



Held in partnership with the University of Bangor, the festival theme for 2020 is 'Explore your Senses'.

The festival focuses on thought-provoking, interactive, fun!!!

Taking place on Friday 29 and Saturday 30 May 2020 during the May half term, with more than 100 interactive workshops, have-a-go sessions, performances, talks, activities are taking place, all undercover with FREE parking! Opens 10am until 5pm on both days.

**Activity Samples include: PURPLE – back from 2019**

**1. MAGICAL MILK**

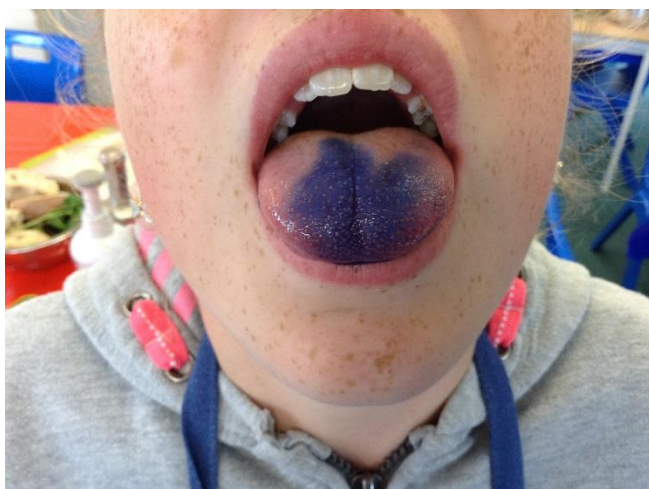
We'll learn about the structure of milk, and how different physical or chemical changes can convert it into everyday foods before competing to see who can make butter to spread on their bread the fastest! **RECIPE: HOMEMADE (FLAVOURED) BUTTER**

**2. BONKERS BACTERIA!**

An interactive session to get us thinking about hygiene and how we can prevent germs from spreading. **RECIPE: PANZANELLA SALAD**

**3. TANTALIXING TASTE BUDS**

We'll learn about the 5 tastes and do some gastronomic experiments to get the taste buds tingling! We'll investigate the difference between 'taste' and 'flavour' and use what we've learned to make a noodle salad **RECIPE: DIY POT NOODLE**



**4. FIZZ! BANG! WALLOP!**

We'll discover how Co2 makes dough rise as we create bread bubble bombs, carbon dioxide rockets and make scrumptious pizza **RECIPE: PIZZA (This pizza will need to be cooked at home)**

5. **INCREDIBLE! EDIBLE! SLIME!**

We'll discover how we can use basic store cupboard ingredients to make incredible, edible slime!

**RECIPE: SLIME**

6. **SOLAR ENERGY**

Get on the event social media, have your 'infrared' photo taken and viewed on a screen for you to see and then emailed over

7. **MEAT EATING PLANTS**

Oh yes! Treborth Botanic Gardens will bring plants and artistic plant-based activities.



8. **MIND GAMES**

The Psychology Team will fox you with their games that highlights how the mind works

9. **ELECTRONIC CHALLENGE**

Once you've made some cool electronics with the Engineering Team, you can take them home

10. **COOL LAB EXPERIMENTS**

Join the North West Cancer Research Institute

11. **BECOME A SUSTAINABILITY CHAMPION**

Learn the sustainability issues with waste and what you can do about it



12. **LEGO MINDSTORE**

How to build and programme robots, with hands on computer programming, how big is your imagination?

Pic: Joe Mearman

13. **PLANKTON TREASURE HUNT**

Learn about offshore rope mussel culture with mussel aquarium tank to view these amazing shellfish up close. Find out why plankton is vitally important in our marine environment. Discover the hidden world inside a droplet of seawater.

Pic: Dr Julie Webb\_Plankton sampling

**14. WHAT CAN YOU DO ABOUT CLIMATE CHANGE?**

Visit the Bangor University's Sustainability Lab Team to find out what everyone can do about climate change, plastics in the ocean and helping endangered species.

**15. BUBBLE FUN**

A bubble is made of a very thin sheet of soapy water called a soap film. Soap molecules line up on the inside surface and the outside surface, and trap water molecules in-between – like a molecular sandwich. The reason soap molecules do this is that they have one end that is attracted to water molecules and another that is repelled (pushed away) from them. The water slowly evaporates and eventually the soap film will break. Adding glycerine to the mix makes longer-lasting bubbles because glycerine holds onto water, so it takes longer for the water to evaporate.



**16. BIG CHALLENGES FACING THE WORLD**

It's not as hard as you might think - nobody is too small to make a difference. Our planet; our choices. Join in and make it happen ~

Pic Caption: Einir Young

**17. HIDDEN WALES**

Multibeam sonar is now revealing exactly what lies beneath the waters around our coast and how 100's of local shipwrecks (many associated with the U-boat campaign of WW1) are helping scientists and companies identify the most suitable locations for marine renewable energy devices.

Pic caption: Dr Mike Roberts

**18. HOW EVOLUTION IS HAPPENING**

Explore how camouflage and the industrial revolution led to adaptation in the peppered moth, how seeds have altered beak shapes in Darwin's favourite birds and how soil pollution can rapidly alter the course of evolution in plants.

Dr Alexander Papadopoulos

**19. VISUAL ILLUSIONS**

Be wowed with Visual distortions and other mind-bending experiments all designed to show you how amazing your brain is and how it works!

**20. ECO-STRUCTURE**

Come and find out about this exciting project of ecologically sensitive design of artificial structures in the marine environment (coastal ecology and mapping scientists)

**21. JEWISH HISTORY OF BANGOR**

Meet Dr Nathan Abrams, a Professor in Film, who will bring an interactive display, displaying a map and app as well as some items and documents relating to this history there is also an opportunity to participate in object-based learning.

Professor Nathan Abrams

**22. WETLAND HABITATS**

How important wetland habitats are for the planet, they help fight climate change, clean our water and help stop flooding. The team will also be showing how much plastic can be found in our rivers, lakes and the sea and what we can do about the situation.

DUNN\_Christian

**23. IT'S NOT JUST SEAWEED!**

Come and explore with Kenny Chan, a PhD Student studying for a PhD in Chemistry. He will be demonstrating the cool chemistry of Seaweed!

**24. NO WORLD 4 TOMORROW**

Come play an interactive story/literary game to engage in personal and global choices regarding climate change. Start your own interactive story on the topic, learning digital skills and engaging with the topic on a more personal level.



**25. HOT WHEELS RACE-TRACK**

The races will be timed, and the data will be live streamed so participants will not only be able to see their lap times, but also acceleration times. Visitors will also be able to make electronic circuits that will enable a 2V LED to light up from only a 1.5V battery and testing the current with oscilloscopes. Dr Roberts and his engineering team know about everything "electronic"!

**26. FUN WITH CHEMISTRY**

Dr Lorrie Murphy is a Chemist, she will be bringing a team of scientists to demonstrate the spectroscopy of sweets, the Chemistry of Chocolate as well as the ever-popular slime – that visitors will be able to take home with them. Dr Lorrie also conducts research in the area of Biological Chemistry, including the Chemistry of Snot! Come and meet her and she will tell you how important snot is to humans and why it helps us fight disease.

Image Caption: DR. LORRIE

**27. COME AND FIND OUT ABOUT LIPIGLORATES**

Dr Vera Fitzsimmons Thoss is an organic Chemist, she will be talking about lipiglorates, curious and wonderful natural things that can be found on our seashores.

Image Caption 67.jpg

**28. DELVING INTO YOUR DNA**

Dr Edgar Hartsuiker is a Cancer Research Scientist who works at Bangor University's North West Cancer Research Institute. Edgar and his team of researchers will be delving into the world of your DNA, showing interactive anatomical models of the body and showing cool things that you can only really see properly with a microscope. Come and find out more about the cancer research that goes on at Bangor.

Pic caption: HARTSUIKER\_Edgar.png

**29. A DAY IN THE LIFE OF A BOTANIST – DISCOVER PLANTS UP CLOSE**

Discover beach dwellers with our interactive display of what can be found on a beach and learn how humans affect the marine environment and the seashore. Bridges, Buildings and Botanical Blueprints - A look at how nature's botanical blueprint - the Fibonacci Sequence - has influenced the design of manmade structures and a chance to test your knowledge of physics and engineering with a bridge challenge. Growing Gardens - How, what and why!

Pic Caption: Natalie Chivers.





**30. ZOO LAB ANIMAL HANDLING**

Get up close and hands on with exotic creatures with **Zoo Lab** as we talk about the fascinating world of biomimicry. We'll look at snakes, lizards, tarantulas and other critters and discuss the amazing ways nature has influenced scientists, engineers and doctors to design and build new materials, buildings and technology. **Colwyn Bay Zoo**

**31. WILDLIFE TRUST – EARLY YEARS' WORKSHOP**

Join the **Wildlife Trust** for one of three specially designed early years' workshops – Prickly Friends, Bugs and Bees or Duck Tales.

**32. ROYAL NAVY VIRTUAL REALITY EXPERIENCES**

Boat driving with moving chair and walking around the flight deck of HMS Queen Elizabeth watching helicopters and F35 aircraft take off.

**PLUS: BUILDING ON THE 2019 FESTIVAL:** ARTS AND CRAFTS, CIRCUS SKILLS, GETTING ON THE WATER, MARINE CONSERVATION AND SAFETY, BUSHCRAFT, HAVE A GO SESSIONS: Windsurfing, Paddle Boarding, Digital Planetarium, Fun with Welsh, Folk music and dancing.

