



Year 9 RGS Rural Science – Autumn Term 1 – Managing Animal Health

Required knowledge for skills

Students will develop skills in farm management and animal health. They will learn to identify and manage risks, recognise signs of animal health, and understand ruminant and non-ruminant digestion. Students will develop skills in risk identification and management, safety practices, analytical skills, and information organisation.



Required knowledge for skills

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 Username: RGSRural Password: Rural23
 Go to appropriate year group and topic. Web pages and quizzes to support learning and revision

How is this topic assessed?

Self assessment sheets, practical observations and test at the end of the topic

Emerging	Developing	Secure	Mastering	Extending
<ul style="list-style-type: none"> Identify basic risks associated with working in a farm setting. Recognise at least 2 signs of good or ill health in an animal (e.g., sheep). 	<ul style="list-style-type: none"> Understand basic methods to manage risks on a farm. Identify potential hazards in a farm setting. Recognise 3-4 signs of good or ill health in an animal and understand their basic implications. 	<ul style="list-style-type: none"> Explain the key areas to consider to enable an animal to be healthy. Understand the difference between ruminant and non-ruminant digestion. Identify and demonstrate safe working practices in a farm setting. 	<ul style="list-style-type: none"> Analyse why certain signs of good/ill health may cause problems for animals and how they can be prevented. Explain the role of microbes in ruminant digestion. Understand and explain the importance of farm assurance schemes and their benefits to consumers and producers. 	<ul style="list-style-type: none"> Explain in detail why each sign of good/ill health in an animal may be problematic, its causes, and prevention methods. Explain the roles of the four stomach chambers in ruminant digestion and the role of microbes.



Year 9 RGS Rural Science – Autumn Term 2 – Feeding Animals

Required knowledge for skills

Students will focus on identifying feed types, crops, and essential tools while developing transferable skills. They will enhance critical thinking by analysing nutritional content and evaluating agricultural impacts, numeracy through feed ratio calculations, and practical skills in animal welfare, livestock handling, and photosynthesis, and develop problem-solving skills by creating feed plans and proposing solutions for environmental changes affecting photosynthesis.



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<ul style="list-style-type: none"> Recognise different types of feed used in livestock husbandry. Understand the basic concept of animal welfare. Recognise the main tools and equipment needed for livestock handling. Identify common field crops grown in the UK. 	<ul style="list-style-type: none"> Understand different feed types used in livestock husbandry and their importance. Visually identify common feeds and their characteristics. Develop basic numeracy skills by calculating simple feed ratios. Summarize the lesson content in writing to develop literacy skills. Understand basic procedures involved in restraining livestock. Identify the regional distribution of crops in the UK. Recognize the uses of main crop products. 	<ul style="list-style-type: none"> Explain the different feed types commonly used in livestock husbandry. Calculate feed ratios. Demonstrate understanding of basic livestock restraining procedures. Recognise and describe the uses of main crop products. Explain the process of photosynthesis, the role of chlorophyll, and its importance in the ecosystem. 	<ul style="list-style-type: none"> Analyse the nutritional content and benefits of different feed types for livestock. Explain the importance of animal welfare and ethical practices in livestock husbandry. Understand the importance of Isle of Man agriculture and compare it to UK agriculture. Recognise the impact of agriculture on the environment and economy. 	<ul style="list-style-type: none"> Evaluate the effectiveness of various feed types in livestock husbandry. Understand and demonstrate advanced livestock restraining techniques. Evaluate the regional distribution and uses of field crops in the UK and Isle of Man. Compare and contrast the agricultural practices of the Isle of Man and the UK. Assess the impact of agriculture on the environment and economy. Describe how environmental changes affect photosynthesis and propose mitigation strategies.



Year 9 RGS Rural Science – Spring Term 1 – Maximising Productivity

Required knowledge for skills

This term, students will develop a sound understanding of photosynthesis and its role in crop production, learning how farmers can enhance yield. They will explore various animal products, their production processes, and the materials used. Additionally, students will understand the lambing process, manage complications, and implement best practices for newborn lamb care, with a strong focus on animal welfare. Through these topics, they will enhance their analytical, problem-solving, and practical skills in agricultural practices.



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Self assessment sheets, practical observations and test at the end of the topic

Emerging	Developing	Secure	Mastering	Extending
<ul style="list-style-type: none"> Understand the basic process of photosynthesis in plants. Define animal products and give a few examples, such as milk and eggs. 	<ul style="list-style-type: none"> Explain how photosynthesis occurs in plants. Identify different types of animal products, such as food and clothing. Understand the basic stages of the lambing process. 	<ul style="list-style-type: none"> Explore the relationship between photosynthesis and crop production. Identify the materials used to produce various animal products. Describe the lambing process, including birthing stages and post-birth care. Understand basic principles of animal welfare. 	<ul style="list-style-type: none"> Apply knowledge of photosynthesis to discuss ways in which farmers can increase crop production Implement best practices for newborn lamb care, considering animal welfare principles. 	<ul style="list-style-type: none"> Analyse the efficiency of different methods used by farmers to enhance crop production through improved photosynthesis. Apply advanced principles of animal welfare to improve the quality of life for farm animals.



Year 9 RGS Rural Science – Spring Term 2 – Environmental Threats

Required knowledge for skills

Students will develop skills in identifying farm pollution sources and understanding their impacts. They will learn to use weighing equipment accurately, recognise essential tools for milk production, & the importance of hygiene. Students will build upon their numeracy, analytical, practical, cooperative, and environmental awareness skills.



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How is this topic assessed?

Self assessment sheets, practical observations and test at the end of the topic

Emerging	Developing	Secure	Mastering	Extending
<ul style="list-style-type: none"> Recognise basic sources of pollution on a farm, such as air and water pollution. Understand the concept of weighing lambs and identify simple weighing equipment. 	<ul style="list-style-type: none"> Identify various sources of pollution on a farm, including air, noise, water, smell, and visual pollution. Understand basic ways in which pollution affects the environment and human health. Use weighing equipment accurately to weigh lambs. 	<ul style="list-style-type: none"> Explain the effects of different types of pollution on the environment and human health. Explain how milk production works and the importance of hygiene in the process. 	<ul style="list-style-type: none"> Analyse the impact of various sources of pollution on farm environments and propose effective reduction methods. Demonstrate accurate use of weighing equipment and solve complex weight-related problems. 	<ul style="list-style-type: none"> Evaluate the long-term effects of farm pollution on the environment and human health, and develop comprehensive reduction strategies. Describe the environmental challenges faced by Tuvalu and propose solutions. Understand the broader concept of environmental awareness and identify the impact of human activities on the global environment.



Year 9 RGS Rural Science – Summer Term 1 – Sustainable Agriculture Practices

Required knowledge for skills

Students will learn about environmental impacts and strategies to prevent them. They will evaluate farming practices and technologies that reduce environmental impact, and study the factors affecting lambing success, including practical data calculation. Students will study Precision and Regenerative Agriculture, analysing their benefits and applications in sustainable farming. Additionally, they will develop scientific inquiry skills, by studying market forces, supply and demand, and their effects on farming practices. Through these topics, students will develop analytical, investigative, and practical skills to address environmental and agricultural challenges.



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How is this topic assessed?

Self assessment sheets, practical observations and test at the end of the topic

Emerging	Developing	Secure	Mastering	Extending
<ul style="list-style-type: none"> Understand the basic concept of eutrophication and recognize its causes. Understand basic factors affecting lambing success. Recognise the basic idea of Precision Agriculture and its benefits. 	<ul style="list-style-type: none"> Explain the effects of eutrophication on the environment and aquatic life. Identify basic farming practices that can reduce environmental impact. Understand and explain the factors that affect lambing success. Calculate lambing success using provided data. Understand how data and technology are used in modern farming. Identify key principles of 	<ul style="list-style-type: none"> Explore and describe strategies for preventing eutrophication in an agricultural context. Identify relevant technologies used to reduce farming impact and explain their importance. Explain the concept of Precision Agriculture and analyse its benefits. Discuss the environmental benefits of regenerative agriculture. Understand and explain the concept of market forces in agricultural economics. 	<ul style="list-style-type: none"> Evaluate various farming practices and technologies for their effectiveness in reducing environmental impact. Analyse the use of data and technology in Precision Agriculture for enhancing sustainable farming practices. Evaluate the principles of regenerative agriculture and their implementation in real-world scenarios. Analyse factors influencing supply and demand in agriculture and their impact on 	<ul style="list-style-type: none"> Critically assess and compare different technologies used to reduce farming impact. Conduct detailed investigations on lambing success, including data collection, analysis, and presentation of results. Design a Precision Agriculture plan. Design a regenerative agriculture plan. Analyse market forces and propose strategies for producers to adapt to changing economic conditions.

Year 9 RGS Rural Science – Summer Term 2 – Sustainable Agroecology and Ecosystems



Required knowledge for skills

Students will explore the principles of agroecology and its application in creating sustainable farm systems. They will study the impact of non-native species, and develop critical thinking skills through the analysis of case studies and hypothetical scenarios. Students will gain knowledge of sustainable farming practices, understand the ecological consequences of species introduction, and enhance their problem-solving abilities by proposing innovative solutions for ecosystem management.



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Emerging	Developing	Secure	Mastering	Extending
<ul style="list-style-type: none"> Recognise the basic concept of agroecology. Identify key characteristics and behaviours of wallabies as a non-native species. 	<ul style="list-style-type: none"> Understand the principles of agroecology. Describe the potential impact of introducing non-native species to an ecosystem. Begin to analyse simple case studies involving non-native species. 	<ul style="list-style-type: none"> Explain the concept of agroecology and its importance. Apply basic principles of agroecology to design a simple sustainable farm system. Understand and explain the potential impact of introducing non-native species to an ecosystem. 	<ul style="list-style-type: none"> Analyse how different principles of agroecology can be integrated into sustainable farm systems. Develop a detailed sustainable farm system based on agroecological principles. Critically evaluate the impact of non-native species on ecosystems through case studies and real-world examples. Research and present detailed information on the characteristics and behaviours of wallabies, including their impact as a non-native species. 	<ul style="list-style-type: none"> Evaluate agroecological systems and propose solutions for sustainability. Design and present a sustainable farm system incorporating advanced agroecological principles. Analyse and propose solutions for mitigating the impact of non-native species on ecosystems, using wallabies as a case study.