



UNITED ARAB EMIRATES  
MINISTRY OF EDUCATION

# Student Guidebook

Project Based Learning and Assessment

Name:

Grade, Stream, Section:

Subject:

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# Introduction

## Welcome to Project-Based Learning and Assessment (PBLA)

Project-based Learning and Assessment (PBLA) is a way of learning by doing! It is a different way of learning and getting grades than taking tests. It helps us work on solving real world problems, learn about big issues and think of new ways to make a difference. Working on projects also helps us learn important skills.

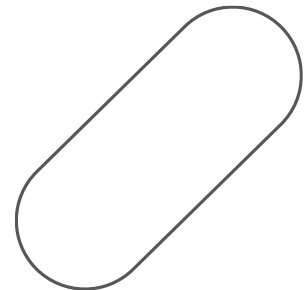
### Through PBLA, I can:

- explore real-world problems
- build important skills
- work well in a team
- be innovative
- show what I have learned

### I promise to:

- connect our projects to our community
- respect our classmates' different backgrounds and skills
- understand what our projects are about and how they will be graded
- share ideas with others
- appreciate what everyone brings to our projects
- listen to our teachers' feedback and use it to learn and get better

This guide will help me with my PBLA journey. It tells me what I need to do to get good scores and show my best work in PBLA. I am ready to work hard, create, and make a positive difference!

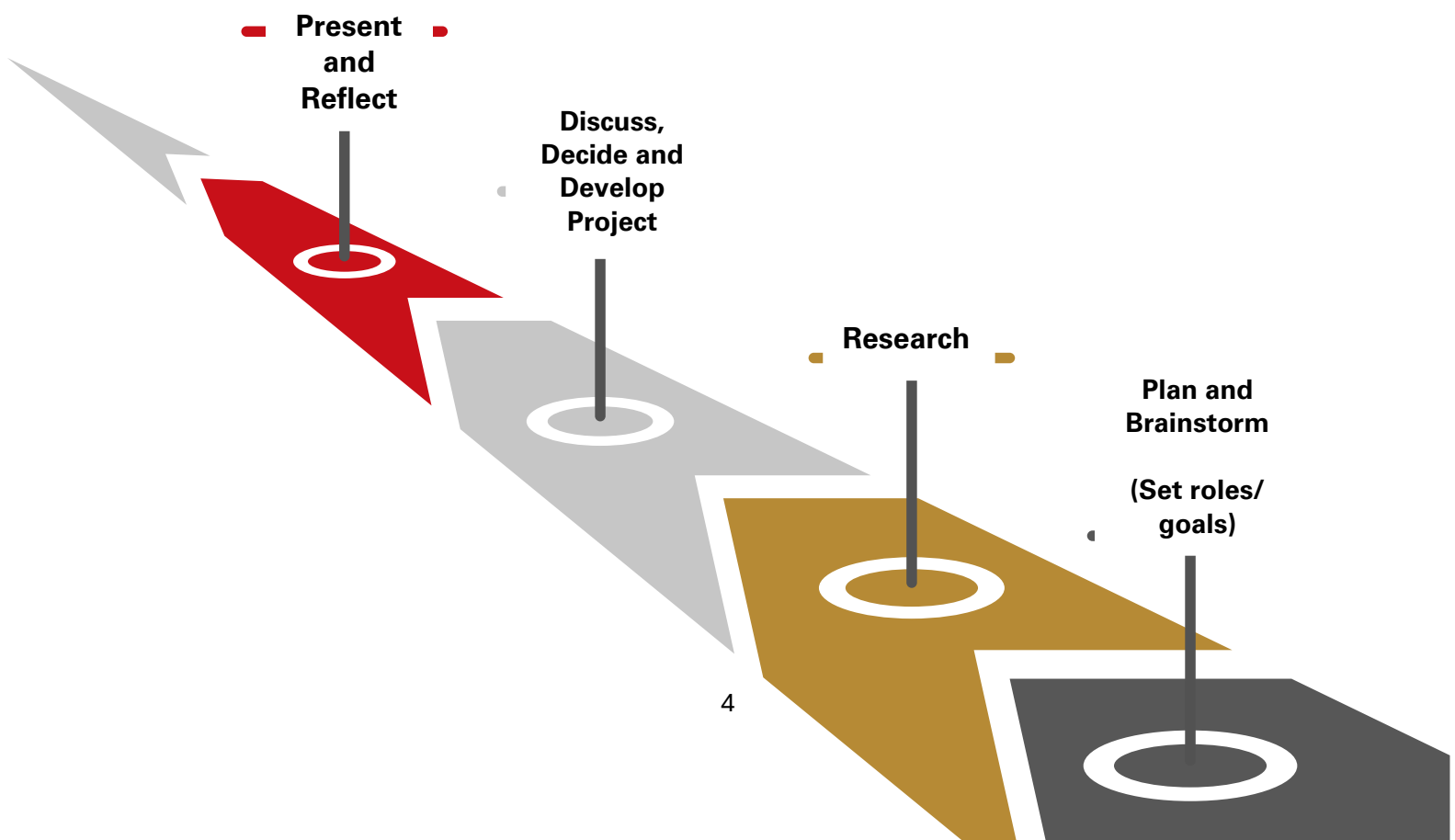


# Brief description of the Project

**Our project is about:** creating a model that illustrates the structure and function of cells. My goal is to explore the key components of plant and animal cells, understand their functions, and learn how these structures work together to support life. I will investigate how scientists study cells to solve real-world problems, such as improving health and understanding biological processes.

**Our group will produce:** a detailed model of a cell and present our findings with clear explanations of cell structure and function. We will also discuss how the study of cells contributes to advancements in science and medicine, supporting innovation and sustainability in fields like biotechnology. Let's explore the incredible world of cells and learn how science helps us understand life at its most fundamental level!

# My learning journey of the Project



# Project Overview

Subject	Science
Project title	Mission Invisible
Project objective	In this project, you will design and build a cell model to demonstrate your understanding of cells, their structure, and their function in life processes. You will explore how each organelle contributes to the overall function of the cell.
Steps for Success	
<p><b>Brainstorm Ideas</b></p> <ul style="list-style-type: none"><li>• What do you already know about cells? Why are they considered the basic unit of life?</li><li>• Are there different types of cells? How do plant and animal cells differ?</li><li>• What are the main parts (organelles) of cells, and what roles do they play?</li><li>• How can we use sustainable materials to represent organelles effectively?</li></ul> <p><b>Choose Roles</b></p> <p>Pick a role based on what you are good at. Here are some roles:</p> <p><b>Model Designer:</b></p> <ul style="list-style-type: none"><li>• <b>Information Collection:</b> Research cell types and organelles (e.g., plant vs. animal cells) to guide the model design.</li><li>• <b>Decision-Making:</b> Select the type of cell to model (plant or animal) and decide how to represent organelle structures and functions using sustainable materials.</li></ul> <p><b>Sustainability Specialist:</b></p> <ul style="list-style-type: none"><li>• <b>Information Collection:</b> Identify eco-friendly materials (e.g., recycled paper, cardboard, clay) that align with sustainability goals.</li><li>• <b>Decision-Making:</b> Ensure materials used in the model are safe, accessible, and environmentally responsible.</li></ul> <p><b>Presentation Coordinator:</b></p> <ul style="list-style-type: none"><li>• <b>Information Collection:</b> Develop strategies for visually presenting the model, including labeling and clear explanations.</li><li>• <b>Decision-Making:</b> Plan how to showcase the cell model effectively, focusing on clarity and scientific accuracy.</li></ul> <p><b>Reflection Leader:</b></p> <ul style="list-style-type: none"><li>• <b>Information Collection:</b> Facilitate group discussions about the learning process and challenges faced.</li></ul>	

- Decision-Making: Summarize insights from group reflections to improve collaboration and project outcomes.

Note: Some roles can be shared or combined depending on your group size. Work together to decide what works best for your team.

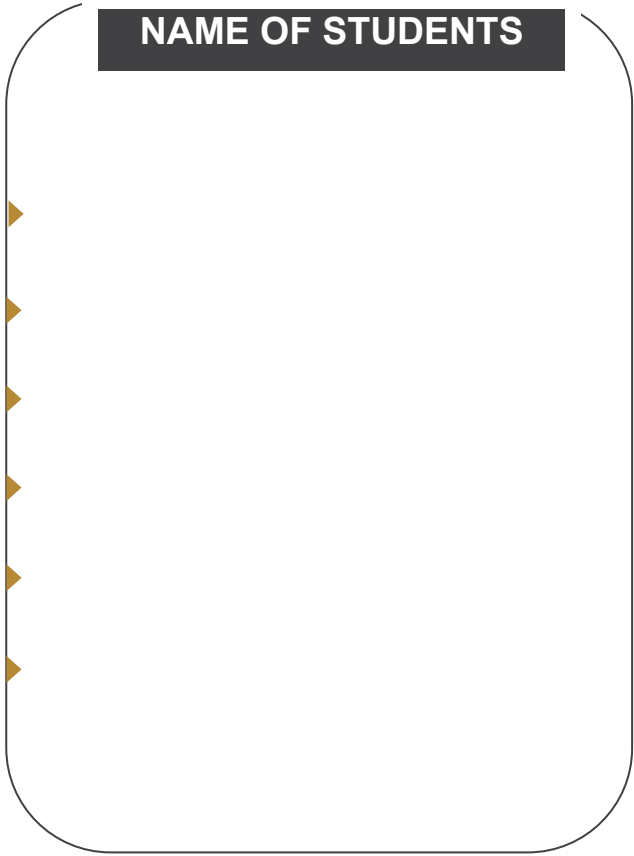
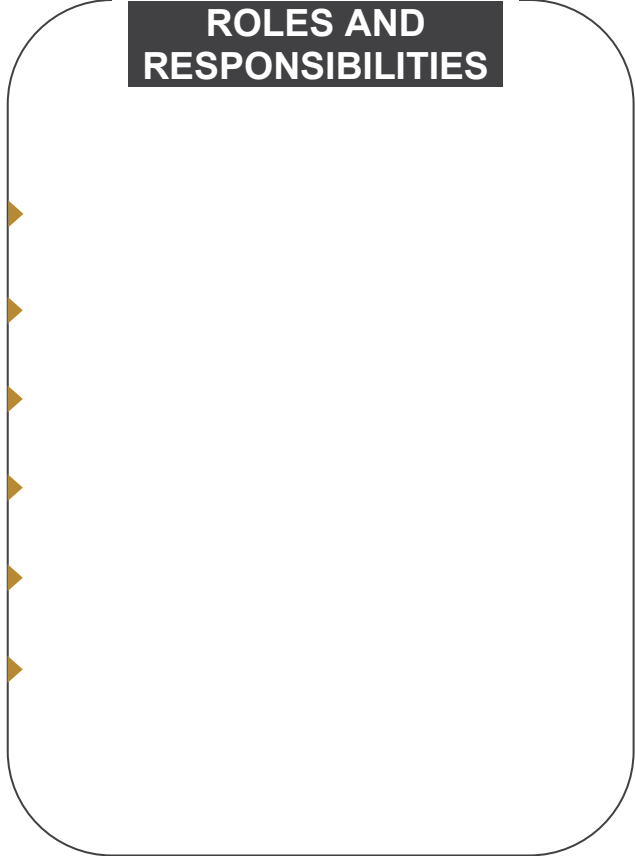
### Materials We Might Need

The following are suggested materials to choose from:

1. Cardboard or recycled paper
2. Clay or modeling dough
3. Markers and labels for cell parts
4. Tape, scissors, and glue to assemble the model
5. Construction paper for labeling different parts

# Roles and Responsibilities

## My Group Project Roles and Responsibilities

NAME OF STUDENTS	ROLES AND RESPONSIBILITIES
	

I know that AI tools, like ChatGPT, can help me learn, but I will use them positively.

- My work will show what I know, what I can do, and how hard I worked.
- If I include any ideas from AI, I will be honest and let people know.


I can use AI to:

- get guidance
- brainstorm ideas
- check our understanding

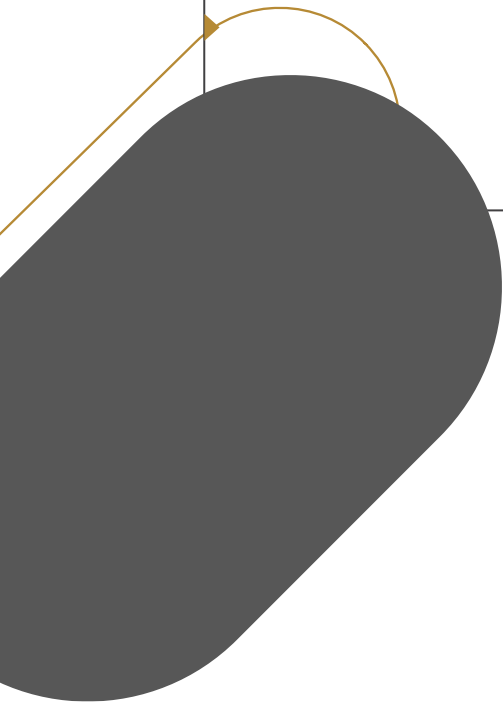

# Roles and Responsibilities

## MY GOALS

**What do I want to do?  
How will I use my time in  
the best way?**



**What do I want to  
learn more about?**



# Milestones 1 and 2

## Milestone 1 Self-regulation and engagement

### Thinking about my learning:

Description: I am excited and ready for this work, and I can set goals for myself.

Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
Self-regulation and engagement	<p>I find it hard to do this project work.</p> <p>I find it hard to set my goals.</p>	<p>I feel ready for the project and feel like I will try my best.</p> <p>I can think of a goal, but I need some help to understand the idea more.</p>	<p>I am excited about the project, and I am ready to work hard on it.</p> <p>I have a good idea of what learning goals I want to achieve.</p>
Action Plan for Improvement	Action:		



## Thinking about my learning:

Description: I can find out more about the topic. I can ask questions to help us think about it.

Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
<b>Research &amp; Inquiry</b>	<p>I found it hard to find reliable sources of information.</p> <p>I found it hard to think of research questions.</p>	<p>I found some good information from my sources.</p> <p>I asked some good questions to help us think about the system</p>	<p>I found a lot of reliable sources. I could connect ideas between them.</p> <p>I asked big questions which made the group really think hard.</p>
<b>Action Plan for Improvement</b>	Action:		



## Thinking about my learning:

### 1) Collaboration, Communication & Contribution

Description: I discuss well in my group and help organize our tasks.

### 2) Problem-solving & Critical thinking

Description: I can see problems, find solutions, and change as needed.

Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
<b>Collaboration, Communication &amp; Contribution</b>	I only spoke a little about the project.	I gave some ideas to the group and helped to come to decisions.	I gave many original ideas and I helped organize our work.
Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
<b>Problem-solving Critical Thinking</b>	I found it hard to solve the problems.  My teammates made all the decisions.	I could see some of the problems and I tried to think of ways to fix them.  Sometimes, I need help for making decisions.	I thought about different and original solutions and shared them with my team.
<b>Action Plan for Improvement</b>	Action:		

## Milestone 2: Presentation and Reflection

**What will be my role in the presentation:**

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**What have I learnt:**

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**How does the project connect to the real world:**

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## Thinking about my learning

1) Presentation Skills: I can present well to my classmates			
Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
Presentation Skills	I find it hard to talk in front of people.	I find it easy to talk to the class and they could understand me.	I find it very easy, and I feel confident talking to the class.
	I find it hard to explain what I learnt.	I find it easy to say something about what I learnt, and how I solved problems in the work.	I find it very easy to describe how we fixed problems and what I learnt.
2) Innovation: We used new and original ideas and our presentation was creative			
Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
Innovation	We needed ideas to make our presentation more original.	I thought we had some new and original ideas.  We had some new and interesting ways to do our presentation.	We had very creative ideas.  We presented our ideas in a really exciting and different way.
3) Content/Topic Mastery: I understand and can explain this topic.			
Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
Content/Topic Mastery	I only know a few simple things about this topic.	I understood most of what the class said on the topic.	I feel like I understand everything on this topic and I can explain it to people.
	I found it hard to understand the ideas that were said	I need some things explaining more.	
4) Application of Knowledge/Skills: I connect what I've learned to real-world situations.			
Select your level:	<input type="checkbox"/> Beginning	<input type="checkbox"/> Developing	<input type="checkbox"/> Acquired
Application of Knowledge/Skills	I found it hard to understand how this will work outside the classroom.	I can think of some examples of how this will work outside the classroom.  I need some help to think of more ideas.	I feel like I have really good ideas about how this will help people outside the classroom.
Action Plan for Improvement	Action:		

# My Final Reflection

What did I learn and how did I improve?

<p>What was good about my project?</p> 	 	<p>What can I make better in my project?</p> 
<p>What other skills have I improved? What skills do I still need to work on (e.g. time management, confidence, etc.)?</p> 	 	<p>What have I learnt doing the project?</p> 
<p>Did I achieve my role? Am I proud of the work I did?</p> 	 	<p>Write a thank you note to yourself</p> 