

Class 9 - Skill Education

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Precision Farming

CBSE NOTES

Precision Farming - Challenge Worksheet

Strengthen your foundation with key concepts and basic applications.



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Solve the following questions. Write your answers in the space provided.

1. Evaluate the implications of precision farming techniques on traditional agricultural practices when applied in small nurseries.

Hint: Consider both short-term and long-term effects on sustainability and local farming communities.

2. Analyze the role of technology and data in making agricultural decisions using case studies from precision farming.

Hint: Look into specific examples of technology tools, such as drones or soil sensors.



Solve the following questions. Write your answers in the space provided.

3. Discuss how the implementation of a humidity chamber can affect seedling growth in a school-based precision farming unit.

Hint: Reflect on environmental factors that influence seedling development.

4. Create a comparative analysis of carbon content management in soil using organic compost versus synthetic fertilizers.

Hint: Consider soil health in terms of microbial life and long-term sustainability.



Solve the following questions. Write your answers in the space provided.

5. Evaluate the potential barriers and solutions that schools might face in establishing precision farming units.

Hint: Incorporate community involvement as part of the solution strategy.

6. Propose a detailed plan for integrating multiple precision farming techniques (e.g., drip irrigation, biofertilizers) in a single farming operation.

Hint: Consider phased implementation and gradual scaling of operations.



Solve the following questions. Write your answers in the space provided.

7. Assess the ethical considerations of using genetically modified organisms (GMOs) in the context of precision farming.

Hint: Reflect on societal perspectives and regulatory frameworks.

8. Investigate the influence of microclimates on crop selection and management in precision agriculture.

Hint: Utilize local climate data to illustrate points effectively.



Solve the following questions. Write your answers in the space provided.

9. Examine how precision farming can successfully incorporate community knowledge and practices for improved crop management.

Hint: Consider collaborative models that honor both knowledge systems.

10. Design an experiment to test the effectiveness of a specific biofertilizer compared to traditional fertilizers on a selected crop.

Hint: Address control variables and methods for data collection to ensure scientific rigor.



Check your answers with the solutions below.

1. Evaluate the implications of precision farming techniques on traditional agricultural practices when applied in small nurseries.

Solution: Examine how precision farming can improve yields and efficiency compared to traditional methods. Discuss the environmental impact, such as reduced chemical usage, and counterpoints such as the initial investment costs.

2. Analyze the role of technology and data in making agricultural decisions using case studies from precision farming.

Solution: Utilize examples of real-time data collection and decision-making. Assess how this influences plant health and resource allocation against potential issues like over-reliance on technology.

3. Discuss how the implementation of a humidity chamber can affect seedling growth in a school-based precision farming unit.

Solution: Investigate both the benefits and limitations of humidity control in plant nurseries, integrating relevant scientific principles related to plant biology.

4. Create a comparative analysis of carbon content management in soil using organic compost versus synthetic fertilizers.

Solution: Provide a detailed evaluation of nutritional impacts and potential risks associated with each approach, supplemented by examples of real-world applications.

5. Evaluate the potential barriers and solutions that schools might face in establishing precision farming units.

Solution: Critically assess challenges such as funding, expertise, or space, and suggest feasible solutions based on successful models from other institutions.



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Check your answers with the solutions below.

6. Propose a detailed plan for integrating multiple precision farming techniques (e.g., drip irrigation, biofertilizers) in a single farming operation.

Solution: Map out an implementation plan that includes technology, human resources, and budget considerations, while weighing trade-offs between productivity and ecological impacts.

7. Assess the ethical considerations of using genetically modified organisms (GMOs) in the context of precision farming.

Solution: Offer insights into the benefits and controversies surrounding GMOs, emphasizing their potential role in enhancing crop yields through precision techniques.

8. Investigate the influence of microclimates on crop selection and management in precision agriculture.

Solution: Detail how variations in microclimates can affect farming strategies, providing real examples of crops selected based on specific local environmental conditions.

9. Examine how precision farming can successfully incorporate community knowledge and practices for improved crop management.

Solution: Integrate traditional farming knowledge with modern practices to highlight benefits and respect for local customs, while discussing potential integration challenges.



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Check your answers with the solutions below.

10. Design an experiment to test the effectiveness of a specific biofertilizer compared to traditional fertilizers on a selected crop.

Solution: Outline objectives, methods, and evaluation criteria. Discuss possible implications for broader agricultural practices based on hypothetical results.



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