



# IDEAShub

TOOLS FOR CREATIVE IDEAS

## Lesson 3: Puzzling Problems



# By the end of this lesson:

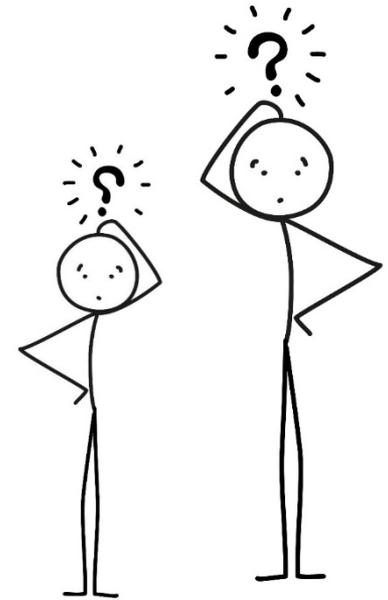
Pupils should be able to:

- Understand what a problem is.
- Understand how to solve a problem.
- Use problem solving processes or methods.



# What is a "Problem"?

- A problem is a situation that is unsatisfactory and causes difficulties for people.
- A problem is a puzzle that requires thinking to solve it.

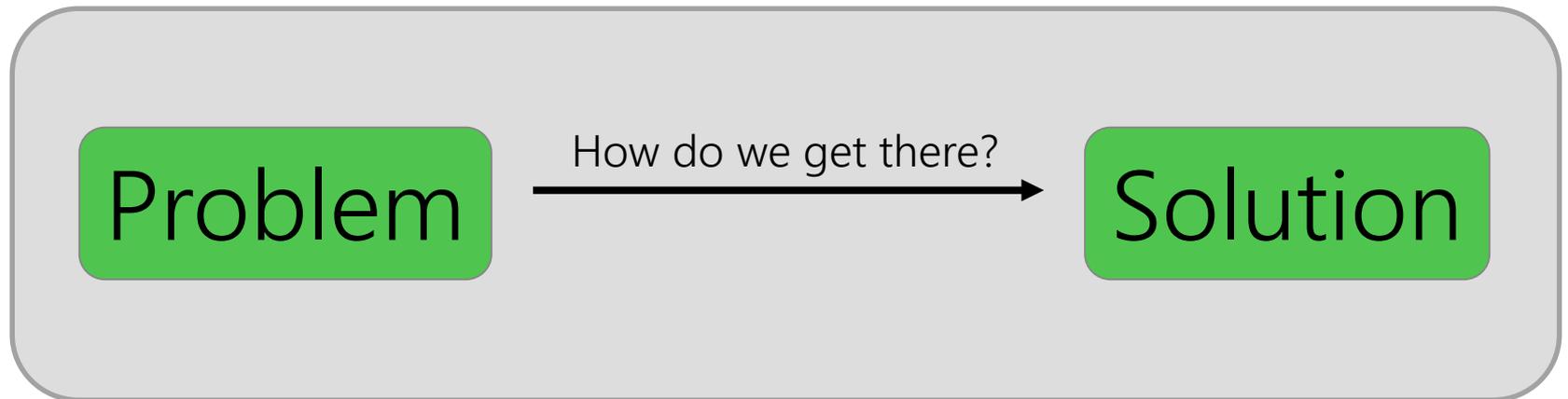


# How to solve a problem?

- Is one answer or solution enough to solve a problem, or should we try-out many possible solutions to find the answer.
- Are there methods or ways to help us solve problems?



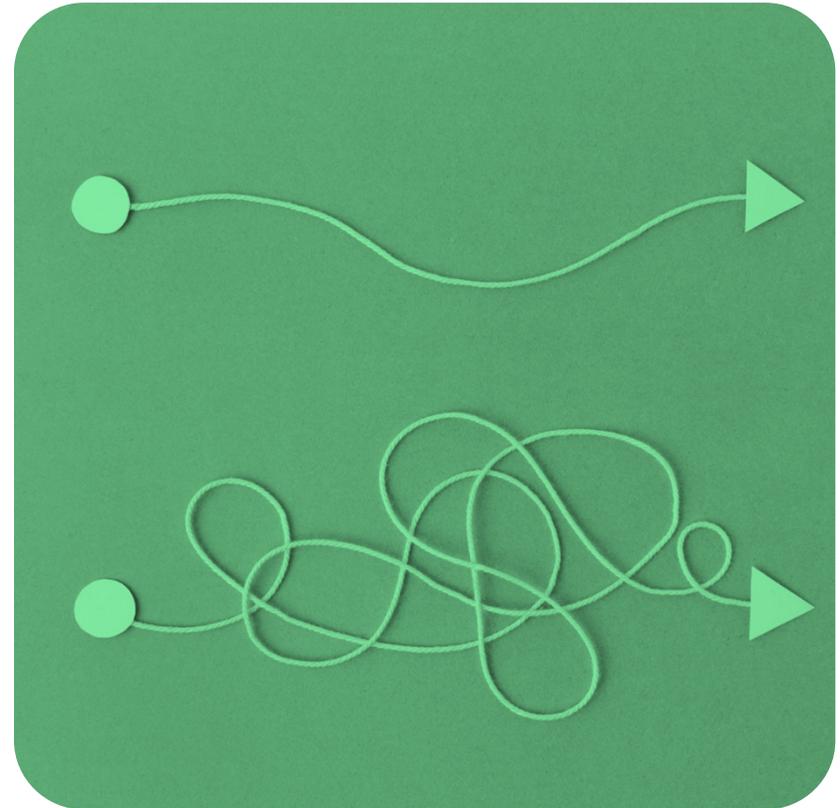
# Problem solving methods



# Problem solving methods



- Can we use a method to help us solve a problem?





# Problem solving methods

There are many similarities between problem solving methods. The multiple activities or stages to solve a problem mainly deal with:

- *Finding a problem (unless it is given to you)*
- *Understanding the problem*
- *Solving the problem*

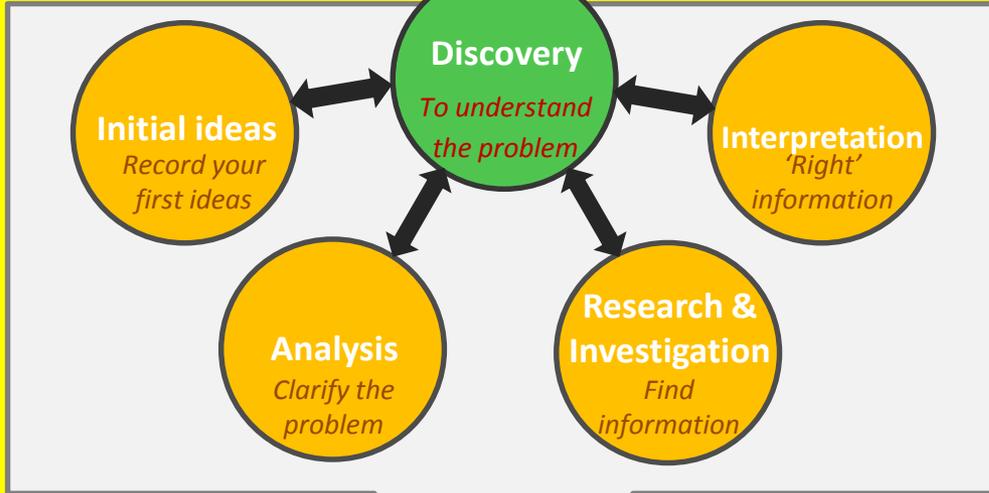


**Exploration**  
*Of the world  
around you*

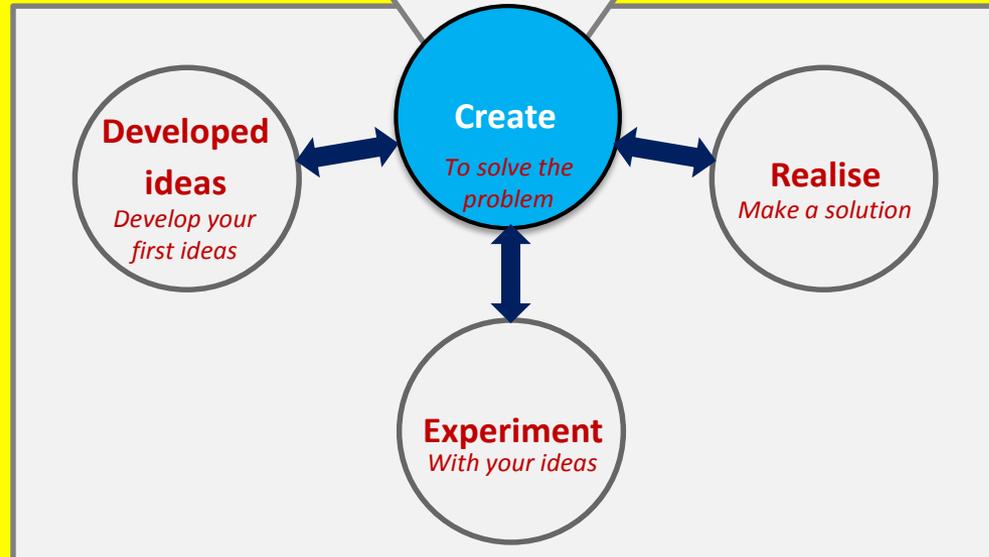


**Need finding**  
*For a problem*

Problem solving is not a linear step-by-step process. The stages or aspects are related and iterative (go back and forth).

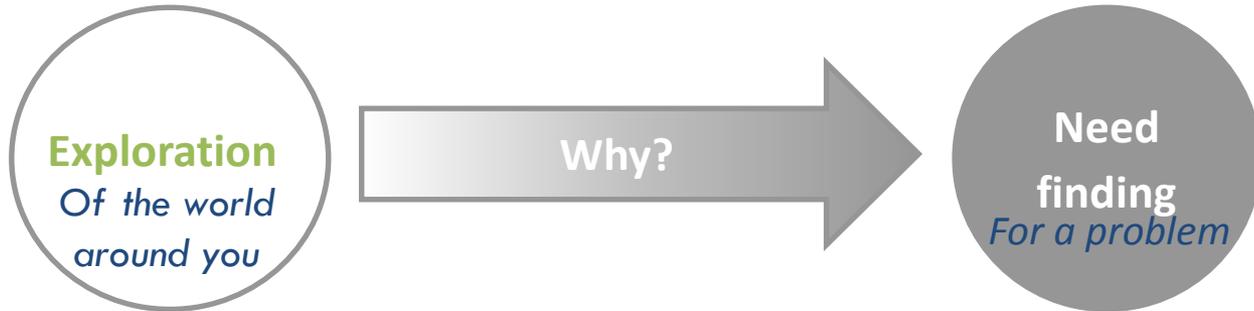


**Reflection and Evaluation**  
*Reflect and refine*



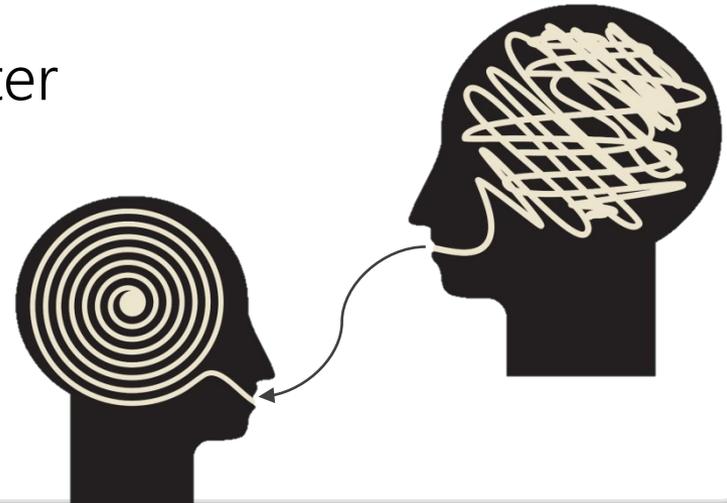
Problem solving is continually evolving and developing from problem finding to problem solving.

# Finding a problem



To find a problem (or when given a problem) you must:

- Explore the world around you
- Find issues
- Find what is needed to make life better
- Define the problem
- Reflect and evaluate



## Lesson 3: Puzzling Problems



### Activity 1 – Finding a problem

#### Problem Statement:

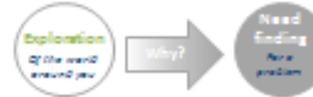
Find a problem to solve in the classroom.

**OR**

Design a seating device for your classroom.

To find a problem (or when given a problem) you must:

- Explore the world around you
- Find issues
- Find what is needed to make life better
- Define the problem
- REMEMBER TO CONTINUALLY Reflect and evaluate



Create a mind-map with keywords summarising possible problems from your exploration of the world around you.

Create a list of all the issues:

Detail what is needed to make life better

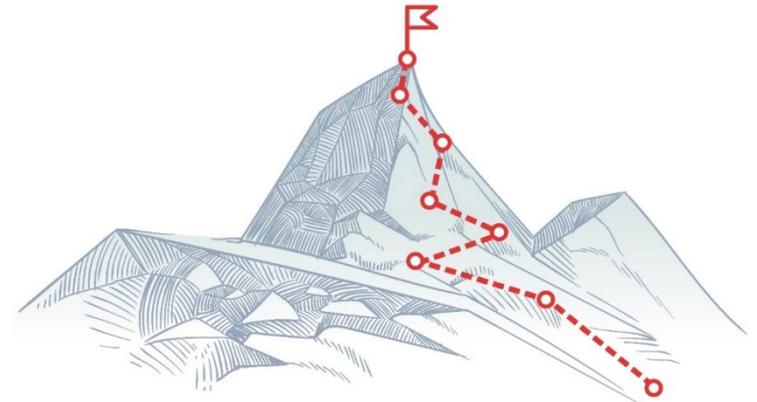
Define the problem

# Discover to understand the problem



## To help you understand the problem:

- Capture your first ideas or thoughts
- Clarify the problem
- Find out information and key facts
- Select suitable information
- Reflect and evaluate



# Lesson 3: Puzzling Problems



## Activity 2 – Discover to understand the problem

Write your Problem Statement:

To help you understand the problem:

- Capture your first ideas or thoughts
- Clarify the problem
- Find out information and key facts
- Select suitable information



REMEMBER TO CONTINUALLY Reflect and evaluate

Capture your first ideas or thoughts (use more paper if needed)

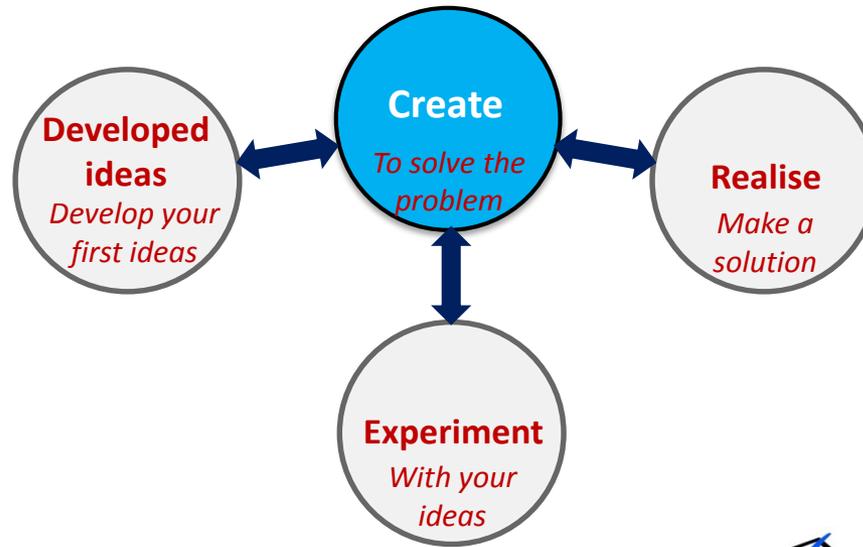
Clarify the problem by breaking it down into key words (use more paper if needed)

Record the information and key facts (use more paper if needed)

What is the important information you found out? (use more paper if needed)

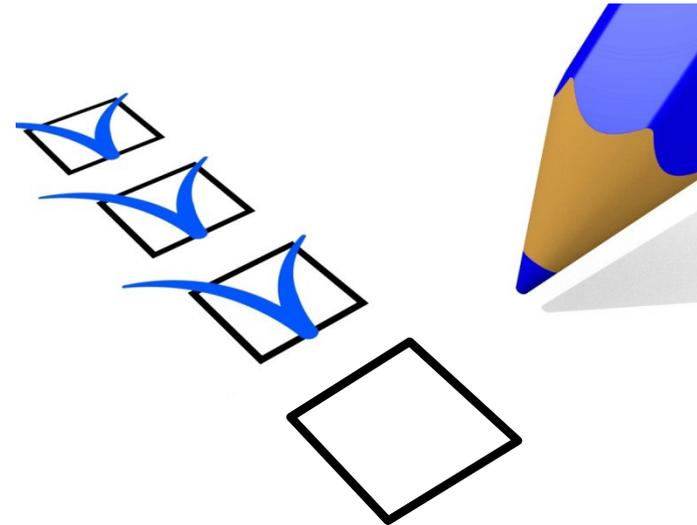


# Create to solve the problem



To create a solution to the problem:

- Develop ideas further
- Experiment and test your ideas
- Make a possible solution
- Reflect and evaluate



# Lesson 3: Puzzling Problems



## Activity 3 – Create to solve the problem

Write your Problem Statement:

**To create a solution to the problem:**

- Develop ideas further
- Experiment and test your ideas
- Make a possible solution

REMEMBER TO CONTINUALLY Reflect and evaluate

```
graph TD; A((Developed ideas  
Develop your first ideas)) --> B((Create  
To solve the problem)); B --> C((Realise  
Make a solution)); D((Experiment  
With your ideas)) --> B;
```

Develop your ideas further

Record your experiments and testing of your ideas (use more paper if needed).

Outline your plan to make a possible solution.

# Recap



- What is a problem?
- How do you solve a problem?
- What is your approach (method) to problem solving?