Sustainable Farming Explorers

Objective:
Students will explore the principles of sustainable farming, understand its importance in environmental and food security, and design a small-scale farm model that incorporates sustainable practices.

Activity Title:
"Future Farmers: Designing a Sustainable Farm"

Age Group: KS3
Duration: 1.5-2 hours

Learning Outcomes:
By the end of the activity, students will:

1. Understand key principles of sustainable farming (e.g., crop rotation, soil health, biodiversity).
2. Explore the environmental and social benefits of sustainable farming.
3. Apply their knowledge to design a farm model that balances productivity with environmental care.

Materials Needed:

- Large sheets of paper or cardboard for farm layout designs
- Coloured pens, pencils, and markers
- Natural materials for 3D modelling (e.g., sticks, leaves, soil, grass)
- Printed fact sheets on sustainable farming techniques (crop rotation, companion planting, organic fertilisers, renewable energy, water conservation)

Activity Plan:

1. Introduction: Why Sustainable Farming Matters (20 minutes)

- Start with a short discussion about sustainable farming:
  - Why is sustainable farming important? (Environmental health, food security, climate change mitigation)
  - Key practices (e.g., reducing chemical use, conserving water, improving soil health).
- Share examples of successful sustainable farming practices, such as agroforestry or permaculture.

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2. Team Challenge: Designing a Sustainable Farm (60 minutes)

- Divide students into small groups and explain the challenge:
  "Your team is tasked with designing a sustainable farm that provides food while protecting the environment. Consider crops, animals, water use, and energy sources."
- Provide fact sheets and encourage them to incorporate:

- **Crop rotation and companion planting** (e.g., planting beans to enrich soil with nitrogen).
- **Water conservation** (e.g., rainwater harvesting).
- **Renewable energy** (e.g., solar panels for powering farm machinery).
- **Biodiversity** (e.g., planting wildflower strips for pollinators).

- Groups sketch or build their farm using the provided materials.

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3. Present and Reflect (30 minutes)

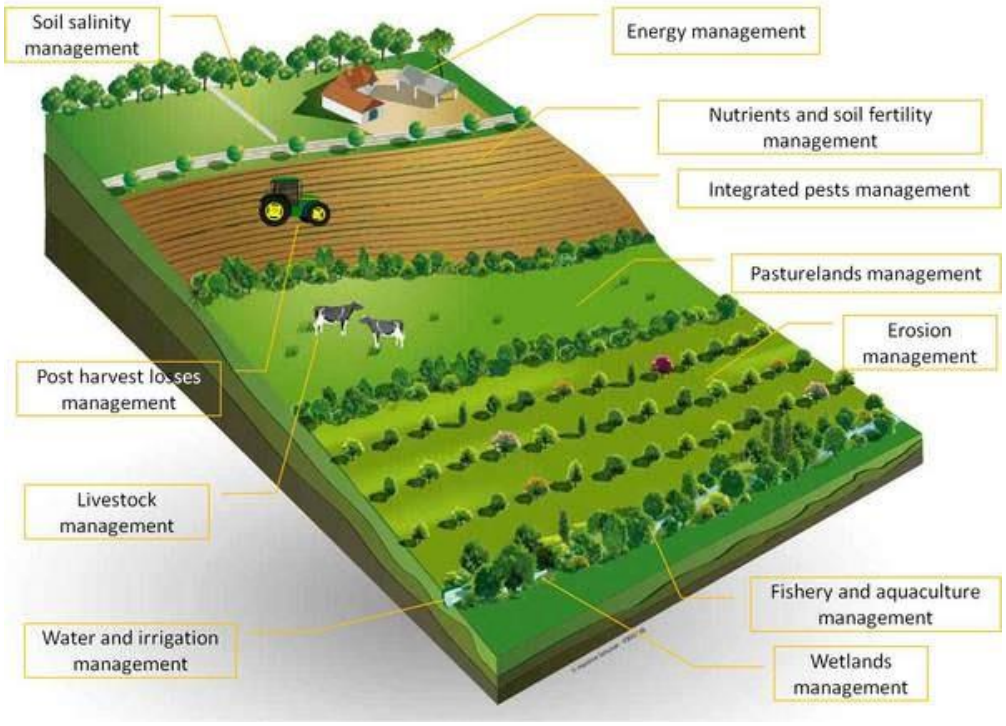
- Each group presents their farm design, explaining how their model addresses key sustainable farming principles.
- Facilitate a discussion about the challenges and opportunities of sustainable farming.
- Encourage students to consider how sustainable farming could impact their local community or the world.

Extension Activities:

- **Field Visit:** Visit the estate farm where we are practicing sustainable methods.
- **Practical Experiment:** Grow small crops in containers using companion planting.
- **Debate:** "Can farming be both sustainable and profitable?"

Outcomes:

Students gain a deeper understanding of sustainable farming principles and their importance. They develop teamwork, problem-solving, and presentation skills while exploring real-world solutions for environmental and agricultural challenges.



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