THIRD TERM ACTIVITY 1

1. Please write the following information on your notebook

<table>
<tr>
<td>Term Goal:

This term, we are working on a project called: “Innovative Design and Sustainable Construction.”
The goal is to:

● Promote creativity and collaborative work.
● Use engineering tools and 3D design software.
● Create modern, sustainable, and eco-friendly spaces.
● Help protect natural resources and reduce environmental impact.</td>
<td>Key Concepts and Tools:

● Biodesign
● Biomimicry
● Model
● Floor planner
● Design
● Measurements
● Construction
● Structure
● Interior Design
● 3D Tools: Tinkercad, Google SketchUp</td>
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<td>Project Description:

In this project, we will create a 3D model of a sustainable structure or space.
The design will:

● Be inspired by nature.
● Use eco-friendly materials and smart design.
● Show how engineering and creativity can solve real problems.

We will work in teams, and we will practice:

● Problem-solving
● Design thinking
● Communication (visual, written, and oral)</td>
<td>Our Learning Goals:

We will be able to:

● Identify problems in the environment or in construction.
● Propose innovative and sustainable solutions.
● Create and improve 3D designs using digital tools.
● Present our ideas in a clear and creative way.</td>
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2. Activity: "Inspired by Nature?"

- Biodesign: design that incorporates natural principles.
- Biomimicry: the conscious imitation of nature to solve human problems**.**

Instructions:

Using PowerPoint, create a presentation with **10 slides** in **English** where you explain the **difference between Biodesign and Biomimicry**.

Your presentation must include:

- A clear explanation of **what Biodesign is**.
- A clear explanation of **what Biomimicry is**.
- A slide showing the **main differences** between them.
- **5 images** related to **Biodesign**.
- **5 images** related to **Biomimicry**.
- Titles and short descriptions in English on each slide.
- Be creative! Use visuals, diagrams, and key vocabulary

3. Please read the following text and do the activity below

Reading: Nature-Inspired Design and Biomimicry

Have you ever looked at a bird, a tree, or an insect and thought, "What can we learn from that?" This is the idea behind biomimicry (a way of designing and solving problems by taking inspiration from nature).

Biomimicry comes from two words: *bio* (life) and *mimesis* (to imitate). It means copying the functions and solutions found in nature to create better tools, buildings, and systems for humans.

In nature, everything is connected and efficient. Animals, plants, and ecosystems have developed smart ways to survive. Scientists and engineers study these systems to find ideas for sustainability, saving energy, and reducing waste.

For example:

- The Velcro we use today was inspired by the tiny hooks found on burdock plant seeds. A man noticed how the seeds stuck to his dog's fur and invented a new material.

- The shape of Japan's bullet train was based on the beak of the kingfisher bird. This change helped the train move faster and quieter, using less energy.

Another example is how termites build their nests. Their designs allow for natural air flow, keeping the temperature cool without using electricity. Architects now use similar ideas to design energy-efficient buildings.

Materials are also important. Some scientists are developing new types of plastic made from mushrooms or seaweed to reduce pollution. These eco-friendly materials break down naturally and are safe for the environment.

By observing nature, we learn how to design in smarter, cleaner, and more sustainable ways.

Answer the questions in English:

a) **What is biomimicry?**
→ _____

b) **Mention 2 examples from the text.**
→ **a)** _____
→ **b)** _____

c) **How does nature help solve construction problems?**
→ _____

d) **Which invention do you think is the most useful and why?**
→ _____
→ _____

e) **Underline the following words within the Reading: design, sustainability, energy, inspiration, nature, function, materials**

4. Write a short paragraph (6–8 lines) explaining what biomimicry is, how it can help improve sustainable housing designs, and which invention from the text was your favorite

- **Write your own text based on the following texts:**
- "Biomimicry is…"
- "We can use it to…"
- "This idea is useful because…"
- "In our project, we could apply…"

5. CREATIVE ACTIVITY: “Create a Visual Story: A House Inspired by Nature”

Tool: StoryJumper

a) Watch the video at the following link. https://www.youtube.com/watch?v=kKEYM-qrpR0
b) Using StoryJumper, design an illustrated story in English where a family or group builds a house inspired by an animal, plant, or ecosystem.
c) The story must include:
    a. A design inspired by nature.
    b. An ecological justification.
    c. Problem – solution – outcome.

Send the link or PDF of the story you created.

6. CLOSURE AND REFLECTION: “One fact, one idea, one question”

Write in your notebook:

- One fact you learned.
- One idea you would like to apply to the project.
- One question you still have about sustainable design.