

## Springwatch

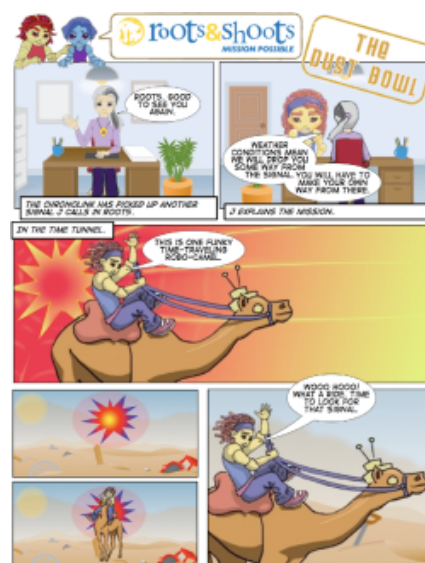
*Phenology is the study of Spring. In particular, it's the recording and study of the first appearance of birds, animals, insects and plants in the spring. When things appear is affected by the climate, and so by studying if/how the first appearances have changed over time, we can see if current climate change is having an effect on wildlife. When things appear is important; lots of organisms are interdependent. For example, if warmer temperatures mean that birds appear earlier, but their food source hasn't emerged, then they may not find food. These changes can affect lots of different organisms.*

### Context

This activity was provided by Jane Goodall's Roots & Shoots UK ([www.rootsnshoots.org.uk](http://www.rootsnshoots.org.uk)) a not for profit charity run by the Jane Goodall Institute (UK).

Each Roots & Shoots activity can either stand alone or be used as part of a themed mission. Each mission is centred around a possible future that could happen if we fail to take care of people, animals and the environment today and comes with a mission briefing comic and teacher notes – find out more at <http://www.rootsnshoots.org.uk/resources/>.

In the Dustbowl Mission, Chrono-bot ROOT5 travels to a future where crops have failed leading to dust storms, and Kent is a strange, almost lunar landscape, with little or nothing growing. This is a big change that has happened over many years. Over time, climate changes can affect organisms in lots of different ways, and one of these is when they first emerge after winter. By studying when things emerge, scientists can monitor how organisms are coping with climate change. The more evidence and records, the better, so the more people monitoring and recording what they see, the more information scientists have, the better they can understand how climate change is affecting our world and the organisms in it.



## How long will it take?

This activity is designed to be done over the course of several months of the spring term, plus two lesson periods; one at the start to introduce the project, and another at the end to look at the results, plus one homework. This can also be repeated each year, and the results compared to the previous years results.

## Jane Goodall's Roots & Shoots Awards

By completing this activity sheet you may be eligible for an award! See the end of this document for details.

## What do I need to make it work?

- One large wall calendar
- Stickers or pictures of different creatures to stick up on calendar
- External thermometer
- Rain gauge
- Access to internet where results can be uploaded to online recording projects such as Natures Calendar.

Websites for further information;

- BBC Springwatch, with web cams, activities and information  
<http://www.bbc.co.uk/springwatch/>
- Natures Calendar – the UK Phenology Site. Add your records to the national survey  
<http://www.naturescalendar.org.uk/>
- And the children's version  
<http://www.naturedetectives.org.uk/>
- Great explanation of what Phenology is, and why it's important  
<http://www.coolkidsforacoolclimate.com/Causes&Effects/Spring.htm>
- Natural History Museums Bluebell Survey  
<http://www.nhm.ac.uk/nature-online/british-natural-history/survey-bluebells/bluebells-exploring-british-wildlife.html>
- Explanation of Phenology in Wikipedia  
<http://en.wikipedia.org/wiki/Phenology>
- Kew Gardens Phenology information  
<http://data.kew.org/wild/phenology/>
- BBC Weather Centre information on Phenology  
<http://www.bbc.co.uk/climate/evidence/phenology.shtml>



## **What things will my students create**

Students will create a wall calendar which records the first observed occurrence of animals, plants, insects, and birds after winter. Students can also feed this information onto online recording sites, such as Natures Calendar. At the end of the project, students will create a report poster that looks at how their observations compare to the previous years observations.

### **Exercise 1**

With your class, over the period of the Spring term, observe and record the first occurrence of plants, animals, birds and insects after winter on a wall chart in given area, for example the school grounds, a local park, the local area. On the chart, also record the temperature, and if possible, rainfall. Begin the project with a class discussion on Phenology, how climate change can affect when organisms emerge after winter, and how when this changes it can affect other organisms.

#### **Step 1**

In a lesson, introduce and explain the concept and explanation of Phenology, the study of Spring. In a discussion, ask them to list the factors that can affect when organisms emerge after winter, e.g. temperature, rainfall, and also if they can then survive e.g. no food available, sudden changes in temperature, etc. Based on this discussion, decide with your class on what other things you will measure e.g. temperature, rainfall etc.

#### **Step 2**

In small groups, ask students to think about what things they see in the spring and make up a list, e.g. bluebells, snowdrops, birds returning from the south, chicks being born, etc. Students can also use the websites above to add to the list. Using the lists from each group, make one big list.

#### **Step 3**

Put up the wall chart in the classroom at the end of the lesson. Explain that over the next few months, students should look out for the first time they see any of the things on the list. When they do, they should notify you, and a record should be made on the relevant date on the wall chart e.g. a picture of the organism.

Students can also do this project at home as well, taking observations from their garden and recording at home.



#### **Step 4**

On the wall chart, also record any of the other factors you and your class have decided such as temperature. This can be done by drawing up a rota of students, and a different student being responsible for recording each week.

#### **Step 5**

At the end of the term, have another lesson where the results are studied. Divide the class up into small groups. In each group, ask the students to draw a graph of temperature over time, and mark down the first occurrences on it. Hold a class discussion where the results are studied. Think about the following questions; can you observe any links between temperature and observations? Were there any cold snaps, and if so, what effects did they have?

#### **Step 6**

For homework, ask the students to look at the results and compare them to results from previous year, which can be found at [www.naturescalender.org.uk](http://www.naturescalender.org.uk). They should write a short report on if there have been changes, why they think that might be, and what effect the changes might have on the organisms, e.g. plants emerge early, then the temperature drops again so the plants die off.

#### **Exercise 2**

As an extension, the results from the class observations can be uploaded onto a national survey, such as Natures Calendar. See the resources section for a selection of websites.

#### **Step 1**

Upload results on to Natures Calendar, and discuss with class why it's helpful for people to take part in this kind of reporting for science projects.

#### **Why not enter the Jane Goodall's Roots & Shoots Awards?**

This resource was provided by Roots & Shoots UK, a not for profit charity run by the Jane Goodall Institute (UK). One of the aims of Roots & Shoots is to inspire young people to care for people, animals and the environment, and one of the ways that we like to do this is by running annual awards every December.



Every school that uploads a story about their activities to the Roots & Shoots website at [www.rootsnshoots.org.uk](http://www.rootsnshoots.org.uk) automatically wins a bronze award certificate to display at school, and the best stories win the chance for you and your children to meet Dr Jane Goodall herself along with a host of other prizes.

See <http://www.rootsnshoots.org.uk/awards/> for details about the awards and information on how to upload your 'mission update' story and win!

### **Keep up to date with Jane Goodall's Roots & Shoots in the UK**

You can find us on Facebook at [fb.com/RootsnShoots.org.uk](https://fb.com/RootsnShoots.org.uk) or why not sign up for our weekly email newsletter full of inspiring stories from our Roots & Shoots members in the UK at [rootsnshoots.org.uk/sign-me-up/](http://rootsnshoots.org.uk/sign-me-up/)

