the logs which are common factors of the numbers on both banks.

Explore the route Squeak could take. Is there more than one possible route?



Various answers, as shown above.

DP

2. Wilf the Wizard is trying to combine two potions in order to create a spell.

He says,

The two potions that are needed for the spell have an even number of common factors.



Potion A



48

Potion B



66

Potion C



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Potion D



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Potion E



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When matching the two potions, the common factors they share cannot be lower than 5 factors otherwise they will explode!

Explore the different combinations of potions Wilf could use to create his spell.

Various answers, for example:

Potion A can be matched with potions C or E.

DP