



Prifysgol Cymru
Y Drindod Dewi Sant
University of Wales
Trinity Saint David

Yr Athrofa
Centre for Education
Addysg i Gymru | Education for Wales

**Trawsnewid Addysg,
Trawsnewid Bywydau**

**Transforming Education,
Transforming Lives**

*Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives*

www.uwtsd.ac.uk

ECAD6008P Science and Technology Lecture 2

LAU EMANUEL

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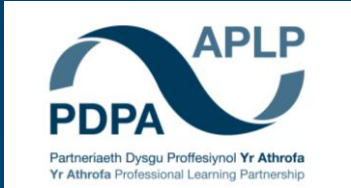
Last session's agenda:

- * Create safe, relaxed environment
- * Locate Science curriculum and Progression Steps
- * Understand PS1 and 2 are 'exploring, patterns and fun with curiosity'
- * Consider basic activities – float and sink, magnets, light, friction, odd one out etc.



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Amcanion Dysgu

Learning Intentions

- Sut i gynllunio'n effeithiol er mwyn sicrhau cynnydd mewn Gwyddoniaeth a Thechnoleg
- Cam cynnydd 2 & 3
- Iechyd a diogelwch
- How to plan effectively to make progress in Science and Technology
- Progression steps 2 & 3
- Health and safety

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Getting pupils out of the classroom

- Woodland walks
- Pond dipping
- Playground
- Park
- Museums
- Beach
- Techniquest
- Nature reserves

Checklist

- ▶ Safety:
 - ▶ Weather
 - ▶ Ratio
 - ▶ Support staff
 - ▶ Parents
 - ▶ Forms?
 - ▶ Pupils (Additional needs?)
- ▶ Financial
 - ▶ Cover?
 - ▶ Transportation?
- ▶ Admin
 - ▶ Permission? Head. Line manager. More forms
 - ▶ Anything else?



Wait!

► CLEAPSS <https://www.cleapss.org.uk/>

Supporting practical work in science,
D&T and art

CLEAPSS
primary

Always check [CLEAPSS](https://www.cleapss.org.uk/) before you do anything with risky with your class.

Be wary of taking anything off social media without a risk assessment.

All LEAs sign up to CLEAPSS as a way of insurance. If you do something risky and it is not covered in CLEAPSS, then you are not covered!

Always think:

What is the worse that could happen?

Can you avoid it?

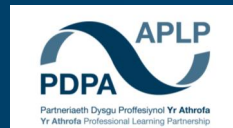
Can you reduce the chance?

What would you do if it happened?



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Cam cynnydd 2 & 3

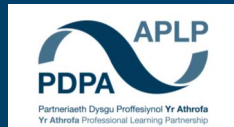
Progression step 2 & 3

Sut a paham wyf yn dysgu?
How and why am I teaching?



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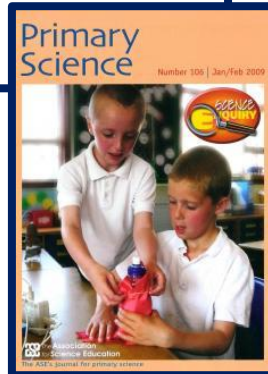
Ymholiad Gwyddonol

Dysgu drwy ymholiad gwyddonol

Dyma ffordd o ddisgrifio dysgu ble mae'r sgiliau ymholi yn cael eu defnyddio i **gasglu tystiolaeth i brofi a all rhai syniadau esbonio ffenomenau a digwyddiadau yn y byd o'n cwmpas.**

Gweler: Harlen, W. (2009) "Enquiry and good science teaching", *Primary Science*, 106, January, p5-8.

Ffeil: Adnoddau Darlith 2



Scientific Enquiry

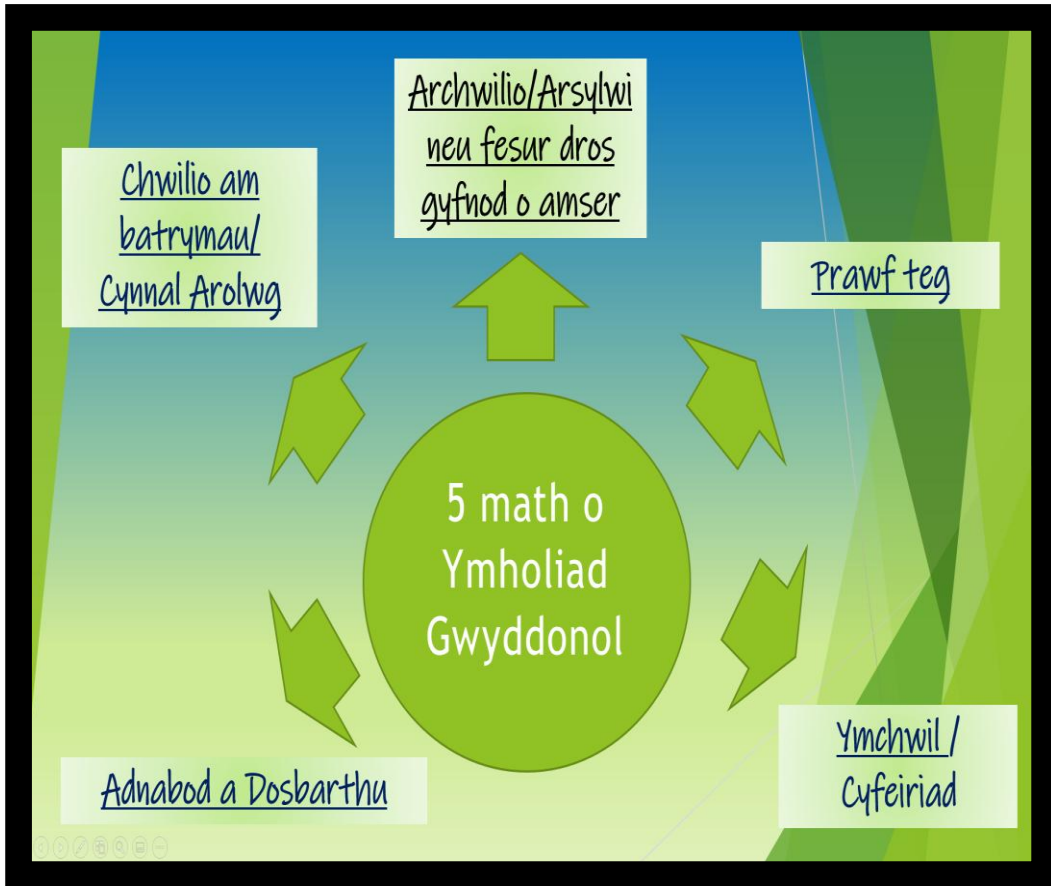
Learning through scientific enquiry

This is a way of describing learning in which the science enquiry skills are used to gather evidence to test whether certain ideas can explain phenomena and events in the world around us.

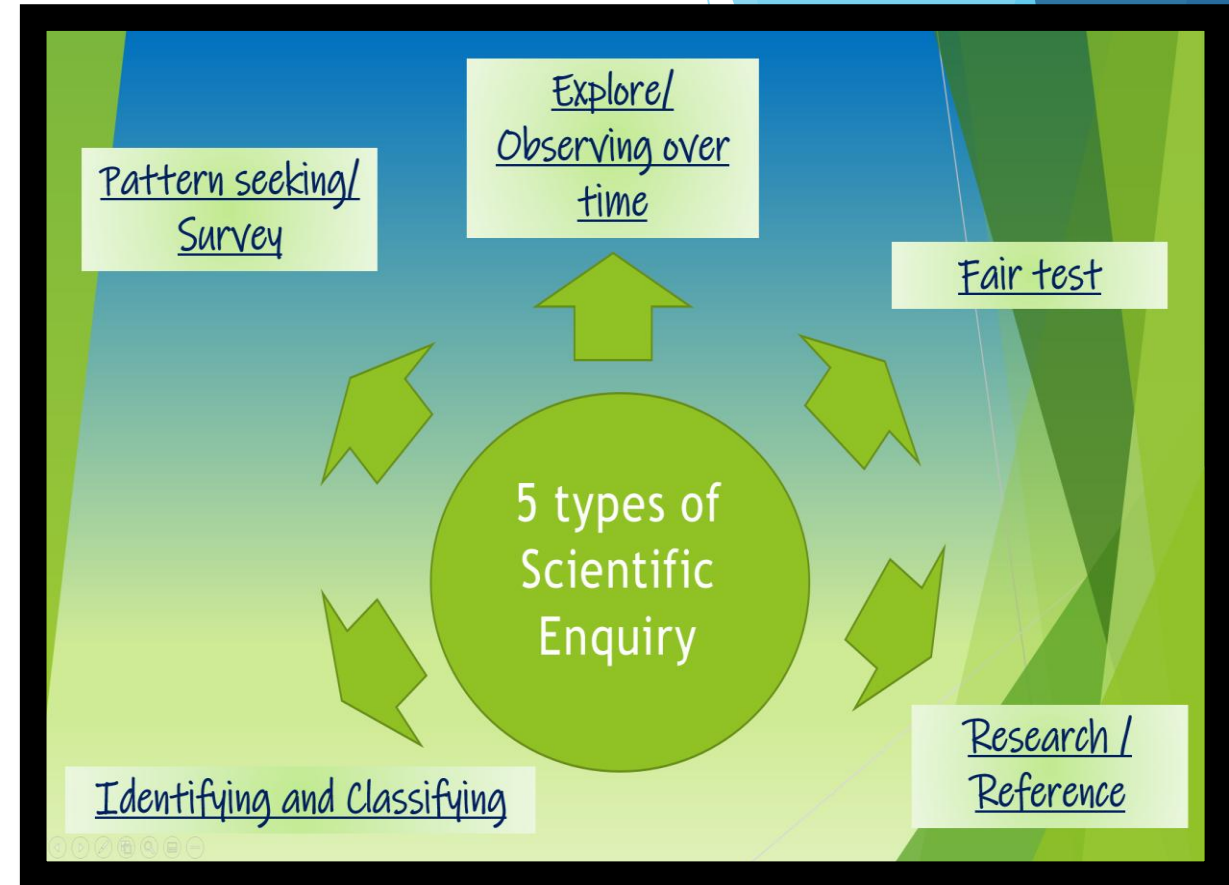
Directed reading: Harlen, W. (2009) "Enquiry and good science teaching", *Primary Science*, 106, January, p5-8.

File: Lecture 2 Resources

5 math o Ymholiad Gwyddonol



5 Types of Scientific Enquiry



Scientific enquiry in the UK Tud/Pages 2-4 , 8-10

Ymholiad Gwyddonol

Yn ystod blwyddyn academaidd, bydd disgyblion yn cynnal sawl ymchwiliad sy'n cynnwys gwahanol fathau o ddulliau ymholi gwyddonol:

Pa ddefnyddiau sy'n fagnetig? - Adnabod a Dosbarthu

Pa fath o ymholiad?

- Sut mae hyd llinyn gitar yn effeithio ar draw?
- Ydy bwydydd sy'n cynnwys llawer o egni bob tro yn cynnwys llawer o siwgr?
- Beth ydy microplastigau a sut maen nhw'n niweidio'r blaned?
- Sut mae fy nghysgod yn newid yn ystod y dydd?

Scientific Enquiry

Over the course of an academic year, pupils will carry out several investigations which involve different types of scientific enquiry approaches:

Which materials are magnetic? Identifying and Classifying

What type of enquiry?

- How does a guitar strings length affect pitch?
- Do high energy foods always contain a lot of sugar?
- What are microplastics and how do they damage the planet?
- How does my shadow change during the day?

Felly sut?

- ☐ gofyn cwestiynau
- ☐ gwneud rhagfynegiadau
- ☐ sefydlu profion
- ☐ arsylwi a mesur
- ☐ cofnodi data
- ☐ dehongli a chyfleu canlyniadau
- ☐ Gwerthuso



So how?

- ☐ asking questions
- ☐ making predictions
- ☐ setting up tests
- ☐ observing and measuring
- ☐ recording data
- ☐ interpreting and communicating results
- ☐ Evaluating



How do investigations support the Curriculum?

(Progression step 2 & 3)

- Being curious and searching for answers is essential to understanding and predicting phenomena.

Progression step 2	Progression step 3
I can ask questions and use my experience to suggest simple methods of inquiry.	I can identify questions that can be investigated scientifically and suggest suitable methods of inquiry.
I can recognise patterns from my observations and investigations and can communicate my findings.	I can suggest conclusions as a result of carrying out my inquiries.
I can use my knowledge and understanding to predict effects as part of my scientific exploration.	I can evaluate methods to suggest improvements.
I can recognise that what I do, and the things I use, can have an impact on my environment and on living things.	I can engage with scientific and technological evidence to inform my own opinions.
I can explore relationships between living things, their habitats and their life cycles .	I can understand how my actions and the actions of others impact on the environment and living things.
I can observe and describe ways in which materials change when they are mixed together.	I can describe the impacts of science and technology, past and present, in my everyday life.
I can investigate different forms of energy and how it can be transferred.	
I can explore and communicate the basic properties of light, sound, electricity and magnetism.	
I can identify things in the environment which may be harmful and can act to reduce the risks to myself and others.	

- Design thinking and engineering offer technical and creative ways to meet society's needs and wants.

Progression step 2	Progression step 3
I can make design decisions, using my knowledge of materials and existing products, and suggest design improvements.	I can creatively respond to the needs and wants of the user, based on the context and on the information collected.
I can explore how different component parts work together.	I can identify and consider factors when developing design proposals.
I can safely use a range of tools, materials and equipment to construct for a variety of reasons.	I can use design thinking to test and refine my design decisions without fear of failure.
I have experienced using basic prototyping techniques to improve outcomes.	I can apply my knowledge and skills when making design decisions in order to produce specific outcomes.
I can identify things in the environment which may be harmful and can act to reduce the risks to myself and others.	I can consider how my design proposals will solve problems and how this may affect the environment.
I can explore and describe the properties of materials and justify their uses.	I can use design communication methods to develop and present ideas, and respond to feedback.
	I can combine component parts, materials and processes to achieve functionality and improve the effectiveness of my outcomes.
	I can select and safely use appropriate tools, materials and equipment to construct purposeful outcomes.
	I can use prototyping as a link between my designing and making.
	I can take into account the impact my making may have on the environment.

How do investigations support the Curriculum? (Progression step 2 & 3)

The world around us is full of living things which depend on each other for survival.

Progression step 2

I can recognise patterns from my observations and investigations and can communicate my findings.

I can use my [knowledge](#) and understanding to predict effects as part of my scientific exploration.

I can recognise that what I do, and the things I use, can have an impact on my environment and on living things.

I can explore relationships between living things, their habitats and their [life cycles](#).

Progression step 3

I can describe how living things compete for specific resources and depend on each other for survival.

I can describe the features of organisms and recognise how they allow them to live, grow and reproduce for survival in their environment.

I can explain the role of different organs and systems that enable plants and animals to live and grow.

I can describe some changes in growth and development caused by hormones.

I can identify the threats to the development and health of organisms and recognise some natural defences, preventions and treatments.

Matter and the way it behaves defines our universe and shapes our lives.

Progression step 2

I can recognise patterns from my observations and investigations and can communicate my findings.

I can use my [knowledge](#) and understanding to predict effects as part of my scientific exploration.

I can make design decisions, using my [knowledge](#) of materials and existing products, and suggest design improvements.

I can explore and describe the properties of materials and justify their uses.

I can observe and describe ways in which materials change when they are mixed together.

Progression step 3

I can recognise that changes in materials affect their properties and uses under different conditions.

I can recognise that our planet provides natural materials and can explain why they may have been processed to make them useful.

How do investigations support the Curriculum? (Progression step 2 & 3)

Forces and energy provide a foundation for understanding our universe.

I can recognise patterns from my observations and investigations and can communicate my findings.

I can use my [knowledge](#) and understanding to predict effects as part of my scientific exploration.

I can investigate different forms of energy and how it can be transferred.

I can communicate the effect [forces](#) have on myself and on objects.

I can explore and communicate the basic properties of light, sound, electricity and magnetism.

I can explore how the motion of objects can be affected by applying specific [forces](#).

I can use a variety of simple [models](#) to describe the forces acting on an object.

I can explain that energy can be transferred from one place to another and how this can be used to provide the energy we need in our modern lives.

I can describe the factors that affect electrical circuits and this will enable me to change variables and predict what will happen.

I can explain how the properties of sound and light will affect how they are experienced.

By manipulating the properties of sound and light, I can produce a desired effect.

I can describe how magnetic fields behave and explore a range of practical uses for them.

Computation is the foundation for our digital world.

Progression step 2

I can safely use a range of tools, materials and equipment to construct for a variety of reasons.

I can use computational thinking techniques, through unplugged or offline activities.

I can create simple [algorithms](#) and am beginning to explain errors.

Computation is the foundation for our digital world.

I am beginning to explain the importance of accurate and reliable data to ensure a desired outcome.

I can follow instructions to build and control a [physical device](#).

Progression step 3

I can use conditional statements to add control and decision-making to [algorithms](#).

I can identify repeating patterns and use loops to make my [algorithms](#) more concise.

I can explain and debug [algorithms](#).

I can use sensors and actuators in systems that gather and process data about the systems' environment.

I can identify positive and negative design elements that affect user interactions.

I can explain how digital devices can be interconnected locally and globally.

I can explain the importance of securing the technology I use and protecting the integrity of my data.

I can explain how my data is used by services, which can help me make more informed decisions when using technology.

I can explain how data is stored and processed.

I can effectively store and manipulate data to produce and give a visual form to useful information.

AagD - Cwestiynu

- Defnyddio cwestiynau penagored a chaeedig i weld beth mae disgyblion yn ei wybod, yn ei ddeall, ac yn gallu'i wneud.
- Cynllunio cwestiynau penagored i brocio dealltwriaeth dysgwyr.
- Darparu amser meddwl.
- Darparu cyfleoedd i ddysgwyr drafod cyn ymateb er mwyn cynnwys pob dysgwr.
- Adeiladu ar atebion dysgwyr i ymestyn y drafodaeth.
- Parchu ymatebion dysgwyr a gwneud defnydd adeiladol o'u camsyniadau.
- Annog disgyblion i holi cwestiynau trwy fodelu beth yw cwestiynau da.

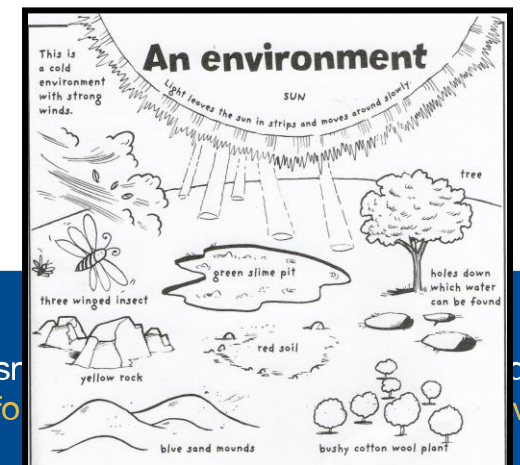
AFL - Questioning

- Use open-ended and closed questions to find out what pupils know, understand, and can do.
- Design open-ended questions to probe learners' understanding.
- Provide thinking time.
- Provide opportunities for learners to discuss before responding to include all learners.
- Build on learners' answers to extend discussion.
- Respect learners' responses and make constructive use of their misconceptions.
- Encourage pupils to ask questions by modeling what are good questions.

Activity Time!



<https://pstt.org.uk/resources/curriculum-materials/Starters-for-Science>



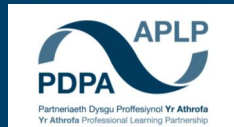
Cam cynnydd 2 & 3
Progression step 2 & 3

Pa fath o ymchwiliadau?
What kind of investigations?



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Scientific Enquiry

Do you remember?

Y6

Fair-Testing / Comparative Tests	Identifying & Classifying	Observation over time	Pattern-seeking	Research
Which type of exercise has the greatest effect on our heart rate?	Which organs of the body make up the circulation system, and where are they found?	How does my heart rate change over the day?	Is there a pattern between what we eat for breakfast and how fast we can run?	How have our ideas about disease and medicine changed over time?

Y5

Fair-Testing / Comparative Tests	Identifying & Classifying	Observation over time	Pattern-seeking	Research
How does the length of daylight hours change in each season?	How could you organise all the objects in the solar system into groups?	Can you observe and identify all the phases in the cycle of the Moon?	Is there a pattern between the size of a planet and the time it takes to travel around the Sun?	What unusual objects did Jocelyn Bell Burnell discover?

Y4

Fair-Testing / Comparative Tests	Identifying & Classifying	Observation over time	Pattern-seeking	Research
In our class, are omnivores taller than vegetarians?	What are the names for all the organs involved in the digestive system?	How does an egg shell change when it is left in cola?	Are foods that are high in energy always high in sugar?	How do dentists fix broken teeth?

Y3

Fair-Testing / Comparative Tests	Identifying & Classifying	Observation over time	Pattern-seeking	Research
How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals?	How many different ways can you group our seed collection?	What happens to celery when it is left in a glass of coloured water?	What colour flowers do pollinating insects prefer?	What are all the different ways that seeds disperse?

Geirfa a Therminoleg Sgiliau Llythrennedd

Diffiniadau o Eirfa a Therminoleg Wyddonol Cyfnod Allweddol 2

Geirfa allweddol i'w defnyddio trwy gydol Lefelau Dau i Bump:

- **Tystiolaeth** – unrhyw beth a all gael ei ddefnyddio i brofi rhywbeth.
- **Gwybodaeth** – rhywbeth yr ydych yn ei ddysgu wrth astudio, ymchwilio i neu brofi rhywbeth.
- **Syniad** – pan fyddwch chi'n gwybod yn sydyn beth i'w wneud
- **Canfyddiad** – darganfyddiad, yn enwedig gan ysgolheigion neu wyddonwyr. Canfod yw'r weithred o ymchwilio i rywbeth neu ei ddodansoddi.
- **Cofnod** – rhywbeth sydd wedi cael ei ysgrifennu.
- **Ymholiad** – gofyn cwestiynau er mwyn cael gwybodaeth.
- **Arsylwi ar** – edrych ar rywbeth, sylwi ar ffeithiau neu gymryd mesuriadau.
- **Trefnu** – dosbarthu pethau yn ôl rhyw fath o nodwedd.
- **Grwpio** – trefnu yn ôl trefn dosbarthiadau neu gategorïau.
- **Cymharu** – edrych ar ddau neu ragor o bethau, a nodi sut y maent yn debyg/wahanol.
- **Disgrifio** – adrodd am fanylion rhywbeth, naill ai ar lafar neu yn ysgrifenedig.
- **Llunio** – creu trwy drefnu a chysylltu syniadau, dadleuon a chysyniadau.

Gweler y ddogfen word
Geirfa a Therminoleg

Vocabulary and Terminology: Literacy Skills

Key Stage 2 Science Vocabulary and Terminology Definitions

Key vocabulary to be used throughout Levels Two – Five:

- **Evidence** - anything that can be used to prove something.
- **Information** - knowledge you gain from studying, investigating, or experiencing something.
- **Idea** - when you suddenly know what to do
- **Finding** - a discovery, especially by scholars or scientists. Finding is the act of researching or analysing something.
- **Record** - something which is written down.
- **Enquiry** - to ask questions to gain information.
- **Observation** - to look at something, noticing facts or taking measurements.
- **Sort** - to categorise things by some sort of characteristic.
- **Group** - to arrange by order of classes or categories.
- **Compare** - to look at two or more things and see how they are similar / different.
- **Describe** - to report details about something either out loud or in writing.
- **Construct** - to create by organising and linking ideas, arguments and concepts.

Word document:
Vocabulary and Terminology

Rhifedd ?

Cam cynnydd 2	Cam cynnydd 3
Rwy'n gallu echdynnu a dehongli gwybodaeth a gyflwynir mewn siartiau, amserlenni, diagramau a graffiau.	Rwy'n gallu echdynnu a dehongli gwybodaeth o amrywiaeth gynyddol o ddiagramau, amserlenni a graffiau (gan gynnwys siartiau cylch).
Rwy'n gallu dod i gasgliadau o ddata ac rwy'n cydnabod y gall rhai casgliadau fod yn gamarweiniol neu'n ansicr.	Rwy'n gallu dod i gasgliadau o ddata ac rwy'n cydnabod y gall rhai casgliadau fod yn gamarweiniol neu'n ansicr. Rwy'n gallu defnyddio cymedr i ddehongli set data syml.

Cam cynnydd 2	Cam cynnydd 3
Rwy'n gallu defnyddio unedau ansafonol i fesur.	Rwy'n gallu darllen a dehongli graddfeydd neu raniadau ar amrywiaeth o offerynnau mesur.
Rwy'n gallu datblygu i ddefnyddio unedau mesur safonol: - hyd: Rwy'n gallu mesur ar bren mesur i'r 0.5cm agosaf - pwysau/màs: Rwy'n gallu defnyddio pwysau 5g, 10g a 100g i fesur a chymharu màs gwrthrychau - capasiti: Rwy'n gallu darllen graddfa i'r 100ml agosaf.	Rwy'n gallu cofnodi mesuriadau mewn ffyrdd gwahanol, e.e. $1.3kg = 1kg\ 300g$, $4.2cm = 4cm\ 2mm$. Rwy'n gallu troi unedau metrig o hyd i unedau llai, e.e. cm i mm , m i cm , km i m . Rwy'n gallu defnyddio iaith unedau imperial a ddefnyddir bob dydd, e.e. <i>milltiroedd</i> , <i>peintiau</i> .

Defnyddiwch enghreiffitiau o'ch sesiynau Mathemateg a'u cymhwyso i wyddoniaeth.

Cam cynnydd 2	Cam cynnydd 3
Rwy'n gallu casglu gwybodaeth drwy bleidleisio neu drefnu.	Rwy'n gallu casglu data perthnasol i ateb cwestiynau a ofynnwyd.
Rwy'n gallu didoli a dosbarthu gwrthrychau gan ddefnyddio mwy nag un maen prawf.	Rwy'n gallu dewis a llunio siartiau, diagramau a graffiau priodol sydd â graddfeydd addas.
Rwy'n gallu cyflwyno gwaith ar lafar, mewn gwrthrychau, yn ddarluniadol ac yn ysgrifenedig, a defnyddio amrywiaeth o ffyrdd i gynrychioli'r data a gasglwyd sydd â graddfeydd addas gan gynnwys: - rhestrau, siartiau cyfrif, tablau a diagramau - siartiau bar a graffiau llinell bar wedi'u labelu fesul 2, 5 a 10 - pictogramau lle mae un symbol yn cynrychioli mwy nag un uned gan ddefnyddio allwedd - diagramau Venn a Carroll.	Rwy'n gallu cynrychioli data gan ddefnyddio: - rhestrau, siartiau cyfrif, tablau, diagramau a thablau amlder - siartiau bar, siartiau data wedi'u grwpio, graffiau llinell a graffiau trawsnewid - pictogramau lle mae un symbol yn cynrychioli mwy nag un uned gan ddefnyddio allwedd - diagramau Venn a Carroll.

Fframweithiau'r sgiliau trawsgwricwlaidd - Hwb (gov.wales)

Numeracy?

Progression step 2	Progression step 3
I can extract and interpret information presented in charts, timetables, diagrams and graphs.	I can extract and interpret information from an increasing range of diagrams, timetables and graphs (including pie charts).
I can draw conclusions from data and recognise that some conclusions may be misleading or uncertain.	I can draw conclusions from data and recognise that some conclusions may be misleading or uncertain. I can use mean to interpret a simple data set.

<https://hwb.gov.wales/curriculum-for-wales/cross-curricular-skills-frameworks/>

Use examples from your Maths sessions and apply them to science.

Progression step 2	Progression step 3
I can collect information by voting or sorting.	I can collect relevant data to answer posed questions.
I can sort and classify objects using more than one criterion.	I can select and construct appropriate charts, diagrams and graphs with suitable scales.
I can present work orally, in objects, pictorially and in written form, and use a variety of ways to represent collected data with suitable scales including: - lists, tally charts, tables and diagrams - bar charts and bar line graphs labelled in 2s, 5s and 10s - pictograms where one symbol represents more than one unit using a key - Venn and Carroll diagrams.	I can represent data using: - lists, tally charts, tables, diagrams and frequency tables - bar charts, grouped data charts, line graphs and conversion graphs - pictograms where one symbol represents more than one unit using a key - Venn and Carroll diagrams.

Progression step 2	Progression step 3
I can use non-standard units to measure.	I can read and interpret scales or divisions on a range of measuring instruments.
I can progress to use standard units of measure: - length: I can measure on a ruler to the nearest 0.5cm - weight/mass: I can use 5g, 10g and 100g weights to measure and compare the mass of objects - capacity: I can read scale to the nearest 100ml.	I can record measurements in different ways, e.g. $1.3kg = 1kg\ 300g$, $4.2cm = 4cm\ 2mm$. I can convert metric units of length to smaller units, e.g. cm to mm , m to cm , km to m . I can use the language of imperial units in daily use, e.g. <i>miles</i> , <i>pints</i> .

Digital Competence Framework?

Citizenship	Interacting and collaborating	Producing	Data and computational thinking
• Identity, image and reputation • Health and well-being • Digital rights licensing and ownership • Online behaviour and cyberbullying	• Communication • Collaboration • Storing and sharing	• Planning, sourcing and searching • Creating • Evaluating and improving	• Problem solving and modelling • Data and information literacy

Progression Step 2:
I can create, edit and organise multimedia components (text, images, sound, animation and video) in selected software as appropriate

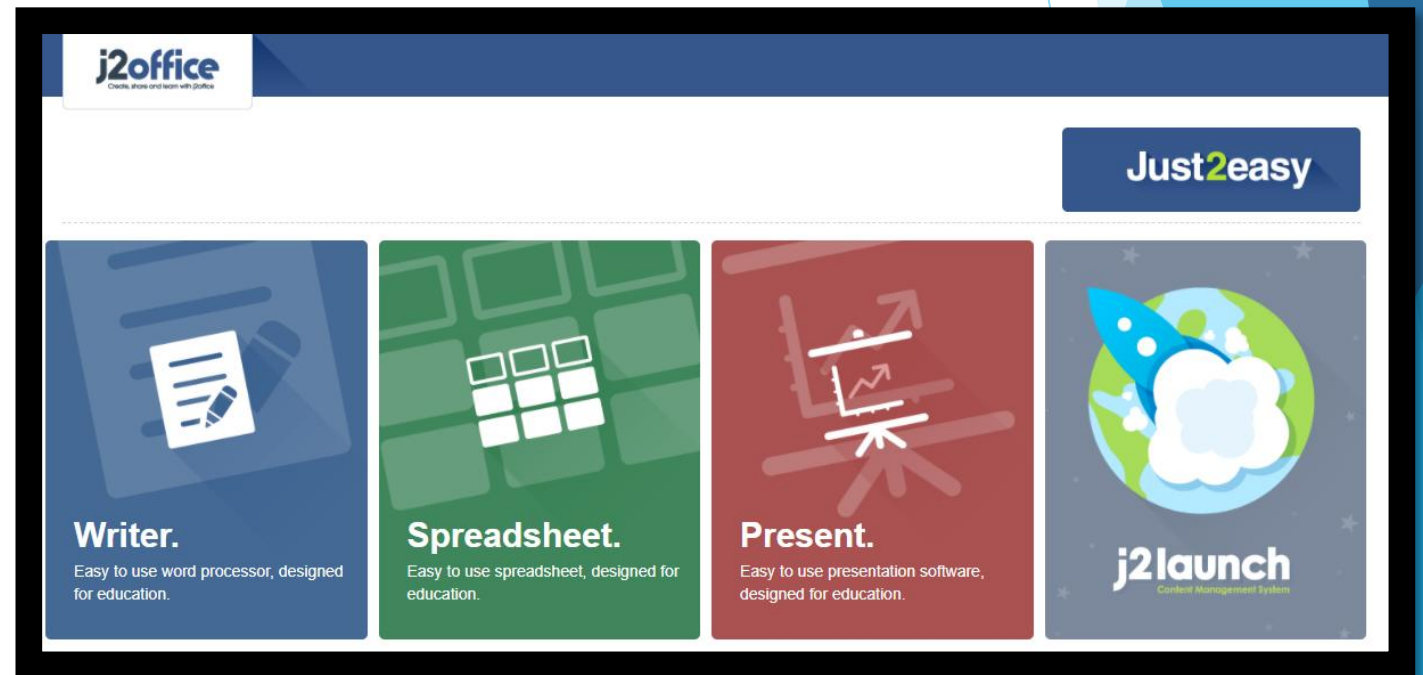
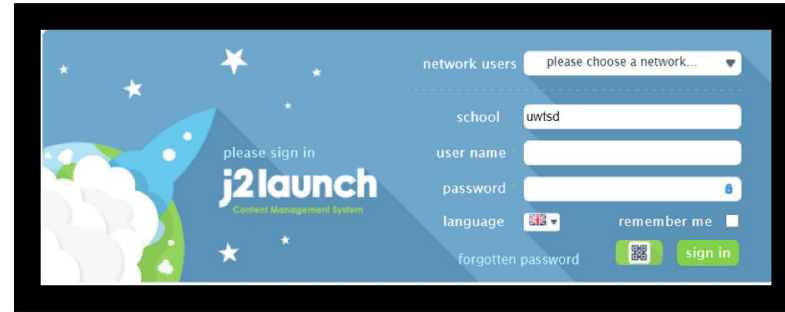
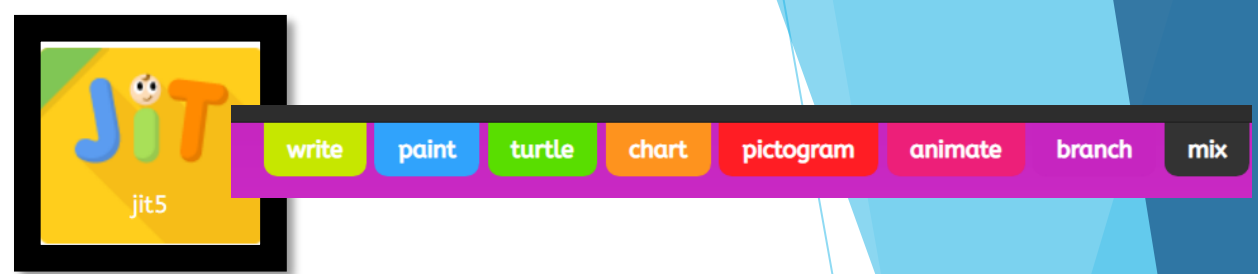
Progression Step 2:
I can collect, enter, organise and analyse data into different groups or formats, e.g. *tables, charts, databases and spreadsheets*.

<https://hwb.gov.wales/curriculum-for-wales/cross-curricular-skills-frameworks/digital-competence-framework>

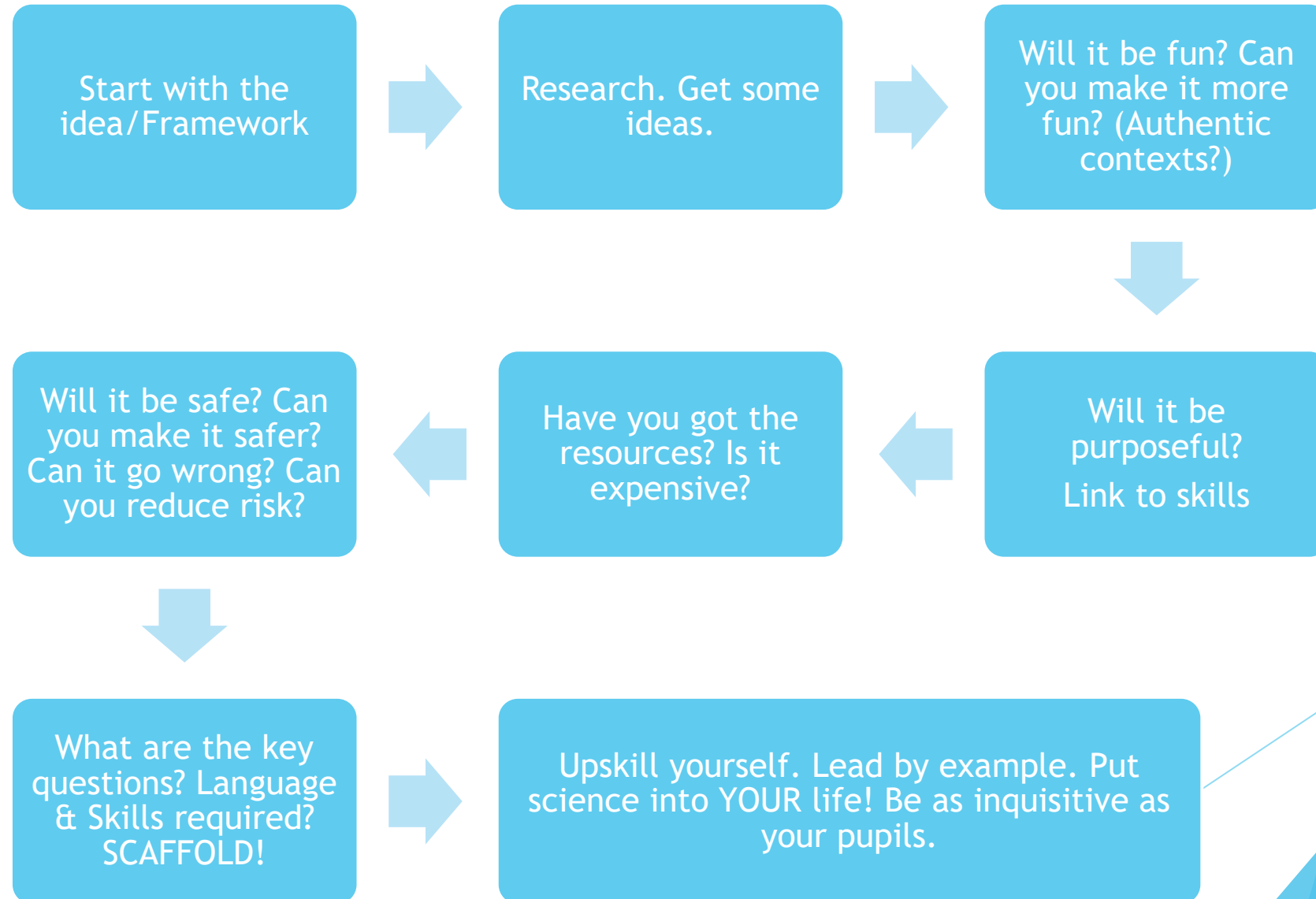
Cynrychioli Data *Representing Data*



<https://www.j2e.com/>



Planning a science and technology activity



Let's try!

[Starters for Science - Primary Science Teaching Trust](http://pstt.org.uk)
(pstt.org.uk)

STARTERS FOR SCIENCE

Created by the Primary Science Teaching Trust



Create a Starter for Science: Odd one Out

- At the start of a topic to assess what learners already know.
- At the end of a topic to apply ideas
- Use pictures instead of words with younger learners
- Assess the reasoning behind the choices
- Involves critical thinking

Changes

WHICH IS THE ODD ONE OUT
IN THE FOLLOWING AND WHY?

Stretching. Bending. Rusting.	1	WHY?
Grinding. Dissolving. Distilling.	2	WHY?
Burning. Melting. Evaporating.	3	WHY?
Dissolving. Neutralising. Filtering.	4	WHY?
Corroding. Scraping. Painting.	5	WHY?
Mixing. Beating. Baking.	6	WHY?
Fermenting. Condensing. Freezing.	7	WHY?

Activity Time!

Starters for Science is a series of five-minute videos created to support teachers to get started with practical science enquiry. They require minimal resources and can be used in school or at home. This means that teachers can do science enquiry with a class and any children who are at home can do the same lesson.

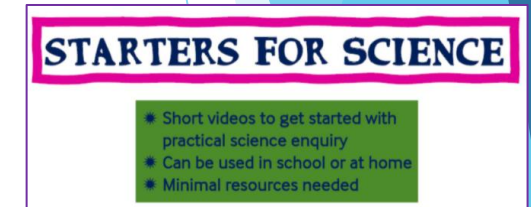
Visit: <https://pstt.org.uk/resources/starter...>

Each video includes:

- A question or scenario related to the real world
- Time for children to think about what they already know
- A demonstration of a starter practical activity
- Time for children to think of their own questions
- Ideas about what they could find out for themselves
- Encouragement to share what they found with others
- Available in Welsh

Please note that the videos are designed to get children doing some simple practical science enquiry and as such are not age specific, nor directly aligned to any particular curriculum unit. They are intended to give children valuable practical experiences that they will then be able to draw on once they meet the relevant concepts in a more formal learning situation.

Music provided by: Corporate Inspiring by AShamaluevMusic (2019)



<https://pstt.org.uk/resources/curriculum-materials/Starters-for-Science>

Watch the video and complete the activity!

Paper Towers:

Paper, tape, object to test



STARTERS FOR SCIENCE Created by the Primary Science Teaching Trust 

[Starters for Science - Primary Science Teaching Trust \(pstt.org.uk\)](http://pstt.org.uk)

Straw Planes:

Light card, sticky tape, loops, tape measures, scissors



STARTERS FOR SCIENCE Created by the Primary Science Teaching Trust 

Paper Spinners:

Paper template, light card, scissors, paperclips



STARTERS FOR SCIENCE Created by the Primary Science Teaching Trust 

Paper Falling:

Different types of paper, scissors



STARTERS FOR SCIENCE Created by the Primary Science Teaching Trust 

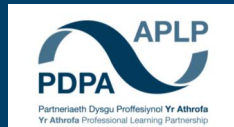
Useful links:

- <https://www.stem.org.uk/resources/collection/3485/teaching-primary-science>
- <https://www.ase.org.uk/resources/primary-science>
- <https://wowscience.co.uk/>
- <https://www.tes.com/teaching-resources>
- <https://www.farmvention.com/>
- <https://explorify.wellcome.ac.uk/>
- <https://pstt.org.uk/>



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Centre for Education
Addysg i Gymru | Education for Wales



Trawsnewid Addysg, Trawsnewid Bywydau
Transforming Education, Transforming Lives