

# S.T.E.M. Integration

Planning with the END in MIND: The Backwards Design Model

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# What is the Backwards Design Model?

- \* The idea of Backward Design comes from Wiggins & McTighe and suggests that learning experiences should be planned with the final assessment in mind
- \* One starts with the end - the desired results (goals or standards) - and then derives the curriculum from the evidence of learning (performances) called for by the standard and the teaching needed to equip students to perform' (Wiggins and McTighe, 2000, page 8)

# Why the Backwards Design Model?

- \* According to Doug Buehl (2000),<sup>[7]</sup> advantages of backward design include:
  - \* Students are not as likely to become so lost in the factual detail of a unit that they miss the point of studying the original topic.
  - \* Instruction looks toward global understandings and not just daily activities; daily lessons are constructed with a focus on what the overall "gain" from the unit is to be.
  - \* Assessment is designed before lesson planning, so that instruction drives students toward exactly what they need to know.

# How does Backwards Design Help with Learning?

- \* Wiggins and McTighe (2008) also utilize the "**WHERE**" approach during the assessment stage of the process.<sup>[8]</sup>
  - \* **W** stands for students knowing *where they are heading, why they are heading there, what they know, where they might go wrong in the process, and what is required of them.*
  - \* **H** stands for *hooking* the students on the topic of study.
  - \* **E** stands for students *exploring and experiencing ideas* and being *equipped with the necessary understanding* to master the standard/outcome being taught.
  - \* **R** stands for providing opportunities for students to *rehearse, revise, and refine* their work.
  - \* **E** stands for student *evaluation*.

# Today's Activity

- \* Continue or begin developing Essential Questions and Enduring Understanding with the knowledge of your S.T.E.M. activity.
- \* Identify what students need to learn first and plot standards and elements of the standard by week or days with the **end in mind** (Your STEM Activity).



Thank You

and

Have a GREAT DAY!!!