Content Area:	Idaho State Science Standard:	Lesson Title:
AP Environmental Science **Boise High** **Unit: Water, Water Pollution and Human Health**	**HS ESS3-6 Earth and Human Activity: Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.** **(or, if these standards are cut, adapt to use in Engineering Standards)** **Common Core Standard(s): RST 11-12#5 (analyze**	**Generate an Authentic Inquiry Question (regarding water and human health)**

WICOR Planning Template

This instructional planning tool supports the four areas of WICOR—Writing, Inquiry, Collaboration, Organization, and Readin

PLEASE FILL OUT ALL THE TOP BOXES COMPLETELY – <u>ONLY FILL OUT ONE OF THE WICOR STRATEGY BOXES</u>

	Math standards: HSN-Q.A.1, HSN-Q.A.2, HSN -Q.A.3 (computational and statistical thinking, scaling up and down to and from global data).	

Topic: Water and it's connection to Human Health. Students are organized into teams with varying water "disciplines" such as Flowing Fresh Water, Tropical Oceans, Weather and Storms, and so on. Then each individual on the team must select a Region of the World and a Lens with which to focus their research. The suggested lenses were Climate Change, Human Health and Disease, and Pollution. Some students also added the lens of Economics.

Demonstration/Assessment (what students will know and do): Students will prepare two products as individuals and support each other's work (in peer review and shared sources) as a team. Product #1 is a Presentation of their Inquiry Research and Solutions Guide. Product #2 is a Systems and Purpose Poster. The Inquiry Question Generator tool will help guide them to produce both of these products.

Level: High School/Undergraduate

Time required: This tool is for the first 2 days of 6 days of class time with substantial out of class research and development time.
Materials: Devices (1:1) and sample products and former student work. Peer review suggestions and feedback guides are also instructive.

Resources: Peer Reviewed Databases and substantial support from the instructor to find credible online sources. the United Nations Sustainable Development Goals site also inform our research through it's fully sourced data sets.

Anticipatory Set: Class discussion: What is the difference between an investigation and a report? How do we let our curiosity guide our research so that our reporting flows easily and is very interesting?

Example Student Work (used in class) of Inquiry Driven Products vs. Reports/Topic oriented presentations. Explore a few good and bad ones and as a class look for key features of the good ones.

Materials:
Inquiry Question Generator (Graphic Organizer) with some previous student work samples as examples.
Laptops on research days

In this modeling students will do the following.

1. **Anticipatory Set with Mrs. Ward.**
2. **After initial research on Water Team shared document is complete then each student may begin searching international and credible news sites for a compelling photo regarding their lens and region.**
3. **When a compelling photo is found they then must begin to drill into the specific event and issue - using the Inquiry Question Generator found here.**
4. **When they've explored external sources and primary/secondary sources searching for the whys and hows of their issue they begin to frame their work as an Inquiry Question.**
5. **There is an Inquiry Power Word Generator included here. (must be downloaded to be viewed properly).**
6. **The graphic organizer is turned in for feedback from the teacher, as well as peer feedback before more research or project rubrics are handed out.**

W- What activities will include writing?

Students are using a compelling photo to craft their own powerful and specific inquiry question.

I- What activities will include inquiry?

Wondering what makes an interesting and intriguing research question versus average reporting on work other people have already done is an important (and difficult!) skill. To being wondering about this difference is a form of inquiry in and of itself. To give and get peer feedback on an inquiry progression also supports this process.

C- What activities will include collaboration?

Collaboration is implied and embedded through use of Water Teams and peer feedback and coaching is part of this process.

O- How did you address organization?

Organization is implied through the use of a graphic organizer instead of just saying "think of an interesting research question!"

R- What activities will include reading?

They are reading multiple kinds of text as well as their own work and their peer's work. They are also reading the more formal textbook that is supporting a concrete/linear sequence through the material.

Notes:

This Inquiry Question Generator document has been successful for me in many different content areas and grade levels with minor changes depending on the context