Epistemic Insight

5-minute lesson plan – bridging subject boundaries

1 Building on Current Practice

What is the Big or Bridging Question?

How 'Green' are electric cars?

Learning Objectives:

Science: Identify how fuel production is sourced
RE/Stewardship: Discuss who holds responsibility and who we are responsible to and why when mining resources and taking care of the environment.
Geography: Investigate the location of where fuel resources are mined

Before they investigate, what Do they already need to know?

Identify previous learning/gaps in learning.

Is this building on existing knowledge? Challenging misperceptions? Acting as extension?

How does this map on to other areas of the school curriculum?

Science: batteries, electrolysis, disposal, rare resources/recycling
RE/Stewardship: The ethics of enforcing electric cars
Geography: Location of resources
Economics: Affordability, Accessibility (Market forces)

2 Developing Epistemic Insight: How can the students be supported to answer these three questions?

How does this discipline interpret the question?

Science: Establishing sources for electricity (fossil fuels/renewables) and how they are mined, pollution
RE/Stewardship: Consider who benefits and who is disadvantaged from electric car production (inc sourcing materials). Awareness of demand on resources, production processes, politics, monopolise materials.

Helping Hands…
What expertise/ methods/norms of thought can you draw on from other disciplines to support or contrast? Additional notes.

Geography – location of resources, damage to the environment, impact on local population.

What methods would this discipline use to investigate the question?

Science: Undertake reliable tests, and reproducible experiments. Field studies.
RE/Stewardship: Investigate the impact on quality of life (i.e. emissions, noise, global versus local perspective, impact on wildlife, rights of individuals, changes to/effects on societal behaviour

Geography – fieldwork, data analysis focused on people, places and spaces.

How would (someone in) this discipline know they had a good answer?

Science: Reliable data checked against wider sources (misperceptions by car co's). Replicable and tested by multiple sources.
RE/Stewardship: Focus on judgements, beliefs and values in religious texts, ethical principles. Justifying actions from religious texts or worldviews.

Geography (physical and human) - data collection is both quantitative (mapping, surveys) and qualitative (interviews).

3 Building Permeable Classroom Walls: Forming links across the curriculum

What is the misperception/ boundary/ epistemology you are trying to address?

Is this purely a science question? Are the environmental benefits of electric cars overstated?

Can this be checked in another classroom?

Collaborate with teachers of other disciplines. Learn from colleagues by talking about the same topic/big question and share their expertise and space to break down classroom boundaries.

Will the session(s) be co-taught? Taught separately across subjects? Draw on knowledge from other subjects

Co-planning/co-teaching with other subject specialist to work on the same topic/question from various disciplinary perspectives.

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