

April



Mí Aibreán – Fócas ar Mhion-Mhíolta

Paddy Madden continues his series of SESE tips

zoom in on mini-beasts

Background information

Mini-beasts are small animals. They are invertebrates which mean they have no backbones. They have no skeleton inside their soft bodies either. Some live in hard shells. Some have exoskeletons like insects and spiders. These protect their bodies on the outside. Arthropods are mini-beasts which have exoskeletons, jointed bodies and legs.

Key areas to study

- ✦ Classification
- ✦ Habitat
- ✦ Food
- ✦ Place in food chain/web
- ✦ Adaptation
- ✦ Threats



Insect pooter

Mimicry and camouflage

The danger colours among invertebrates are yellow and black and red and black. These warn would be predators that the prey is poisonous or dangerous e.g. ladybird, wasp, peacock butterfly. Some harmless invertebrates have similar colours to fool would be predators e.g. the hoverfly has similar colourations to a wasp. This is referred to as mimicry. The peacock butterfly has large false eyes to mimic an owl. Creatures like woodlice blend easily into the background because they engage in camouflage.

Mini-beast care and safety factors

- ✦ Avoid using glass containers.
- ✦ Do not make undue noise in the area being investigated.
- ✦ Don't leave minibests in direct sunlight.
- ✦ Leave some moist cotton wool or tissue with them if they are going to be kept in captivity for a few hours.
- ✦ Replace upturned stones and logs in their original positions.
- ✦ Put plaster on skin cuts before working with them. This is especially important when working with water creatures.
- ✦ Wash hands after working with them.

Active learning

- ✦ **Go on a spring mini-beast hunt:** Bring the class on a nature walk around the school for about 30 minutes to observe trees, and shrubs, birds and particularly spring flowers and buds. Then divide the class into 5 or 6 groups and give each group a task sheet and a bucket containing an old paint brush, dessert spoon and magnifier. Give them about 25 minutes to collect all items on the sheet plus 2 minibests. Items for collection could include an old oak leaf, a feather, a husk of a beech nut, a leaf with signs that it was eaten by an insect, the leaf of a dandelion, a new leaf, the leaf of a daisy, a petal of a daffodil, an evergreen leaf. After the hunt assemble them all together and examine and compare what was found before they return everything to where they were collected. An imaginative way to close the session is to say to the children: "The fairies may come into the wood tonight. Wouldn't it be nice to build a little house for them? Divide up into 5 groups and decide what you can build together."

- ✦ **Make a wormery:** *InTouch* April 2011. www.blackrockec.ie 'April Project'.
- ✦ **Make an insect pooter:** *InTouch* June 2011; www.blackrockec.ie 'June Project'.
- ✦ **Make a snailery:** *InTouch* May 2011; www.blackrockec.ie 'May Project'.
- ✦ **Make an ecology tank:** *InTouch* April 2011; www.blackrockec.ie 'April Project'.
- ✦ **Make a nectar patch for butterflies:** *InTouch* May 2011; www.blackrockec.ie 'May Project'.
- ✦ **Make a caterpillar viewer:** *InTouch* September 2010; www.blackrockec.ie 'September Project'.
- ✦ **Make a woodlouse observation box:** *InTouch* October 2010; www.blackrockec.ie 'October Project'.
- ✦ **Make a log habitat:** *InTouch* November 2010; www.blackrockec.ie 'October Project'.
- ✦ **Autumn mini-beast hunt:** *InTouch* October 2011.



Insect tower designed by outdoorclassroom.ie

Interactive whiteboard

- ✦ www.sycd.co.uk/primary/mini_beasts/index.htm. Link to lots of websites on insects.
- ✦ www.bbc.co.uk/scotland/education/www/living/kids.shtml. Build an insect.
- ✦ www.hitchams.suffolk.sch.uk/invert/at/page17.html. Life cycles of insects.
- ✦ www.bbc.co.uk/nature/animals/wildbritain/look_around/insects/1b.shtml. Identifying minibests.
- ✦ **Butterflies:** www.teachers.ash.org.au/jmresources/butappearance/bginform.html
- ✦ **Spiders:** www.amonline.net.au/spiders/diversity/what/difference.htm
- ✦ **Earthworms:** <http://yucky.kids.discovery.com/noflash/worm/pg000102.html>
- ✦ **Centipedes and millipedes:** www.naturegrid.org.uk/woodland/centipede.html and www.naturegrid.org.uk/woodland/millipede.html
- ✦ **Molluscs:** www.naturegrid.org.uk/grassland/snail.html and www.naturegrid.org.uk/grassland/slug.html
- ✦ **Habitats and survival:** www.hants.gov.uk/museum/biology/kids/ and http://wsqf2.westsussex.gov.uk/aplaws/intergames/plant/fly_walk_slither.swf
- ✦ **Ecosystem:** www.yptenc.org.uk/docs/factsheets/env_facts/minibests.html
- ✦ **Conservation:** www.yptenc.org.uk/docs/factsheets/env_facts/dishabitats.html, www.yptenc.org.uk/docs/factsheets/env_facts/wildlife_garden.html, www.wildlifetrusts.org and <http://www2.btcv.org.uk/display/home>

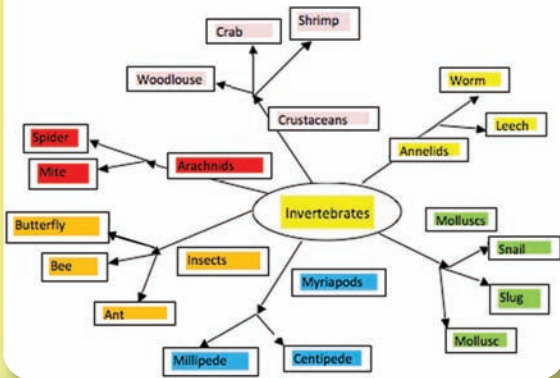


Log habitat in Kill Village, Kildare

Useful books

- ✦ 'Creative Teaching – Minibeasts' (*Teaching & Learning Magazine*, May/June 2006)
- ✦ *Minibeast Magic* by Roma Oxford (Yorkshire Wildlife Trust, York, 1999).
- ✦ *Garden Creepy Crawlies, Collins Gem Garden Wildlife, Collins Gem Insects, Butterflies & Moths, Attracting Wildlife to Your Garden* by Michael Chinery.
- ✦ *Talking Wild* (2002), *Wild and Wonderful* (2004) and *Straight Talking Wild* (2006) by Eanna Ní Lamhna (Townhouse).
- ✦ *Complete Irish Wildlife* (Collins, 2004).

Concept map of invertebrates



Classification

Arthropods (all mini beasts with jointed legs), worms and molluscs

- ✦ **Insects:** 6 legs, 2 antennae, 3 parts in body.
- ✦ **Myriapods:** 18 legs or more, 2 antennae, 2 parts in body.
- ✦ **Anarchnids:** 8 legs, no antennae, 2 parts in body, 8 eyes.
- ✦ **Crustaceans:** 8-14 legs, 4 antennae, 3 parts in body.
- ✦ **Annelids:** Worms and leeches.
- ✦ **Molluscs:** Slugs and snails.

- 2 pairs of wings.
- 2 Beetles (Coleoptera) – hard wing cases.
- 3 Ants, wasps, bees (Hymenoptera) – narrow waists.
- 4 True flies (Diptera) – 1 pair of wings (forewings).
- 5 Dragonflies and Damselflies (Odonata) – large eyes, shiny wings.

Insects are classed into 5 varieties

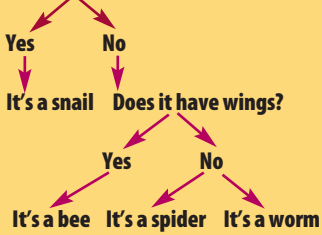
- 1 Butterflies and Moths (Lepidoptera)

Bugging Palace



Bug hotel in Rathmichael NS.

Does it have a shell?



Using keys to identify them. Binary or branching keys are easy to use. Here is a simple one. Supply the group with pictures of a worm, a snail, a bee and a spider.

Strand Units covered this month

Environmental awareness, caring for the environment, plant and animal life, the local natural environment.



PADDY MADDEN lectures on SESE in Coláiste Mhuire, Marino Institute of Education. He is a Heritage in School specialist – see www.into.ie. His latest book, the third reprint of *Go Wild at School* is available now for €15 plus €2.50 p&p. To purchase contact paddy.madden@mie.ie He is also the author of *The School Garden* – What to do and when to do it. This is available from the same email address for €10 plus €2 p&p. Note: Winners of outdoor classroom lesson plan competition and lesson plan can be viewed on www.outdoorclassroom.ie.