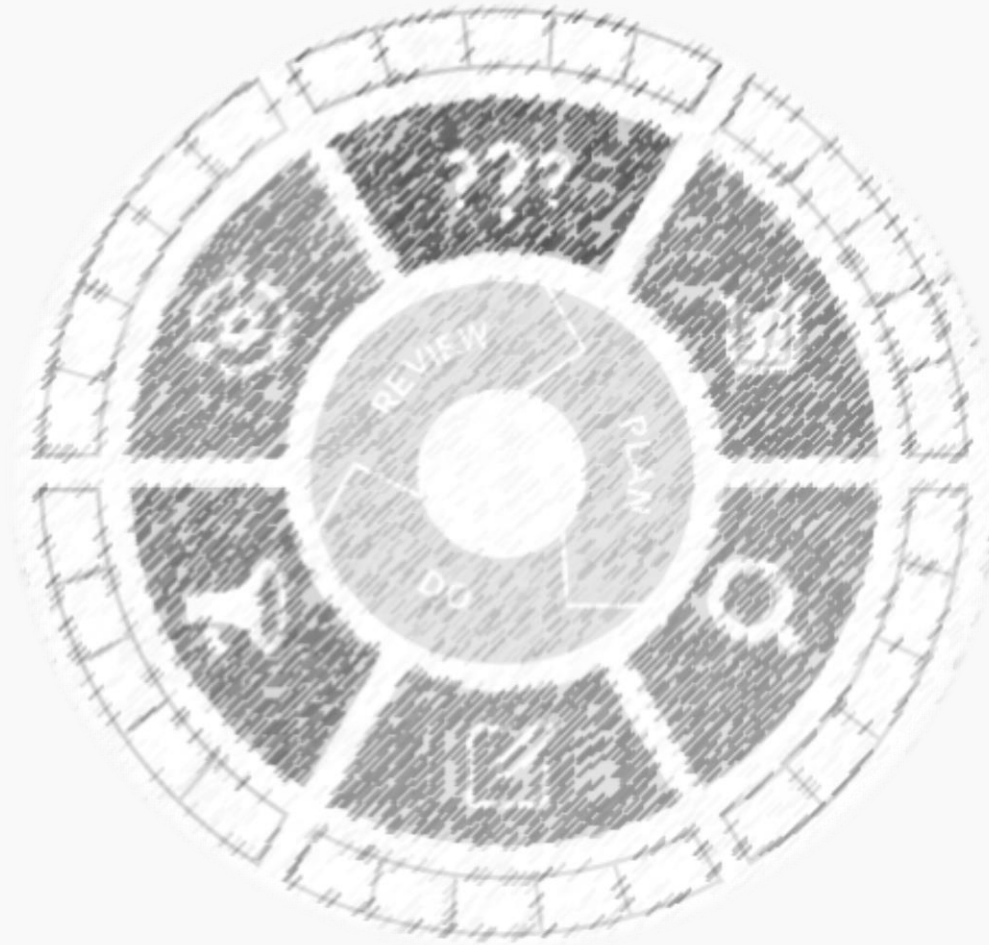


Amcan y Sesiwn Session Objective



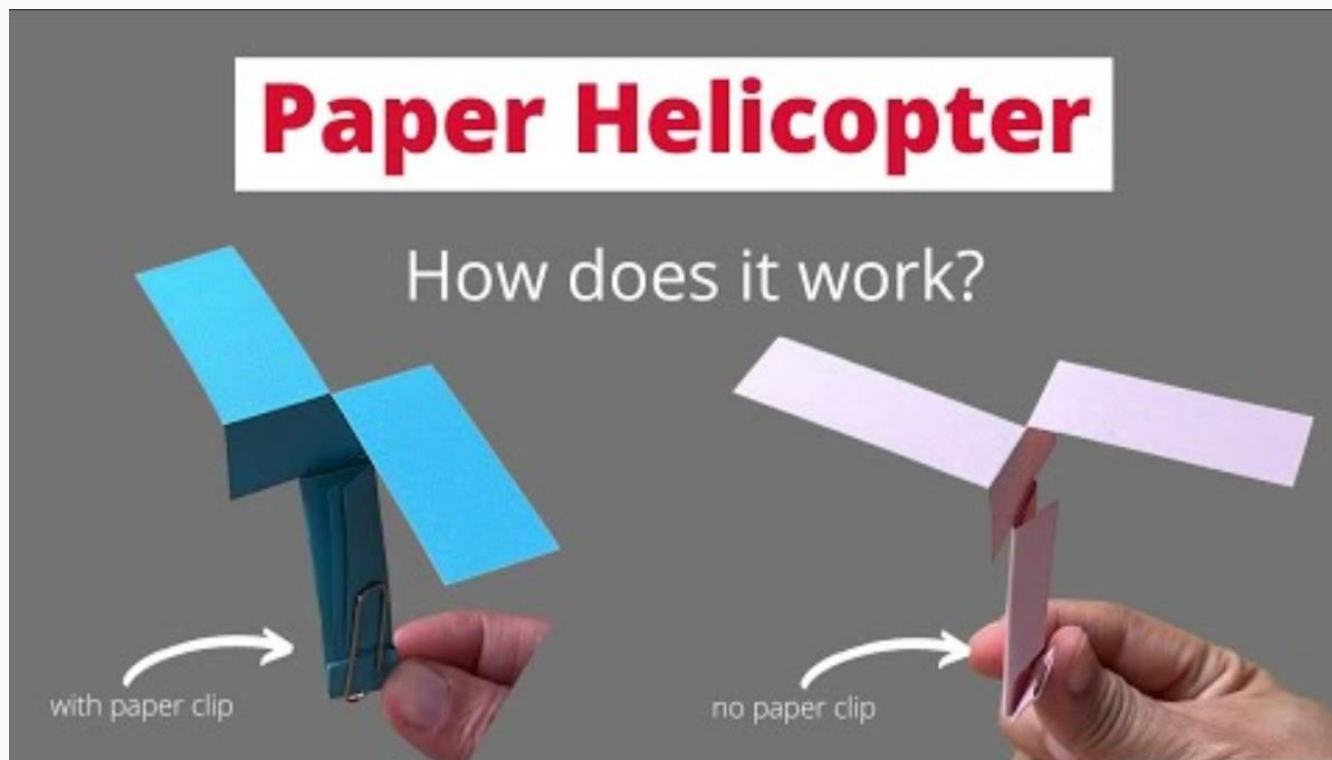
Defnyddio theori wrth ddylunio gwersi ar gyfer
Gwyddoniaeth a thechnoleg
Utilising theory in lesson design for Science and technology



Hofrennydd Papur

Paper Helicopter

Beth sy'n digwydd?
What is happening?





Meddwl

Think

Pe baech chi'n rhoi'r
gweithgaredd hwn i blant, beth
fyddden nhw'n ei ddysgu mewn
gwirionedd?

If you gave this activity to
children, what would they
actually learn?

Pâr Pair

Dim ond
gweithgaredd crefft
hwyliog yw hwn.
It's just a fun craft
activity.



1

Mae'n helpu plant i
ymgysylltu â syniadau
gwyddonol ond mae
diffyg dyfnder.
It helps children engage
with scientific ideas but
lacks depth.



2

Mae'n darparu cyfleoedd
cyfoethog ar gyfer
ymchwiliad a
dealltwriaeth ddyfnach.
It provides rich
opportunities for inquiry
and deeper
understanding.



3



Rhannu

Share

Sut gallen ni addasu'r
gweithgaredd hwn i annog dysgu
dyfnach?

How could we modify this
activity to encourage deeper
learning?

Definition

Constructivism is a student-centred learning theory that emphasises active exploration, inquiry, and meaning-making. Learners construct knowledge based on their experiences and interactions with the world, rather than passively receiving information.

Facts / Characteristics

Examples

Non- Examples

Theori Addysgol | Educational Theory

Constructivism vs
behaviourism

Definition

Behaviourism is a teacher-centred learning theory that focuses on observable behaviours. Learning occurs through stimulus-response associations, where behaviours are shaped by reinforcement (rewards) and punishment.

Facts / Characteristics

Examples

Non- Examples

Theori Addysgol | Educational Theory

Constructivism vs
behaviourism



Modelau cyfoes ar gyfer addysgu gwyddoniaeth

- Contemporary models for teaching science

- <https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/primary-science-ks1-ks2>
- <https://pstt.org.uk/resources/i-bet-you-didnt-know/>
- [Journal of Emergent Science | www.ase.org.uk](http://www.ase.org.uk)
- [Waite-Stupiansky, S. and Cohen, L.E. \(eds\) \(2020\) *STEM in early childhood education : how science, technology, engineering, and mathematics strengthen learning*. 1st ed. New York: Routledge.](#)
- [the-science-capital-teaching-approach-pack-for-teachers.pdf](#)
- [Pictures for Talk - Primary Science Teaching Trust](#)
- [Science and Technology: Introduction – Hwb](#)
- [Framework-for-a-primary-science-curriculum-PCAG-2023.pdf](#)
- [Lightyear Foundation](#)
- [Nuffield: SPACE](#)
- [Principles and Big Ideas of Science Education | www.ase.org.uk](http://www.ase.org.uk)



Tasg

Task

- Cymhwyso damcaniaethau addysgol ac ymchwil allweddol o'r canllaw darllen strwythuredig i ddatblygu **profiad dysgu o ansawdd uchel** yn eich gweithgaredd CREST, gan sicrhau ei fod yn meithrin **ymchwiliad, metawybyddiaeth, cynhwysiant ac ymgysylltiad dilys**
 - **Map Meddwl (30 munud)**
 - **Ysgrifennu adfyfyrdod (Dyddlyfr) 150-200 o eiriau**
 - **Trafodaeth Grŵp (15 munud)**
-
- To apply key educational theories and research from the structured reading guide to develop a **high-quality learning experience** within your CREST activity, ensuring it fosters **inquiry, metacognition, inclusion, and authentic engagement**
 - **Mind Map (30 mins)**
 - **Write a reflection (Journal) 150-200 words**
 - **Group Discussion (15 mins)**