

Preparing for Christmas – 9 January 2012

Discovering Our Countryside provides a clear, interesting and informative picture of the important role of agriculture and rural affairs in the lives of pupils from an early age, the films and commentaries have been developed specifically to enhance the work that you are doing in your own classrooms.

These are the scripts and associated teaching links and notes for the program of 9 January 2012.

Teaching links.

Below are this program's specific links to:

- National Curriculum
- The 9 Eco School topics.
- National Government initiatives:
 - Healthy Schools
 - Sustainable Schools
 - Every Child Matters
 - Learning Outside the Classroom
- Thinking Skills.

Note on National Curriculum links

The National Curriculum subjects and the units from the QCA schemes of work. (Rather than list each specific National Curriculum objective we have simply listed the QCA Units as these are already linked to the National Curriculum and are generally what schools reference when planning work.)

These will allow you to easily link each program into your existing work.

The programs can also be used to promote interaction by children in pairs and groups, circle time or class discussion, encouraging learning through discussion and interaction

Discovering Our Countryside is a modular approach to rural affairs - we hope you and your pupils will look forward to each new episode as it paints the picture of the rural environment and it's seasonality.

Specific links for this weeks program sections:

Computers in Agriculture

Details of this program

This program looks at how farming and the countryside prepares for Christmas.

- **Farm Animals and Computers** – Shows how computers are used to monitor pigs feeding during pregnancy and also how they are used to help farmers weigh ingredients so they can mix the correct food ingredients for cattle. It also shows how even milking cows and goats is helped by the use of computer to monitor how much milk is produced.
- **In your local Greenhouse** – Shows how machines are used to plant seeds then how computers and robots are used to then sort the growing seedlings. It also shows how human input is still needed for many jobs that computers cannot do – yet!

- **Wildlife Ponds**. – Jon Traill the Yorkshire Wildlife officer for water explains why ponds are important in rural and urban landscapes. He also explain a little about the different habitats which can be created in a pond and how this benefits wildlife – both plants and animals.

These sections can also be found on the relevant topic page, which over the weeks will build up the seasonality picture for each of the main themes: Crops / Arable; Livestock; Wildlife and the Countryside

NATIONAL CURRICULUM SUBJECTS LINKS.

Citizenship KS 1 + 2

Shows the monitoring and forward planning farmers in order to successfully look after their animals especially during pregnancy.

Relevant QCA Schemes of Work

Unit 3 Animals and Us

Design and Technology KS 1 + 2

Shows different crops being grown from seed and the technology involved in a modern greenhouse. Also examples of different vehicles.

Relevant QCA Schemes of Work

Unit 2a Vehicles

Unit 6d Controllable Vehicles

Shows different machinery as ideas for different wheels on vehicles etc and also how computers are used to control modern machinery and help people do their job better.

Science KS 1 + 2

The videos have lots of science links to the units listed below for example:

Shows plants life cycles and what parts of a plant we use and harvest.

Some of machinery could be used to discuss pushes and pulls.

Relevant QCA Schemes of Work

Unit 1B. Growing plants.

Unit 1E Pushes and Pulls.

Unit 2A Health and Grow.

Unit 2B Plants and Animals.

Unit 3B. Helping plants grow well.

Unit 4B Habitats.

Unit 5B. Life cycles.

Unit 6A Interdependence and adaptation.

Eco SCHOOL TOPIC LINKS

Showing pupils just which of their food products are grown in this country will give them important background knowledge when discussing transport, energy and global perspective of food production and the healthy living choices they make when they go to the shops.

- Transport
- Healthy Living
- Energy
- Global Perspective
- Sustainability

TEACHERS NOTES:

This program should show pupils how farming like many things now depends on computers. This program gives a taster of computers and robots used for feeding livestock and growing plants. We will definitely be re-visiting this theme as some of the technology now used to help farmers produce food is amazing – driverless tractors, laser guided combines to name but two!!

COMPUTER IN FARMING: SCRIPT

FARM ANIMALS AND COMPUTERS

The pregnant sows we saw before Christmas are now well into their pregnancy. The farmer has been monitoring them closely - especially what they eat. this is done with a computer.

As the sows go into this feed station the computer reads their special ear tag and gives them the amount of food the farmer has told the computer they need for the particular stage of their pregnancy.

Computers are even used to help farmers feed cattle while they are housed.

The farmer mixes them a diet in this feed mixer and can tell how much of each ingredient to add thanks to the computer showing him the weight as the ingredients are added.

Computers are even used in milking parlours

The white stuff

6 million of these are sold in the UK each day – some of it drunk by you.....

That's enough milk to fill 41 swimming pools....

Milk usually comes from cows but it can also come from sheep or goats.

Do you know how Milk is produced and gets into the cartons?

Cows which produce milk are usually black and white and either the Friesian or Holstein breed

Animals kept for milk are referred to as Dairy Animals

Cows eat mainly grass which they turn into milk.

Each cow can produce 20 litres of milk – that's this many containers, in ONE DAY

Dairy animals are milked daily sometimes 2 or 3 times a day.

They go into a milking parlour to be milked.

Some milking parlours are like a roundabout like this one where goats are being milked.

When animals first enter the milking parlour the farmer cleans their udders – this is to help stop bacteria getting into the milk.

Milking does not hurt the cows, in fact cows are happy to be milked as they can get rid of the weight of milk in their udders - could you carry these around all day?

Some cows even start to release milk before the farmer has put the milking machine on

Once the udders are clean the farmer then continues with the milking process

This is called the milking cluster – it is put on the animals udder and gently squeezes the milk out.

The milk produced by each animal is carefully measured and recorded by a computer so that they can be fed the correct amount of extra food

Once all the milk has been squeezed out the cluster releases automatically and the animal leaves the parlour

The milk goes into a special cooling tank where it will be stored until it is picked up by a tanker lorry.

We will see what happens to the milk in another program

IN YOUR LOCAL GREENHOUSE.

The seeds for your summer vegetables are being planted....

The seeds are planted into a compartment in these trays by this machine.

This is tomato seed pelleted in clay to make handling such small seeds easier.

The planting machine puts 1 pelleted seed in each compartment.

The seeds are then covered in a special material called vermiculite and then put in a germination room where the conditions are controlled to help the seeds germinate.

After 3 days the trays are moved to the greenhouse and the seedlings emerge

Once the seedlings are growing strongly they are sorted according to size by a computer and robot into small, medium or large

The robot picks each plant up and places it in a pot for the computer to take a picture of.

The computer then controls where each plant goes and instructs the robot to pick these sorted plants up and put them on the relevant tray. Sorting them by size helps the grower produce the most even crop of healthy strong plants – the small ones can be grown on longer before the next stage.

Once they reach the right size the plants are pricked out into larger rock wool pots, which are soaked with water first

The pricked out plants are put back in the greenhouse to grown some more.

As they grow the plants take up more space so they are spaced out so that they do not have to compete for the light which makes them grow. This is what these girls are doing here.

WILDLIFE PONDS

If you have a pond in your school grounds or are thinking of digging one to help with your learning or Eco Schools projects then here's what an expert says about ponds

. Jon Traill the Yorkshire Wildlife Trust's water for wildlife officer

Jon explaining why ponds are important

So think about ponds - are you going to dig one or improve the one you have?

Jon will be back next time to give you some tips, and we'll show you how farmers and wildlife trusts set up ponds as nature reserves.