

Working In Tandem With The Seasons

Paddy Madden starts the new school term with a new series of SESE tips

September

zoom in on butterflies



Painted lady butterfly

Background information

Most butterfly species are in serious decline due to modern farm practices and the destruction of wild habitats. Schools can do their part to conserve them by educating the future custodians of the earth about their lifestyles and also making the school grounds butterfly-friendly.

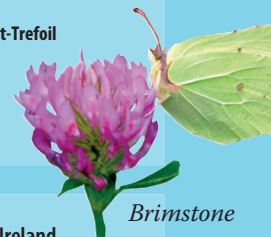
Butterflies are insects. They have a head, thorax and abdomen. They have club-shaped antennae and a tube called a proboscis (pro-boss-is) for sucking nectar from flowers. They have two compound eyes. They have a pair of fore-wings and a pair of hind-wings. Butterflies get their energy from nectar. Good nectar plants are Buddleia davidii, Sedum spectabile, Michaelmas daisy, Phlox, Verbena bonariensis, Hebe spp. and Sweet William. Butterflies begin life as eggs which hatch into caterpillars. All caterpillars have their favourite food-plants. These are often common plants which are regarded as weeds. They moult 4 or 5 times before they turn into a pupa or chrysalis.



Green veined white

10 very common species in Ireland

Species	Irish Name	Food-plant of caterpillar
Small White	Bánóg Bheag	Wild cabbage; Watercress
Large White	Bánóg Mhór	Cabbage; Nasturtium
Green-Veined White	Bánóg Uaine	Do.
Meadow Brown	Donnóg Fhéir	Grasses
Speckled wood	Breacfhéileacáin Coille	Grasses
Ringlet	Fáinneog	Grasses
Common Blue	Gormán Coiteann	Birds-Foot-Trefoil
Peacock	Péacóg	Nettles
Red Admiral	Aimiréal Dearg	Nettles
Small Tortoiseshell	Ruán Beag	Nettles



Brimstone

Did You Know?

- ✦ Queen Alexandra's Birdwing is the largest butterfly in the world. It has a wingspan of 28cm.
- ✦ Butterflies taste with their feet.
- ✦ The word "butterfly" comes from the brimstone butterfly which has a buttery-yellow colour. The brimstone is the first butterfly to be seen in Ireland and Britain. Its food-plant is Buckthorn and Alder Buckthorn.
- ✦ There are 37 resident species in Ireland.
- ✦ Butterflies rest with their wings closed; moths rest with their wings open.
- ✦ The undersides of a butterfly's wings are dull to make them less visible to predators.
- ✦ A Peacock butterfly has false eyes on its wing and is coloured black and red to scare away predators.
- ✦ The caterpillars of the Large White are black and yellow to warn predators that they are poisonous.



Peacock butterfly on buddleia

Conduct a school audit

Are the school grounds butterfly-friendly?

- Is there a Buddleia davidii growing here?
- Is there a Sedum spectabile growing here?
- Is there a Verbena bonariensis growing here?
- Are Michaelmas daisies growing here?
- Is there a Hebe 'Midsummer beauty' growing here?
- Is the herb, Lavender, growing here?
- Are there any flowers starting with 'sweet' growing here? Sweet William? Sweet rocket?
- Are there early-flowering nectar plants here such as Aubrietia, Yellow alyssum, Wallflower, Forget-me-not and Arabis?
- Is there a patch of nettles here? These are the food-plants for the caterpillars of Small Tortoiseshell, Red Admiral, Painted Lady and Peacock butterflies.
- Is ivy growing here? The Holly blue lays eggs on the flowers of this plant in summer. The flowers are also full of nectar for autumn-flying butterflies.
- Are Nasturtiums growing here? The Large White and the Small White will lay eggs on these.
- Are wild grasses growing in a meadow? These grasses

are the food-plants of brown butterflies such as Speckled Wood, Wall Brown, Ringlet, Meadow Brown, Gatekeeper and Small Heath and Grayling.

- Is Birds-foot-trefoil growing here? The Common Blue lays her eggs on this plant.
- Is Honesty, Lady's smock or Garlic mustard growing here? These are the food-plants of the Orange-Tip butterfly.
- Is holly growing here? The Holly Blue lays her eggs on the flowers.
- Is there a heap of logs for butterflies to hibernate in?
- Is there a large stone in a sunny place for butterflies to bask on?

Score

- 17, 18, 19 & 20 **Excellent** (Allow 2 for Buddleia and 3 for wild grasses)
- 13, 14, 15 & 16 **Very Good**
- 9, 10, 11 & 12 **Good**
- 5, 6, 7 & 8 **Fair**

Increase your vocabulary

- Frass** caterpillar poo
- Larva** caterpillar
- Larvae** plural of larva
- Proboscis** for sucking nectar
- Moulting** old skin
- Chrysalis** the pupa of a butterfly or moth
- Antenna** sensory organ on the head of an insect or crustacean
- Antennae** plural of antenna
- Arthropod** creature with jointed limbs and a segmented body
- Food-plant** the plant a caterpillar eats
- Nectar-plant** plant with good supply of nectar

Strand Units covered this month:
environmental awareness, caring for the environment, plant and animal life

Active Learning

Learn how to draw butterflies in easy steps. See "Narture" by Gordon Darcy. See www.gordondarcynature.com

Rear butterflies in the classroom. See www.blackrockec.ie Click on "Paddy's School Garden" and watch video in September series – "How to make a caterpillar viewer". A word of advice: Bring in a leaf with eggs and then keep 3 or 4 caterpillars for observation when they hatch. If you bring in caterpillars they have often been attacked by a parasite wasp and will not turn into chrysalides. See the horror story below.

Set up a fair test to determine which colours attract insects. (Best done in May/June when wasps won't be a problem!)

1. Cut out c. 6 circles of differently coloured matt paper c. 8 cm in diameter.
2. Make a hole in the centre of each circle and insert a bamboo skewer through the centre.
3. Make "nectar" by mixing 1 spoonful of honey with



Ringlet butterfly
(pic courtesy of Eamon Ó Murchú)



Red Admiral
on Buddleia

- 10 spoonfuls of water or mix 1 teaspoonful of sugar with a half-cup of water. (5ml of sugar: 115 ml of water)
4. Immerse equal-sized cotton wool balls in the solution and fix a soaked ball to the top of each skewer.
5. Place outside in a sunny place and record insect activity for a few hours.

Participate in a butterfly survey.
See www.irishbutterflies.com

Make an origami butterfly. See video on www.youtube.com/watch?v=X4L5nDDgEEk

Watch a caterpillar turn into a chrysalis.
<http://www.youtube.com/watch?v=LY-Fiyq8jc4>

Watch a butterfly emerge from the chrysalis. <http://www.youtube.com/watch?v=TPj3InJgIYo>

Construct a butterfly-patch in the school garden. See www.blackrockec.ie Click on "Paddy's School Garden" and watch video in

May series – "How to make a nectar patch".

Write a story. See www.naturedetectives.org.uk for free story-strip.

Identify by colouring. Download free butterfly templates from www.naturedetectives.org.uk

Make a butterfly mask. Download free template from www.naturedetectives.org.uk



Meadow Brown

Useful websites And resources

www.irishbutterflies.com
www.butterflyireland.com
www.straffanbutterflyfarm.com
www.butterflyconservation.ie
www.naturedetectives.org.uk
The Very Hungry Caterpillar
by Eric Carle
The Girl Who Loved Caterpillars
by Jean Merrill
Where Butterflies Grow
by Joanne Ryder
Narture by Gordon Darcy
Bugs (1995) Orbis Publishing
Wildlife of Britain (1998)
Bright Star Publishing
 Interactive White-Board:
www.youtube.com/watch?v=6NFRYTRXlhg Shows a butterfly sucking nectar through its proboscis.

A Horror Story

The tiny parasitic wasp *Apanteles glomerata* looks for caterpillars of the Large White Butterfly in September. She chooses young caterpillars and injects them with eggs. The Cabbage White caterpillar wriggles and thrashes from side to side to prevent this happening but to no avail. The wasp's eggs turn to grubs inside the caterpillar and starts feeding. They leave the vital organs alone because they don't want to kill their host. Instead they feed on the caterpillar's blood and fat reserves. When the caterpillar decides to pupate the white grubs emerge through its skin. They stuff the holes from which they emerged with larval skins they have discarded so that the host won't bleed to death. They want it to stay alive and guard them while they cover themselves in yellow silk and pupate. Shortly afterwards the caterpillar dies.



Small
Tortoiseshell
on Sedum



PADDY MADDEN lectures on SESE in Coláiste Mhuire, Marino Institute of Education. He is a Heritage in School specialist – see www.into.ie. Click on Professional Development and Trade Union Training. His latest book, the 3rd reprint of *Go Wild at School* will be available in October by contacting him at paddy.madden@mie.ie He is also the author of *The School Garden*. This is available from the same email address. Visit www.blackrockec.ie and click on 'Paddy's School Garden' for short videos on practical month by month SESE activities.