

# SIGNS OF SEASONS: CLASS PHENOLOGY CALENDAR

## LEARNING OBJECTIVES

- Students develop a working definition of phenology
- Students understand that the timing of phenological events can change, particularly as a result of changes in climate
- Students identify some of the actual or potential local impacts of changes in phenology

## OVERVIEW

Students create a month-by-month calendar of phenological events on large sheets of paper hung up around the room.

They then discuss the calendar and possible consequences of changes in phenology timing where they live.

## TIME NEEDED

15–20 minutes for participants to create calendar

20 minutes for discussion and reflection

Optional: shared year-round calendar

## WHAT IS PHENOLOGY?

Phenology is the study of seasonal changes in plants and animals from year to year, such as flowering of plants, the emergence of insects and migration of birds, especially their timing and relationship with weather and climate.



## ACTIVITY PROCEDURE

1. Before the activity, hang 12 sheets of paper around the room and label each sheet with a month of the year, or 4 sheets representing the seasons.
2. Get students to shout out examples of seasonal biological events that they look forward to (or would prefer to avoid) each year, such as the first of spring flowering and songbird arrivals, berry seasons or falling leaves.
3. Collate responses
4. Ask the students to get up and fill in the calendar with these seasonal events

### CLASS DISCUSSION

Ask students to share any observations they might have made about the differences in timing among different species. Have they noticed that the timing of some events is changing, while that of other is not?

How might we document these changes?  
Are there records that we could use to find out?  
What might cause changes in phenology?  
Are the changes likely to be uniform?

What are some consequences (actual or potential) of changes in phenology for people, plants and animals?

Follow up this line of questioning with an example or two of ways that different species are indeed changing, examples of how scientists (or others) have documented these changes and the consequences of these changes.

### KEY QUESTIONS

When do natural and human events happen in your community?

Is the timing of some events changing?

If so, how?

What might be the consequences of these changes?

Discuss the differences between short-term changes in seasonal timings and long-term trends. For example, the difference between a period of unusually warm weather causing an early spring one year compared to a long-term pattern of warm weather early in the year, shifting the timings of seasonal changes.

### EXTENSION ACTIVITY

#### Challenge

As a class, record and observe as many seasonal occurrences as you can in your area. Record these observations in a shared classroom calendar over the course of the school year.

#### Competition

As a class decide which occurrences to look out for over a season, such as spring or autumn. Students can compete to be the first to spot and record these occurrences on the calendar. These seasonal events could be made into a spotter sheet which acts like a bingo score card.

#### Contribute your data

Students can contribute records of their observations away from school using a shared recording platform like Nature's Calendar.

### NATURE'S CALENDAR

Nature's Calendar observations help predict how wildlife will be affected as the climate changes.

Nature's Calendar records contribute to the UK's largest phenology database. It currently contains 2.9 million records, with the oldest dating back far as 1736. Its data is used by researchers from across the world to explore the effects of weather and climate on timings in wildlife.

## **HOW CAN YOU GET INVOLVED?**

Help track the effects of weather and climate change on wildlife near you.

What effect has recent weather had on wildlife?

Does climate change affect timings in nature?

Join Nature's Calendar and help scientists answers these questions.

Nature's Calendar volunteers record the dates of certain events that happen to certain species during the changing seasons.

The list of species you can record has been carefully selected by scientists to help us understand how wildlife is affected by weather and climate change.

Join in and let us know what's happening to these species near you.

<https://naturescalendar.woodlandtrust.org.uk/>