



BioBeo's 'Finding Beo' Comic - Guidance Notes

Table of Contents

Reading and Exploring the Comic...	4
1. Beo forgets her lunch box (Diabetes awareness)	4
2. Sustainable gardens	4
3. Biobased Lunch Boxes	5
4. Test It! - “Will It Rot?” Biodegradability Challenge	6
5. Life of a Lunchbox	6
6. Song/Chant: Plant Power	6
7. Native Irish trees	7
8. Beo and Raja meet a Red Squirrel	7
9. The Sports Fields	8
10. Cross-Curricular Projects	8
11. UCD Rosemount Environmental Research Station	9
12. The UCD Campus	9
Outdoor Chess Challenge	9
Meet the Curlew	10
Swans & The Children of Lir	10
13. Inside the lab...	10
Seaweed - the Ocean’s Super Plant!	10
Grow Your Own Sustainable Grass Patch	11
What is a biorefinery? Research and Discuss!	11
Plasma Zap Food Freshness Challenge	11
14. Ten Community Activities Inspired by Finding Beo!	12
Activity #1 Beo’s Biodiversity Map (Geography & Art Activity)	12
Activity #2 “Biobased or Not?” Sorting Game (Science & Drama Activity)	12
Activity #3 Raja’s Rhythm Run (PE & Music Activity)	13
Activity #4 Build a Mini Wetland (STEM & Geography Activity)	13
Activity #5 Beo’s Bioeconomy Comic Strip (English & Art Activity)	13
Activity #6 The Great Eco-Lunch Debate (English, SPHE & Drama Activity)	13
Activity #7 Timeline of a Tree (History & Art Activity)	14
Activity #8 Finding Beo – Outdoor Drama Quest (Drama & Irish Activity)	14
Activity #9 Food Web Dance (Science, PE & Performing Arts Activity)	14
Activity #10 The Language of Nature Word Wall (Irish, English & Geography Activity)	15
Assessment Ideas	15

Guidance Notes - Finding Beo

FINDING BEO

A STORY FROM UCD INSTITUTE OF FOOD AND HEALTH



Illustrated by Nathan T. Wright

Story by Laoise Ní Chléirigh, Máire Nic an Bhaird and Thomas P. Curran

Introduction

This is the first comic in the ‘**Beo and Raja**’ series, created from an original concept by Maynooth University and University College Dublin in the BioBeo Horizon Europe project on bioeconomy education, funded by the European Union. This publication is also supported by The UCD Institute of Food and Health.

The title of the comic, ‘**Finding Beo**’, marks the beginning of a journey for Beo and Raja as they explore the rich natural world around them and uncover the importance of biodiversity in Ireland’s bioeconomy. It invites readers to discover how the health of ecosystems is deeply linked to the sustainability of communities and the economy.

By fostering understanding and respect for the natural world through stories like Finding Beo, we encourage communities to embrace the bioeconomy — a future built on sustainability, interdependence, shared responsibility and highlighting the interconnectedness of all life.

Reading and Exploring the Comic...

1. Beo forgets her lunch box (Diabetes awareness)

Key Theme: Health awareness and inclusion.

Activities:

"What's in Beo's Lunch?"

- Craft: Cut and paste healthy lunchbox items for someone with diabetes. Use real packaging or drawings. Use real food too if available.
- "Daily Diabetes Plan" Poster: Students draw a timeline of a day in Beo's life including meals, check-ups, and breaks.
- Drama: Act out a 1-minute sketch: "What happens when Beo forgets her lunch?" Decide on other possible characters Raja could meet or see along the way.

Note: Be mindful of children in your class with diabetes. Check if the children want to explore this work or not before embarking on it!

More useful information:

Diabetes Ireland for Schools - <https://www.diabetes.ie/living-with-diabetes/child-diabetes/>

Subjects: SPHE, Drama, Art

2. Sustainable gardens

Key Theme: Biodiversity and sustainable travel

Activities:

- Butterfly Hunt Bingo: Go outside and find/invent butterflies based on Irish species (draw and name them in Irish).
- Make a Pollinator Plant Pot: Decorate pots and plant bee-friendly seeds like lavender or marigolds.
- Scooter Challenge in PE: Time trials or obstacle course for scooters or pretend scooters in the yard.

- Poster Time: "Nature-friendly gardens!" - draw a home and garden with ivy, scooters, butterflies, and a charger.

More useful information:

Pollinator information for children: <https://pollinators.ie/>

Butterfly ID Sheet (Butterfly Conservation Ireland):
<https://butterflyconservation.ie/wp/>

SEAI EV Info for Children: <https://www.seai.ie/plan-your-energy-journey/schools/primary-school/resources-for-teachers>

Subjects: PE, Art, Science, Irish

3. Biobased Lunch Boxes

Key Theme: Biobased materials - Are they better for the planet?

Investigation Station - "What's This Lunchbox Made From?"

Activity:

Set up a classroom investigation table with different real-world items:

1. a biobased lunchbox (cornstarch-based or bamboo)
2. regular plastic container
3. cardboard packaging
4. metal tin
5. compostable cutlery

Students examine and record properties (flexible, waterproof, strong, recyclable, etc.).

Use magnifying glasses and simple property cards.

Record on a teacher designed worksheet.

Outcome: Students learn what "biobased" means – something made from renewable biological sources (corn, bamboo, sugarcane, potato pulp but never oil!)

4. Test It! - “Will It Rot?” Biodegradability Challenge

Activity:

Set up 3 mini jars or boxes per group:

- One with a piece of bioplastic or compostable spoon
- One with regular plastic
- One with apple skin or banana peel

Fill jars with soil or moist compost. Over a few weeks, students predict, observe, and record which materials decompose fastest. Consider recording daily on your class ipad so that a timelapse video can be created at the end!

Extension: Create “rot diaries” with drawings or short daily sentences.

5. Life of a Lunchbox

Activity:

Did you spot the lunchbox that Beo forgot? Do you have a lunchbox? What is it made of? Compare and discuss the lunchboxes in your class.

- In pairs, act out a short sketch:

Scene 1: You're a biobased lunchbox made from sugarcane pulp.

Scene 2: You're a plastic lunchbox made from fossil fuels.

Let the lunchboxes “talk” about where they come from, where they go after being used, and how they feel about the environment. Keep it playful and funny.

6. Song/Chant: Plant Power

Activity:

As a class, write a chant or song to the tune of “Row, Row, Row Your Boat” or another simple melody:

Grow, grow, grow the box. Made from plants not oil. Put it in the compost bin. Back into the soil!

Add hand actions or percussive sounds.

Key Learning:

- Biobased = made from plants
- Biodegradable = not always compostable
- Plastic alternatives can work very well!

7. Native Irish trees

Key Theme: Nature and Irish heritage

Activities:

- How many trees are in the pictures on campus? Can you identify Irish native trees? Discuss.
- Tree Leaf Rubbing Booklet: Collect leaves from native Irish trees (oak, birch, ash), do crayon rubbings and label in Irish and English.
- Tree Scavenger Hunt: Use checklists for bark texture, leaf shape, or tree height
- Create a "Tree Spirit" puppet: Use twigs and leaves to design characters.

More useful information:

The Tree Council of Ireland https://www.treecouncil.ie/?srsltid=AfmBOopyZS-zHGmPrvzqak9olRR3YmI5YFCg8cLOeu-oc_ptZtyvUBFO

The Tairseach Tree Trail, MU - <https://www.maynoothuniversity.ie/froebel-department-primary-and-early-childhood-education/news/tairseach-tree-trail-maynooth-campus-o>

Subjects: Irish, Geography, Art, Science

8. Beo and Raja meet a Red Squirrel

Key Theme: Wildlife and communication

Activities:

- Find the red squirrel in the comic. What do you know about red squirrels? What do you know about grey squirrels? Discuss with your friend beside you. See what you can find out!
- Squirrel Olympics: PE game where students act as squirrels gathering food through obstacles.

- Mini Play: "Raja Meets the Red Squirrel" - in pairs, students perform short scenes.

More useful information:

Red Squirrel Info: <https://biodiversityireland.ie/surveys/the-urban-squirrel-survey/#:~:text=Red%20squirrels%3A%20Red%20squirrels%20are,red%20colour%20in%20the%20summer.>

Subjects: PE, Drama, Art, Science

9. The Sports Fields

Key Theme: Holistic wellness (physical and mental)

Activities:

- "Jog and Journal": Note the lady jogging on the pitches. After jogging or fast walking outside, write or draw how your body and mind feel.
- Movement Music: Students create 30-second rhythm patterns using body percussion and jog in time.
- Stretch & Breath Routine: End PE with simple stretches and mindfulness breathing.

Subjects: PE, Music, SPHE, English

10. Cross-Curricular Projects

- Comic Extension: Students make their own mini comic about Beo and Raja on another eco-adventure.
- Dear Diary: Write a diary entry from Raja's point of view in English and/or Irish.
- Sustainability Song: In groups, make a chorus for a song about Beo's day - include bees, scooters, trees!
- Irish Vocabulary Wall: Build a class word wall with all the Irish names of plants, animals, and trees from the comic. Use www.tearma.ie and www.focloir.ie for support.

11. UCD Rosemount Environmental Research Station

At UCD's Rosemount Environmental Research Station in Dublin, scientists grow food, study nature and protect biodiversity.

Beo talks to a hedgehog in this scene. Hedgehogs are small, spiky mammals native to Ireland. They eat slugs, beetles and worms, and love compost heaps and wild gardens. Their numbers are dropping, so we need to protect them!

Activities:

- Make a hedgehog home from wood and leaves.
- Create a "hedgehog highway" – ask an adult to cut a small hole (13x13cm) at the bottom of the school fences so hedgehogs can travel around.
- Grow wild patches - leave leaves, logs, or a corner of the garden messy for insects and shelter.
- Grow your own vegetables and fruits! To know when to grow and what to grow visit <https://www.engagewithnature.ie/> and follow their excellent seasonal guides.
- Never use slug pellets or pesticides – they poison all wildlife. Use crushed eggshells instead.
- Take part in the Irish Hedgehog Survey at: <https://biodiversityireland.ie/surveys/irish-hedgehog-survey/>
- Keep a nature journal – record sightings or signs like footprints and droppings of all animals.
- Apple Tree Watch - Observe blossom, bees, fruit. Draw life stages and observe in every season.
- Pollinator Count - Sit by flowers for 5 mins. Count bee visits. Record observations at: <https://biodiversityireland.ie>
- Teacher Tip: Link further with *The Primary School Curriculum*. More resources at: www.biodiversityinschools.com.

12. The UCD Campus

In these scenes, people are seen at the giant outdoor chess game beside the UCD pond. Do you know how to play chess? You can ask someone to teach you.

Outdoor Chess Challenge

- Make your own chess board with painted cardboard and household objects.

- In Drama, each child becomes a chess piece - act out moves the chess pieces would make in character.
- Create a nature-themed chess game (e.g. queen as bee, rook as tree).

Meet the Curlew

- Listen to the curlew's haunting call online at birdwatchireland.ie
- Read another comic in the series called 'Answer the Curlew's Call' and be sure to use the accompanying guidance notes.
- Use clay to make curlew models and don't forget to add their long, curved beaks.
- Recreate a bog habitat in a tray with moss, water, and pebbles.
- Do a "wader walk" on soft ground to see how curlews move!

Swans & The Children of Lir

- Read the story The Children of Lir
- Make paper swans with your teacher, using this video- <https://youtu.be/Tt47o-DyJXo?si=wlrnJ2dCa7hJYWrh>
- Act out flying across lakes with arm flaps and swooshing sounds, as you re-enact the story of the Children of Lir.

These activities link Irish nature and myths through movement, art, and outdoor exploration.

13. Inside the lab...

Beo and Raja read what is going on in the science centre in UCD and find it hard to choose what they want to explore. There is very exciting research ongoing...

Seaweed - the Ocean's Super Plant!

Activities: Seaweed is a type of algae that grows in the sea. It's like underwater grass and is very important because it makes oxygen, provides food and homes for sea creatures, and can even help fight climate change by soaking up carbon!

- Collect seaweed or buy dried seaweed from a health shop
- Touch, smell, and explore seaweed's texture and smell when it is dry versus when it is wet
- Make seaweed art by pressing wet seaweed onto paper to see its patterns
- Discuss how seaweed helps fish and cleans the water in the oceans and seas!

Website: <https://ellenhutchins.com> Look at this amazing website for rich resources and activities and learn about Ireland's first female botanist.

Grow Your Own Sustainable Grass Patch

Activity:

- Plant grass seeds in small pots or trays. Measure growth over days with a ruler.
- Investigation: Talk about how grass helps soil stay healthy and captures carbon from the air!
- Extension: Compare grass grown with lots of water vs. less water to learn about sustainability.

Website: National Geographic Kids - Plants
<https://kids.nationalgeographic.com/nature/plants>

What is a biorefinery? Research and Discuss!

Simple Biorefinery Experiment: Make "Plant Juice"

Activity:

- Crush fresh leaves or grass with a little water in a plastic bag, then strain the "juice" through a cloth.
- Investigation: Explore with your teacher's help, how biorefineries use plants to make useful products like food, biobased fuels and biobased bioplastic.
- Extension: Use natural colour from beetroot or spinach to make eco-friendly paint!

Have a look at this video to show you how to make pigment paints from plants from the New York Botanical Garden: <https://youtu.be/JfNSSdPgmAE?si=gfdUI89u4yARXGVz>

Plasma Zap Food Freshness Challenge

Activity:

- Set up two fruit bowls (e.g., apple slices). Leave one exposed to air, wrap the other tightly. Observe which stays fresh longer.
- Investigation: Discuss how plasma zaps can keep food fresh by killing germs without chemicals.

- Extension: Draw or build your own “plasma zap” machine from recycled materials!

Website: NASA Kids Club – Food Science <https://www.nasa.gov/kidsclub/index.html>

14. Ten Community Activities Inspired by Finding Beo!

Before embarking on these activities, if you are within travel distance to UCD, please visit the campus and familiarise the children with the areas explored in the comic. It will strongly support teaching and learning!

Activity #1 Beo’s Biodiversity Map (Geography & Art Activity)

Objective: Create a large, illustrated map showing different Irish habitats that Beo and Raja might explore - forests, bogs, meadows, coastlines.

To do: Use a large poster or group mural. Assign habitats to groups and illustrate them using drawings or collages. Add animals and plants in both English and Irish.

Skills: Mapping, teamwork, eco-awareness, bilingual learning

Subjects: Geography, Art, Irish

Activity #2 “Biobased or Not?” Sorting Game (Science & Drama Activity)

Objective: Understand which products come from renewable sources rather than from fossil fuels.

To do: Use real or illustrated items. Students act as each object and tell their "origin story" in a short performance.

Skills: Classification, communication, drama, sustainability

Subjects: Science, Drama, SPHE

Activity #3 Raja's Rhythm Run (PE & Music Activity)

Objective: Explore movement and rhythm linked to wellbeing and nature.

To do: Students create rhythm sequences using body percussion, then move in time with their rhythm sequence during outdoor runs or walks.

Skills: Physical coordination, musicality

Subjects: PE, Music, SPHE

Activity #4 Build a Mini Wetland (STEM & Geography Activity)

Objective: Discover how wetlands clean water, support wildlife, and combat climate change.

To do: Create a model wetland using soil, moss, sand, and water in trays. Observe how water filters through the model and add toy or paper animals.

Extension: Create a "Wetland Wonders" display and label features in English and Irish.

Skills: Environmental science, construction, teamwork

Subjects: STEM, Geography, Science, Art, Irish

Activity #5 Beo's Bioeconomy Comic Strip (English & Art Activity)

Objective: Retell or expand Beo and Raja's adventures using comic storytelling.

To do: Students draw 4-panel comics showing a nature-based problem and a bioeconomy-based solution (e.g., compostable materials instead of plastic).

Skills: Literacy, visual sequencing, creativity

Subjects: English, Art, Science

Activity #6 The Great Eco-Lunch Debate (English, SPHE & Drama Activity)

Objective: Explore food packaging choices and the impact on the planet.

To do: Hold a class debate. Students play characters (e.g., environmentalist, chef, parent, scientist) and defend lunch options (plastic vs. biobased).

Skills: Critical thinking, empathy, speaking

Subjects: English, SPHE, Drama

Activity #7 Timeline of a Tree (History & Art Activity)

Objective: Research the life of a native Irish tree and its role in ecosystems and culture.

To do: Make a visual timeline from seed to full-grown tree. Include uses by humans and connections to Irish myth or Douglas Hyde's environmental vision.

Skills: Chronology, scientific observation, artistic design

Subjects: History, Art, Science

Activity #8 Finding Beo – Outdoor Drama Quest (Drama & Irish Activity)

Objective: Recreate and extend scenes from 'Finding Beo'.

To do: Act out scenes from the comic outdoors in groups. Use Irish phrases and animal sounds or invent new encounters with nature.

Skills: Improvisation, bilingual storytelling, performance

Subjects: Drama, Irish, SPHE

Activity #9 Food Web Dance (Science, PE & Performing Arts Activity)

Objective: Demonstrate interdependence through movement.

To do: Each child becomes part of a food web (sun, grass, insect, fox, etc.). They move and connect as the web forms and changes.

Skills: Ecosystem awareness, movement, coordination

Subjects: Science, PE, Performing Arts

Activity #10 The Language of Nature Word Wall (Irish, English & Geography Activity)

Objective: Build on the student's vocabulary around Irish nature and bioeconomy themes.

To do: Create a word wall with illustrated plant and animal names in Irish and English. Include words like 'fiadhúlra' (wildlife), 'crotach' (curlew) etc. Explore www.duchas.ie for more information on the flora and fauna you choose. Explore specific flora and fauna through project enquiries.

Extension: Use this vocabulary in poems, quizzes, or nature journals.

Skills: Language development, memory, cultural literacy

Subjects: Irish, English, Geography

Assessment Ideas

- Portfolios: include drawings, flipbooks, nature journals
- Group presentations of their community activities inspired by Finding Beo
- Oral recount
- Self-assessment: What did I learn from the comic 'Finding Beo'?