## Route Finding

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) In the case of the right tiles,

- How many routes does he have and how many steps does he need to get a gold medal?
- How do you explain it to your friends by using telephone?


## How can we represent the route?

- By using trajectory, by using the words, or by using colour.

What do you count?

- By using the number of steps or by using the number of routes.


### 2.4 Route Finding <br> Task 1 <br>  <br> (blue line) or to the left (red line) and both of them are called "one step."

) Let's pose the questions to your friends by using the right tiles.
> He is not allowed to jump crosswise (black line) and back to the previous position (black lines).

) On the tiles on the right, he would like to get one gold medal.

- How many possible routes does he have?
- How do you explain it to your friends through the telephone? - How many steps does he need?

) Let's create your own game boards by setting the rules by yourself and enjoy it with your friends.

Let's explain the learning objective of these activities by using the following words: Explain the route by using the given rules through changing representations. - Generalisation, specialisation, and inductive reasoning to find the pattern. - Mathematisation for addition and multiplication: Finding algorism, what if and what if not for creating something new.


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## Activity from

Chapter 2, Task 2.4

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> In the case of the right tiles,

- How many routes does he have and how many steps does he need to get a gold medal?

How do you explain it to your friends by using telephone?

Task 2


How many steps and routes from the topmost right tile to the bottom-most-left tile?

We already know the number of steps and routes from the $2 \times 2$ tile and the 3 $\times 3$. Maybe we can add them to the $4 \times 4$ tile.

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Mathematical Values
Seeking.
$>$ Generality and
expandability
> Reasonableness and
harmony
> Usefulness and efficiency
> Simpler and easier
> Beautifulness

Mathematical Attitude Attempting to -
$>$ See and think mathematically
$>$ Pose questions and develop explanations

- Generalise and extend
> Appreciate others' ideas and change representations for meaningful elaborations


## Mathematical Habits of Mind

 For living -> Reasonably and critically while respecting and appreciating others
> Autonomously and socially

- Creatively, innovatively and harmoniously to develop citizenship
> Judiciously in using various tools
> With empowerment in predicting the future through lifelong learning


Figure 1. Revised CCRLS Framework in Mathematics

Generalizability and Expandability

Pose questions and develop explanations

Algorithm (systematic)

Pattern

Representation

## Chapter 2, Task 2.4 <br> Activity from

