 WATER QUALITY RESEARCH 

Using the web sites provided, gather & record the following information. Be thorough when collecting information.

BACKGROUND RESEARCH

* **As a class, how would you define water quality?**

|  |  |  |
| --- | --- | --- |
| **INDICATORS** | **DEFINITION** | **HOW DO THEY AFFECT WATER QUALITY?** |
| 1.  |  |  |
| 2.  |  |  |
| 3.  |  |  |
| 4.  |  |  |
| 5.  |  |  |
| 6.  |  |  |
| 7.  |  |  |

* **What is eutrophication?**
* **What is the chain reaction that can occur in a body of water that has eutrophication?**

|  |  |  |
| --- | --- | --- |
|  | **DEFINITION** | **EXAMPLES** |
| **Point Source Pollution** |  | 1.
2.
 |
| **Non Point Pollution** |  | 1.
2.
3.
 |

* **Who mandates the water quality standards?**
* **What was the first law passed for U.S. water quality standards?**
	+ **When was it passed?**
	+ **What does it state?**

**WATER TREATMENT RESEARCH**

|  |  |
| --- | --- |
|  **WATER TREATMENT STEPS** | **DESCRIPTION** |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |
| 5 |  |

**Using the following link choose the 4 most surprising statistics in relation to water pollution.**

**In three to four sentences explain why you found each statistic to be shocking.**

[**http://www.conserve-energy-future.com/various-water-pollution-facts.php**](http://www.conserve-energy-future.com/various-water-pollution-facts.php)

1.
2.
3.

1.
* There are countless inventions for new ways to purify water. Narrow it down to your top 4 and describe how they are a potential solution to poor water quality.

|  |  |
| --- | --- |
| **ALTERNATIVE TREATMENT METHODS** |  **HOW DO THEY WORK?** |
| 1 |  |
| 2 |  |
| 3 |  |
| 4 |  |

**Global Water Crisis (click on this link** [**https://tinyurl.com/y9mv8ue9**](https://tinyurl.com/y9mv8ue9)**)**

|  |
| --- |
| **GLOBAL/LOCAL CRISIS LOCATION =**  |
| **When did the crisis start?** |
| **What is the main cause of the crisis?****Would it be considered point source, or nonpoint source pollution?** |
| **What are the current water quality statistics for the area?** (pH, turbidity, nitrates, etc.) |
| **Who is specifically impacted by the current crisis?** (businesses, industry, agriculture, residential areas, etc.)**How many total people have been affected?** |
| **Have there been any previously attempted solutions?** If not, why not. If so, then what happened? Why didn’t it end the crisis? |
| **What is your suggested plan for solving the crisis?** (can be a bulleted/numbered list) |

**WATER QUALITY LINKS**

Intro

[**https://drive.google.com/file/d/0B3pcTykhVmgMdjRnd29YaHY5MUU/view**](https://drive.google.com/file/d/0B3pcTykhVmgMdjRnd29YaHY5MUU/view)

[**http://floridakeys.noaa.gov/ocean/waterquality.html**](http://floridakeys.noaa.gov/ocean/waterquality.html)

[**https://drive.google.com/open?id=1-ZvwGQgxKjfyjFaNsLQMY31KyvEVWxvH**](https://drive.google.com/open?id=1-ZvwGQgxKjfyjFaNsLQMY31KyvEVWxvH)

Indicators

[**http://sciencelearn.org.nz/Contexts/Enviro-imprints/Science-Ideas-and-Concepts/Bioindicators**](http://sciencelearn.org.nz/Contexts/Enviro-imprints/Science-Ideas-and-Concepts/Bioindicators)

[**https://water.usgs.gov/edu/dissolvedoxygen.html**](https://water.usgs.gov/edu/dissolvedoxygen.html)

[**https://water.usgs.gov/edu/nitrogen.html**](https://water.usgs.gov/edu/nitrogen.html)

[**http://www.freedrinkingwater.com/water\_quality/quality1/1-what-nitrate-and-phosphate-do.htm**](http://www.freedrinkingwater.com/water_quality/quality1/1-what-nitrate-and-phosphate-do.htm)

[**https://water.usgs.gov/edu/phosphorus.html**](https://water.usgs.gov/edu/phosphorus.html)

[**https://water.usgs.gov/edu/ph.html**](https://water.usgs.gov/edu/ph.html)

[**https://water.usgs.gov/edu/temperature.html**](https://water.usgs.gov/edu/temperature.html)

[**https://water.usgs.gov/edu/turbidity.html**](https://water.usgs.gov/edu/turbidity.html)

[**http://www.water-pollution.org.uk/eutrophication.html**](http://www.water-pollution.org.uk/eutrophication.html)

[**http://oceanservice.noaa.gov/education/kits/estuaries/media/supp\_estuar09b\_eutro.html**](http://oceanservice.noaa.gov/education/kits/estuaries/media/supp_estuar09b_eutro.html)

Point vs Non-Point

[**https://www.epa.gov/nps/what-nonpoint-source**](https://www.epa.gov/nps/what-nonpoint-source)

[**http://www.pollutionissues.com/Pl-Re/Point-Source.html**](http://www.pollutionissues.com/Pl-Re/Point-Source.html)

[**http://extension.usu.edu/waterquality/whats-in-your-water/pollution/**](http://extension.usu.edu/waterquality/whats-in-your-water/pollution/)

Regulations

[**https://www.epa.gov/standards-water-body-health/how-are-water-quality-standards-developed**](https://www.epa.gov/standards-water-body-health/how-are-water-quality-standards-developed)

[**https://www.epa.gov/wqs-tech**](https://www.epa.gov/wqs-tech)

[**http://www.nwf.org/What-We-Do/Protect-Habitat/Waters/Clean-Water-Act.aspx**](http://www.nwf.org/What-We-Do/Protect-Habitat/Waters/Clean-Water-Act.aspx)

**WATER TREATMENT LINKS**

Treatment

[**http://www.livestrong.com/article/128483-steps-water-purification/**](http://www.livestrong.com/article/128483-steps-water-purification/)

[**https://durhamnc.gov/1196/Water-Treatment-Process**](https://durhamnc.gov/1196/Water-Treatment-Process)

Alternatives

[**http://mashable.com/2015/03/22/world-water-day-inventions/#UsOja1zphmqP**](http://mashable.com/2015/03/22/world-water-day-inventions/#UsOja1zphmqP)

[**http://www.goodnet.org/articles/5-amazing-inventions-that-deliver-clean-water-videos**](http://www.goodnet.org/articles/5-amazing-inventions-that-deliver-clean-water-videos)

[**http://www.enviroalternatives.com/watermethods.html**](http://www.enviroalternatives.com/watermethods.html)