BioBuzz Samhain 2025

BEST – Bioeconomy Education and Sustainability Teachers Network: Giving a Voice to All

Dia daoibh, a chairde! Welcome to the November edition of BioBuzz! As the leaves fall and the nights grow longer, we're celebrating Samhain, a time of reflection, storytelling and renewal. In this issue, we'll explore the ancient roots of what has become Halloween, and what it can teach us about living in harmony with nature today. We also bring you the latest in bioeconomy news, from Ireland's marine innovation projects to global climate action at COP 30 in Brazil, plus a peek at two important new papers shaping how we think about sustainability and circularity. As always, there's a quiz, some laughs and ideas to bring sustainability to life in your classrooms and communities. Let's get started! By the way, you can continue to find all the past editions of the newsletter here.

Samhain - From Harvest's End to New Beginnings

As the evenings grow darker and the year turns towards winter, the world celebrates Halloween. But did you know that Halloween has its roots in the Gaelic festival of Samhain? Samhain is one of the four Gaelic seasonal festivals along with Imbolc, Bealtaine and Lughnasa! Falling halfway between the autumn equinox and the winter solstice, it marks the end of the harvest and the beginning of the darker half of the year. The rhythm of Samhain mirrors many of the ideas at the heart of the bioeconomy - renewal, circularity, rest and respect for nature's limits. Just as the ancient Irish understood that each season has its role to play, the bioeconomy teaches us to value every stage in nature's cycle - growth, harvest, decay and regeneration.

Back to the Future with Beo and Raja – A Tale from the Early Bioeconomy

The Roots of Samhain

Long before Halloween became a night of costumes and sweets, Samhain marked a turning point, a sacred pause, a time to gather what had grown, let go of what was no longer needed, and honour the quiet teachings of the dark.

Communities brought their animals in from the summer pastures and gave thanks for the gifts of the land. Families lit candles to honour their ancestors and left food as an offering to the beings of the Otherworld, who, at this threshold of the year, were felt to be close.

People dressed in costume to blur the boundaries between this world and the next, reminding themselves that life and death move together in the same dance. Reciting stories and poems from door to door, often in disguise, was one way of taking part in that dance. Today's "trick or treat" still carries an echo of those older rhythms, even if much of the meaning has faded.

Classroom & Community Ideas

Here are some fun and meaningful ways to bring Samhain, and its modern cousin, Halloween, into your learning or local celebrations:

Nature craft: Make small lanterns or candle holders from turnips, pumpkins, apples, or recycled jars. Talk about how these traditions came from the ancient Irish turnip lanterns used to guide spirits home.

Seasonal sensing: Create a "Samhain Sensing Circle." Each student brings an object (fallen leaf, stone, memory, word) that feels like it belongs to the darker part of the year. Invite each person to share.

Samhain sensory jars: Layer autumn leaves, soil, seeds, moss, and small natural objects - creating a mini "season in a jar." Observe how the materials change over time and discuss cycles of decay and renewal.

Mask-making from nature: Instead of plastic costumes, design halloween masks or costumes from leaves, feathers, sticks, bark, seed pods, or other natural materials. Discuss how masks were once used to disguise people from wandering spirits and the potential reasons why. See the links below for inspiration!

The National Museum of Ireland has short videos showing how traditional Samhain masks and turnip lanterns were made using natural and leftover materials - feathers, animal hair and roots. These customs remind us that nothing was wasted and creativity often came from what was already at hand.

🔗 Watch: Traditional Halloween Masks – National Museum of Ireland

🔗 Watch: Turnip Lanterns – National Museum of Ireland

Exploring the Global Bioeconomy
From Research to Real-World Action

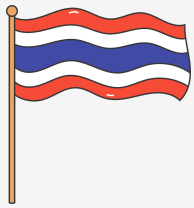
Europe's Bioeconomy at a Crossroads - JRC 2025 Factsheet

The European Commission's Joint Research Centre (JRC) has just released a new paper mapping how 43 European countries are developing their bioeconomy strategies. The study shows exciting progress, but also major differences between countries. Only 12 nations currently have a dedicated national bioeconomy strategy, while others are integrating the concept through areas like farming, forestry and circular economy policies.

Why it matters:

- It's a snapshot of how Europe is moving from policy to action on the bioeconomy.
- It shows where EU members, sit in a bigger continental picture.
- It helps us understand how education, innovation, and public engagement can support the transition to a more circular and inclusive economy.

🔗 Read the full report: JRC Bioeconomy Strategy Factsheet 2025



Global Focus - FAO's BIIF 2025: Building a Sustainable Bioeconomy in Asia–Pacific

The Food and Agriculture Organization of the United Nations (FAO) will host the Bioeconomy Investment and Innovation Forum (BIIF 2025) later this year, under its Sustainable and Circular Bioeconomy Programme for the Asia–Pacific region.

The Forum will bring together governments, researchers, farmers, and investors to explore how bio-based innovation can transform agrifood systems - from reducing food waste and creating circular value chains, to protecting ecosystems and rural livelihoods.

Why it matters:

It shows that the bioeconomy is far from just a European story - it's a global movement, connecting across cultures and regions.

It highlights how agriculture and food systems can be key pathways to sustainability when innovation and inclusion work together.

It opens doors for international collaboration, giving educators and students a global context for local bioeconomy discussions.

🔗 Learn more: FAO – BIIF 2025

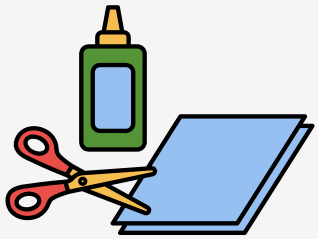
Conas do Thuirbín Gaoithe Féin a chruthú!

Scríobh Aibhe, Megan, Alanna agus Lauren an t-alt seo. Is scoláirí oideachais iad i Roinn Froebel, Ollscoil Mhá Nuad.

An raibh a fhios agaibh go bhfuil muid in ann cumhacht a chruthú gan truailliú a dhéanamh agus atá in-athnuaite? Le cumhacht na gaoithe is féidir linn! Is fuinneamh in-athnuaite í an ghaoth mar ní rithfidh sí amach agus ní dhéanann sí truailliú ar an aer. Is fuinneamh ciorclach í an ghaoth. Ach conas a bhailíonn muid cumhacht na gaoithe? Le tuirbín gaoithe! Tá os cionn 300 feirm gaoithe timpeall na hÉireann. Cialaíonn sé sin aer níos gloine do dhaoine, d'ainmhithe agus do phlandaí. Cabhraíonn an t-aer glan le bithéagsúlacht agus bitheacnamaíocht.

Ábhar:

- Báta líreacáin (ceann adhmaid)
- Glé
- Cairtchlár (úsáid rud éigin athcursáilte mar shampla, bosca gránach)
- Gaoth
- Siosúr
- Tacóid ordóige
- Rialóir
- Peann luaidhe



Céimeanna:

1. Le do rialóir, tarraing cearnóg (15cm x 15cm) ar do chairtchlár.
2. Tarraing líne trasnánach ó chúinne go cúinne, ba chóir go bhfeicfeadh sé cosúil le X.
3. Ansin, gearr na línte i dtreo an láir, Ná gearr na línte go hiomlán, fág spás sa lár.
4. Tóg gach cúinne agus fill é, go cúramach, i dtreo an láir. Déan é seo ceithre huaire.
5. Cuir greim ar na cúinní fillte sa lár agus brúigh an tacóid ordóige isteach sa lár.
6. Greamaigh an báta líreacáin go dtí an tacóid ar chúl na bpíosaí cairtchláir.
7. Déan tástáil air! Séid air go cúramach, ba chóir go róthlóidh sé.
8. Bain triail as taobh amuigh leis an ngaoth

Cad a d'fhoghlaim muid?

Casann an ghaoth lanna an tuirbín, cuireann seo na claimhte ag casadh thart taobh istigh den mheáisín. Mar gheall ar an bhfórsa ón ngluaiseacht seo is féidir leat é a úsáid mar ghiniadóir leictreachais.

How to make your own wind turbine!

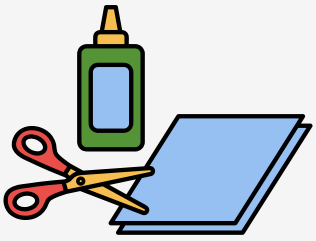
This piece was written by Aibhe, Megan, Alanna and Lauren. All of which are students of the Froebel Department in Maynooth University.

Did you know we can create renewable energy without polluting the air?

With the power of the wind, we can! The wind is a renewable source of energy as it never runs out and it doesn't pollute the air, it is a form of circular energy. How do we collect wind? We can collect and turn it into electricity with wind turbines. There are over three hundred wind farms around Ireland collecting clean energy. That means cleaner air for people, animals and plants, which helps biodiversity and the bioeconomy.

Equipment:

- A wooden lollipop stick
- Glue
- Cardboard (use something recyclable, for example, a cereal box)
- Wind
- Scissors
- Thumb tac
- Ruler
- Pencil

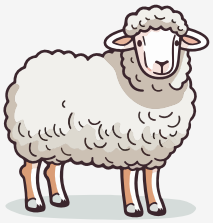


Instructions:

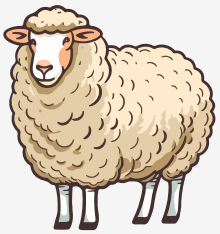
1. With your ruler, draw a square (15cm x 15cm) on the cardboard.
2. Draw diagonal lines from corner to corner, it should look similar to an X.
3. Then, cut the lines towards the centre, DON'T cut the lines the whole way through, leave some space in the middle.
4. Take every corner and fold them carefully towards the centre. Do this four times.
5. Hold onto the folded corners in the middle and push a thumb tac through.
6. Stick the wooden lollipop stick to the thumb tac at the back of four pieces of cardboard.
7. Test it! Blow gently on it, it should spin.
8. Try it outside with the wind to see how wind energy works.

What did we learn?

The wind turns the blades of the wind turbines, which then causes the blades within the turbine machine to spin. Due to the force from this movement, we can use wind turbines as an electricity generator!



SPRINGWOOL



This article was written by Megan, Shauna, Charlotte and Amy, education scholars in the Froebel Department, Maynooth University.

SPRINGWOOL is an extensive research project in Ireland that wants to help farmers, the environment, the bioeconomy and communities. The goal is to make wool from sheep, more useful, more sustainable, and more valuable. This project is run by a group called CABR (Centre for Applied Bioscience Research) and Munster Technological University, and they are working together with several other universities around Ireland. They have funding from the Irish Government through the Department of Agriculture, Food and Marine.

Why is SPRINGWOOL important?

- Right now, many farmers do not get good income from wool.
- Some wool is wasted or thrown away in ways that are harmful to the environment.
- There are also challenges in cleaning wool (scouring) and dealing with the dirty water that comes from that process.
- The project wants to develop new uses for waste wool, such as compost and extraction of ceramides/keratin.
- The idea is to make wool farming more sustainable, better for nature, and fairer financially.

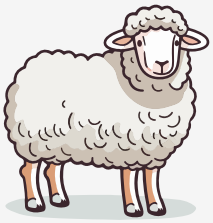
What will SPRINGWOOL do?

Here are some of the main tasks the project is doing:

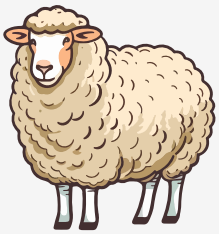
- Removing barriers: Finding out what is stopping innovation in the wool industry and how to fix them.
- Better wool processing: Finding ways to clean and treat wool more sustainably, with mobile units.
- New uses for wool waste: Turning it into compost or extracting valuable substances like keratin/ceramides.
- Life cycle assessments: Checking how much environmental impact each new method has e.g. How much energy, water, pollution.
- Fairer returns to farmers: Making sure farmers get better income from their wool.

What is the time frame and funding?

- The SPRINGWOOL project runs from 2025 to 2028.
- It is funded with €574,683 from the Irish Department of Agriculture, Food, and the Marine.



SPRINGWOOL



Scríobh Megan, Shauna, Charlotte agus Amy an t-alt seo. Is scoláirí oideachais iad i Roinn Froebel, Ollscoil Mhá Nuad.

Is tionscadal taighde mór in Éirinn é SPRINGWOOL a chabhraíonn le feirmeoirí, leis an gcomhshaol, leis an mbitheacnamaíocht agus leis an bpobal. Is é an sprioc ná olann ó chaoirigh a dhéanamh níos úsáidí, níos inbhuanaithe agus níos luachmhaire. Tá an tionscadal á reáchtáil ag grúpa ar a dtugtar CABR (Ionad um Thaighde Bitheolaíochta Feidhmí) agus Ollscoil Teicneolaíochta Mumhan, agus tá siad ag obair i gcomhar le roinnt ollscoileanna eile ar fud na hÉireann. Tá maoiniú acu ó Rialtas na hÉireann tríd an Roinn Talmhaíochta, Bia agus Mara.

Cén fáth go bhfuil SPRINGWOOL tábhachtach?

Faoi láthair, ní fhaigheann go leor feirmeoirí ioncam maith ón olann.
Cuirtear cuid den olann amú nó caitear amach í ar bhealaí atá díobhálach don chomhshaol.
Tá dúshláin ann freisin maidir le glanadh olann (sciúradh) agus déileáil leis an uisce salach a thagann ón bpróiseas sin.
Tá an tionscadal ag iarraidh úsáidí nua a fhorbairt d'fhuíollolann.

Cad a dhéanfaidh SPRINGWOOL?

Seo cuid de na príomh tascanna atá ar bun ag an tionscadal:
Bacainní a bhaint: cad a chuireann stop le nuálaíocht sa tionscal olann?
Próiseáil olann níos fearr: Bealaí chun olann a ghlanadh agus a láimhseáil ar bhealach níos inbhuanaithe, le haonaid shoghluaiste.
Úsáidí nua don dramhaíl: é a thiontú ina mhúirín nó substaintí luachmhara mar shampla ceiratin/céirimídí
Measúnuithe saolré: cé mhéad tionchar timpeallachta ag gach modh nua. Mar shampla cé mhéad fuinneamh, uisce nó truailliú.
Tuairisceáin níos cothroime d'fheirmeoirí: Ag déanamh cinnte de go bhfaigheann feirmeoirí ioncam níos fearr óna guid olann.

Cad é an fráma ama agus an maoiniú?

Mairfidh an tionscadal SPRINGWOOL ó 2025 go 2028.
Tá sé maoinithe le €574,683 ó Roinn Tamhaíochta, Bia agus Mara na hÉireann.

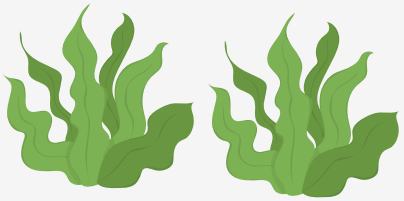
Sustainability News Round-Up
Fresh stories shaping Ireland and Europe's green future!

As autumn turns to winter, sustainability and bioeconomy news from across Ireland and Europe is full of energy and innovation. Each story shows a part of the same cycle: design better, waste less, restore more! Here are some of the highlights we're buzzing about this month:

Ireland's Marine Resources Go Circular: The AIMBIO Project

Ireland's coastal waters are full of potential - and the new AIMBIO (All-Island Marine Bio-Refineries for a Circular Blue Bioeconomy) project is set to make the most of it. Led by Teagasc and partners, the €4.5 million initiative will explore new ways to use seaweed, algae and marine by-products sustainably. From bio-based packaging to new food ingredients, the project aims to show how marine resources can help Ireland build a circular, low-carbon economy.

🔗 Learn more: Teagasc – AIMBIO Project



EEA Calls for More Home-Grown Bio-Based Innovation

The European Environment Agency (EEA) has released a new report, "Unlocking Opportunities for Innovation in the Bioeconomy," showing that Europe's bioeconomy still depends too much on imported biological materials such as grains, timber and energy crops. To truly go green, the EEA says Europe needs to scale up local, circular and nature-positive innovation - creating sustainable materials, energy and food within its own regions. The report highlights that innovation should not just replace fossil resources with bio-based ones, but rethink how we design, use and reuse materials altogether. It calls for circular systems that reduce demand, turn waste into resources and restore ecosystems instead of depleting them.

🔗 Read the full report: EEA – Bio-Based Innovation Report

Corporate Responsibility & Supply Chains: Ongoing Developments in the EU

The debate over corporate sustainability and supply-chain accountability is heating up in Europe. On 22 October 2025, the European Parliament rejected a proposal that would have cut back on key sustainability reporting and due-diligence rules for large companies. The tight vote - 318 against, 309 in favour - means new amendments will now be drafted before further discussions with EU governments.

At the same time, the United States and Qatar have jointly urged the EU to repeal or scale back its Corporate Sustainability Due Diligence Directive (CSDDD), warning that stricter human rights and environmental standards could impact energy and trade relationships. These debates highlight a growing contradiction between sustainability goals and 'business-as-usual' economics, where profit and short-term competitiveness often outweigh environmental and social responsibility.

🔗 Read more: EU Parliament Rejects Cuts to Sustainability Rules
🔗 Read more: US & Qatar Urge EU to Reconsider CSDDD

Biofuels at a Crossroads: Lessons for COP30

Contribution from Cian Delaney, Campaign Coordinator at Transport & Environment (T&E), Brussels

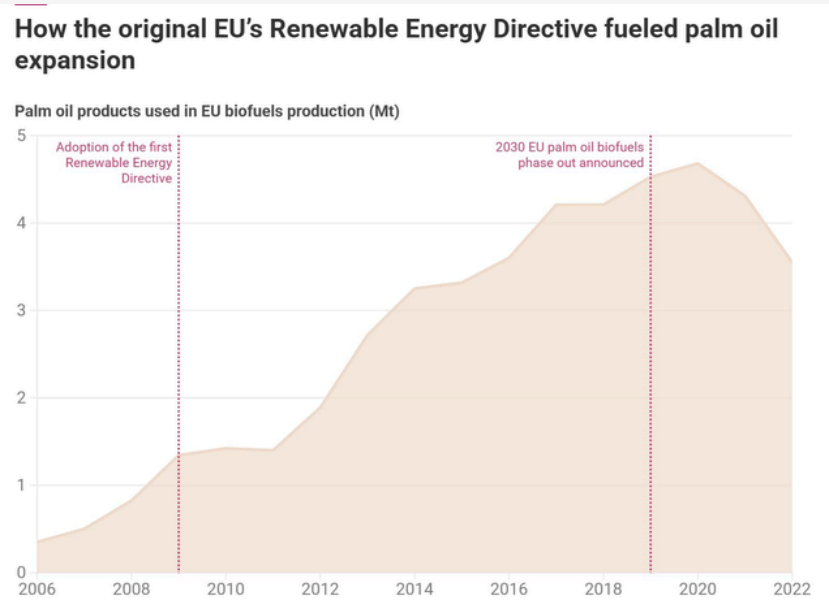
As world leaders prepare for the 30th United Nations Climate Change Conference (COP30) in Belém, Brazil, we hear from Brussels-based campaigner Cian Delaney at Transport & Environment (T&E) Brussels. Cian reminds us that not all "renewables" are created equal - and that the global race for "sustainable fuels" may, once again, risk burning the planet's living systems.

Cerulogy's 2024 report, Diverted Harvest, which analyses biofuel policies across nine countries, shows that global biofuel production emits around **16% more CO_2 than the fossil fuels** it replaces. The findings highlight a growing tension in the bioeconomy: when our "green" solutions depend on burning food and land, "sustainability" becomes self-defeating.

The Hidden Costs of Biofuels

- 25% of the world's vegetable oil is burned for fuel rather than used for food.
- 100 million bottles of vegetable oil are burned in cars every single day.
- 90% of biofuels still come from food crops like corn and sugarcane.
- 3,000 litres of water are needed to drive just 100 km on biofuels.
- The land used for biofuel crops today equals the size of Italy, and by 2030 it could grow to the size of France.

"Biofuels are a terrible climate solution and a staggering waste of land, food, and money," says Cian Delaney, Campaign Coordinator at T&E. Using just 3% of this land for solar panels would produce the same amount of energy - while freeing space for food and nature restoration. Governments must prioritise renewables over crop biofuels.



Palm-oil demand due to the the EU's renewable energy directive generated an estimated 300 million tonnes of CO_2 between 2010-2019 - triple what would have come from fossil fuels.

This year's COP host, Brazil, has launched the Belém 4x Sustainable Fuels Pledge, calling on world leaders to quadruple global sustainable fuel use by 2035. While the International Energy Agency (IEA) notes that doubling biofuel production must not expand agricultural land, that safeguard is missing from the pledge and Brazil's recent decision to lift its moratorium on soybean expansion - once credited with slowing Amazon deforestation - has only heightened concern. As Cian warns, "Burning crops for fuel risks burning through our planet's living systems."

Rethinking the Bioeconomy

The bioeconomy is meant to replace fossil-based systems with renewable, circular ones - but not at any cost. True sustainability must account for land, water, biodiversity, and justice.

As COP30 approaches, the call is clear: let's grow food, not fuel!

Career Profiles

Name: Ugne Dirdaite

Role: Science and Innovation Advisor in the Ministry of Agriculture of the Republic of Lithuania & Lithuanian representative for Horizon Europe cluster 6 and vice-chair of CBE JU states' representatives group.

AN OVERVIEW OF YOUR JOURNEY SO FAR:

While I was still a Master's student in the Netherlands, I was already thinking about returning to Lithuania after graduation. I was looking for a job that would allow me to make an impact and stay connected to the bioeconomy field. One day, while scrolling through my phone, I came across this job posting - it immediately felt like the perfect fit. I applied right away, and to my surprise, I was accepted while still completing my Master's studies.

WHAT'S THE FAVOURITE PART OF YOUR WORK?

What I love most about my job is being able to **connect the dots** to solve problems. It's a great fit for me, as I naturally think like a generalist. After finishing my time as a Bioeconomy Youth Ambassador, I wanted to stay connected with Brussels because I enjoy tackling not just national, but also European and global issues.

WHAT IS THE MOST CHALLENGING PART OF YOUR JOB?

One of the key challenges is **bridging the cultural gap between science and policy making**. Policy decisions often require rapid responses, while scientific research progresses at a slower pace.

WHERE ARE YOU USUALLY BASED?

I would say I'm always on the move. My work occasionally takes me to Brussels and other countries, and when I'm in Lithuania, I usually work from the Ministry or the Research Council.

A TYPICAL DAY...

A typical day is never the same. I usually start by planning the tasks I want to achieve, and then, depending on the priorities, I collaborate with scientists, fellow science advisors, or ministry representatives to achieve shared goals.

WHAT ADVICE WOULD YOU GIVE TO A YOUNG PERSON INTERESTED IN THIS CAREER PATH?

Dare to dream big, and focus on communicating clearly so that people from different fields can connect with your ideas. Keep your curiosity alive - this career requires constant learning and the energy to engage with many different stakeholders.

BESIDES FORMAL QUALIFICATIONS, WHAT SKILLS OR TRAITS ARE MOST USEFUL FOR YOUR TYPE OF WORK?

Diplomacy, patience, active listening, clear value proposition, persuasive communication, persistence, empathy and honesty.

HOW LONG HAVE YOU BEEN IN THIS ROLE?

2.5 years

FOR THE UPCOMING EU BIOECONOMY STRATEGY, I HOPE TO...

SEE A STRONGER BALANCE AMONG THE 3 PS: PLANET, PEOPLE, AND PROSPERITY, FINDING NEW WAYS TO REMAIN COMPETITIVE WHILE STAYING TRUE TO OUR COMMITMENTS TO PLANETARY HEALTH AND HUMAN WELL-BEING. AFTER ALL, A STRATEGY IS ONLY MEANINGFUL IF IT'S EMBRACED BY STAKEHOLDERS AND TURNED INTO ACTION.

BioBuzz Quiz – Samhain Edition!

1. Samhain marks which key seasonal moment in the Celtic calendar?
- a) The start of summer
- b) The end of the harvest and the beginning of winter
- c) The spring planting season

2. Which country is hosting COP30, where these findings will be part of the renewable energy debate?
- a) Brazil
- b) Ireland
- c) Canada

3. By 2030, global biofuel crops could cover land the size of which country?
- a) Belgium
- b) France
- c) Canada

4. What key lesson from the bioeconomy - and from Samhain - reminds us how to live sustainably?
- a) Endless growth
- b) Circular renewal - nothing wasted, everything transformed
- c) Linear progress toward perfection

Answers: 1–b | 2–a | 3–b | 4–b

Bioeconomy Matters Podcast

Bioeconomy Matters - Delve into groundbreaking bioeconomic insights and revelations with podcast host Hailey Ciantar and podcast editor and producer Rita Escórcio. Through a series of interviews, you will learn about bioeconomy's presence in various sectors.

In this episode, Barna Kovács discusses the Bioeast initiative, as well as the gaps, challenges, and opportunities in Eastern Europe.

Thanks for reading! You can subscribe or unsubscribe from the newsletter here and make sure you check out the BioBeo website by scanning the QR code! Buzz you again soon!

Joke Corner

Q: What did one plant say to another at the party?

A: Let's turnip the beet!?

Co-funded by the European Union

The Beo and Raja Comic Series!

Catch up on all our adventures below. Just click to download or read online!



[Finding Beo]

[Back to the Future with Beo and Raja]

[Answering the Curlew's Call]

[Beo, Raja and The Butterfly Effect]

[Beo and Raja's BioBus Adventure]

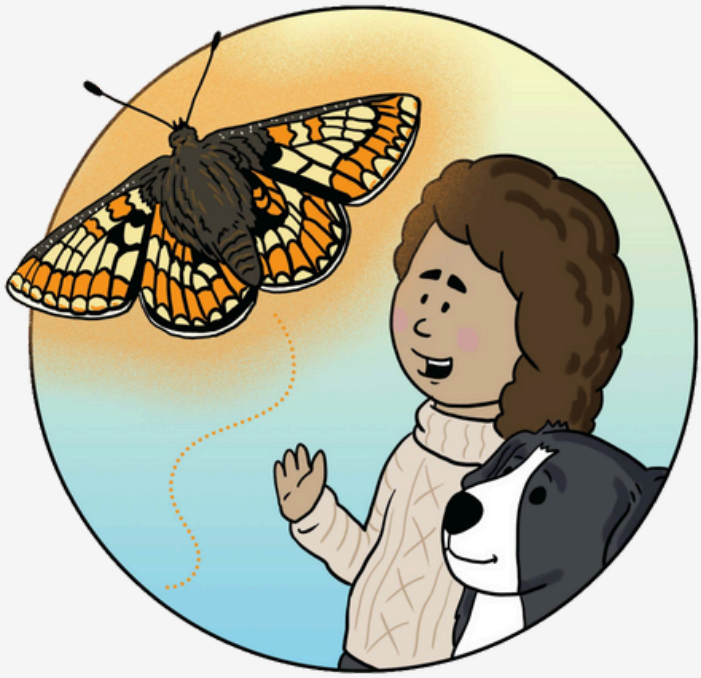
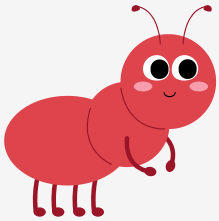
[Beo, Raja agus Éifeacht an Fhéileacáin]

[Tóraíocht Bheo]

[Ar Ais chuig an Am atá le Teacht le Beo agus Raja]

[Ag Freastal ar Ghlao an Chrotaigh]

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