# Discussion Problems
# Step 11: Negative Numbers

## National Curriculum Objectives:

**Mathematics Year 5: (5N5) Interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero**

## 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 Place Value resources.

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


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# Negative Numbers

**1. This office block goes from floor -20 to floor 50. Martin is on floor -16 and needs to get to the ground floor (0). However, the lift is faulty and will only ascend or descend in multiples of 3 or 7.**

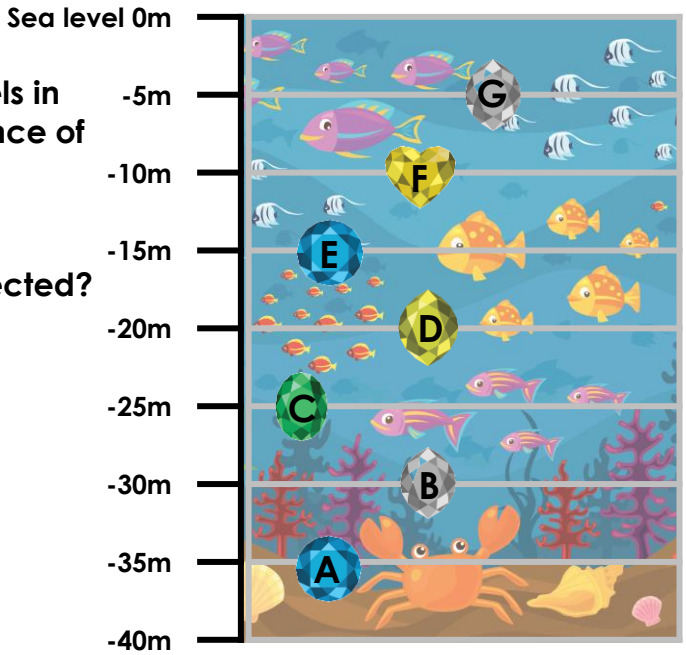
**How many different ways can the lift travel to reach the ground floor?**

DP

**2. Karen and Rory are collecting jewels from under the sea and returning them to the treasure chest which is hidden in the sand dunes 20m above the sea. Each time, they must start at the treasure chest. There is more than one of each jewel, but they can only collect one at a time.**

**When they have collected six of the jewels in total, Karen has travelled a vertical distance of 250m and Rory has travelled a vertical distance of 220m.**

**Which jewels could they each have collected?**




DP

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# Negative Numbers

**1. This office block goes from floor -20 to floor 50. Martin is on floor -16 and needs to get to the ground floor (0). However, the lift is faulty and will only ascend or descend in multiples of 3 or 7.**

**How many different ways can the lift travel to reach the ground floor?**

**Various answers, for example: ascend 15 to floor -1; ascend 7 to floor 6; descend 6 to ground floor 0.**

DP

**2. Karen and Rory are collecting jewels from under the sea and returning them to the treasure chest which is hidden in the sand dunes 20m above the sea. Each time, they must start at the treasure chest. There is more than one of each jewel, but they can only collect one at a time.**

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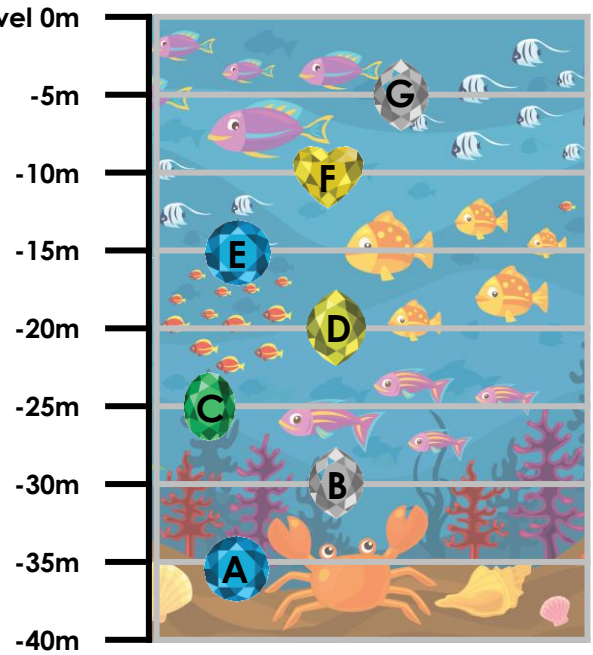
**Which jewels could they each have collected?**




**Various answers, for example:**
**Karen: A (110m), C (90m), G (50m) Rory: C (90m), E (70m), F (60m)**

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