

Waste classification system - Teacher's Handbook

Course	Introduction to YLW AIBIT and the programming platform; Scenario	Module	Introduction	Lesson	1
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A. Aim

1. Form groups during the class to complete the activity.

B. Objectives

1. Basic:
 - 1) Know what YLW AIBIT and its related programming platform are;
 - 2) Know the objectives of the activity;
 - 3) Learn about waste recycling and reuse.
2. Advanced:
 - 1) Know how to design a program using a programming platform;
 - 2) Know the importance of waste recycling and reuse, and develop awareness of environmental protection.

C. Key points

1. Focus of the lesson: the AIBIT and the programming platform, waste recycling and reuse;
2. Difficult point for students: the operation of the AIBIT and the programming platform.

D. Resources

1. Multi-media resource: WasteClassificationSystem_Lesson01.pptx;
2. Material: the AIBIT and a computer.

Section	Teacher to do	Students to do	Instruction	Resource
Students forming into groups Time: 5min	Divide students into groups according to the class size and students' preferences. Ask the students to propose a name for their groups.	Change their seat based on the grouping. Then come up with a group name.	Guide students to form into groups of 4 to 6 people before the lesson begins.	-/-

Section	Teacher to do	Students to do	Instruction	Resource
Introduction Time: 10min	<p>Task: Give each group a set of the AIBIT and get themselves familiar with the AIBIT and the programming platform.</p> <p>Think about these:</p> <ol style="list-style-type: none"> Do you know what the AIBIT is? What components does it have? Do you know how to design a program? <p>Summary: Read the student's handbook and summarise the students' ideas so that they have a general idea of the AIBIT and the programming platform.</p>	Study the AIBIT and the programming platform. Then read P2-3 of the student's handbook.	Guide students to use the AIBIT and the programming platform. Guide them to read P2-3 of the student's handbook so that they know how to use the AIBIT and the programming platform.	Student's handbook: P2-3 Materials and tools: the AIBIT and a computer
Activity 1: Scenario Time: 15min	<p>Motivation: Before the activity, introduce a scenario to the students to see how they come up with a solution to the problem. What are the criteria of waste classification? What is the importance of waste classification?</p> <p>Group sharing: Read the student's handbook P4 and discuss the questions about waste classification. Then ask the students to share their answers. (Suggested answer: a facial mask should be put into the "other waste" bin; used trainers should be put into the "recyclables" bin; a rechargeable battery should be put into the "hazardous waste" bin; and an egg shell should be put into the "kitchen waste" bin.)</p> <p>Summary: Summarise the students' ideas to let them know that waste can be sorted by its properties.</p>	Answer the questions about waste classification in the student's handbook. Discuss the answer with their groupmates and present it to the whole class.	Guide students to discuss the scenario in the student's handbook. Strengthen their learning motivation and prepare them for the upcoming activity.	Student's handbook: P4 PPT: S1-S11
Activity 2: Objectives Time: 8min	Ask students to read P5 of the student's handbook to understand the objectives of the activity (i.e. design a smart waste classification system using the AIBIT).	Read P5 of the student's handbook in groups to understand the objectives of the	Guide students to understand the objectives of the activity and introduce to them the materials and	Student's handbook: P5-6 PPT: S12-S20

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Section	Teacher to do	Students to do	Instruction	Resource
	Introduce different STEM elements to the students and show them in PPT the photos of the materials and tools used in the activity to prepare them for the upcoming activity.	activity. Prepare for the upcoming activity.	tools to be used in the upcoming activity.	
Summary: Time: 2min	Summarise the learning contents of the whole lesson. Homework: Before the next lesson, look up information about recyclable wastes. Then record and verify the information and share it with other students in the next lesson.	Review the learning contents of the whole lesson and complete the homework.	Summarise the important knowledge of the whole lesson.	Student's handbook: P2-6