



# HUMANITIES AND THE SUNSHINE STATE

TEACHING FLORIDA'S CLIMATES

In partnership with the Florida Humanities Council

JUNE 19-23, 2017 GAINESVILLE, FLORIDA

## ACTION PLAN TEMPLATE

**Teacher:** Gina Simonton

**Grade:** 12<sup>th</sup> grade

**Subject:** *Global Perspectives Research* class- required class in Cambridge International Program

**Title of Lesson:** What should be our Shared Water Ethic for our local Land of 1,000 Springs and Florida Aquifer?

### Learning Objectives:

Students will:

- Gain an appreciation for the beauty and vitality of the springs/ moral imperative to protect springs
- Understand the degradation of our springs
- Research and understand the impact /dependency different entities and variables have that contribute to the health or degradation of our springs
- Gain a greater appreciation for the interconnectedness between humans and specifically water quality of our springs
- Research and understand possible plans of actions/modifications that can be implemented to mitigate or cease the degradation
- Per Cambridge Global Perspectives requirements- critically analyze through one or all the following lens: ethical, political, economic, cultural, scientific, environmental, social

### Standards Addressed:

Critical thinking and reading, analytical thinking and reading; research skills, use of complex texts, use of primary and secondary documents; synthesis skills

### Lesson Outline: Multiple days lesson unit

**Day One-** Establishing connection to our local springs/ immediacy of problem and students' personal connections to springs based on anecdotal evidence

Basic overview of scientific information of Santa Fe River and Major Springs – water quality and imposing threats – Basic lecture/ use of photographs to dramatically visualize change/ decrease in water quality

**Day Two-** Discuss/ establish our "ethical" obligation / imperative to be good stewards of our local springs and aquifer

- Establish how the following entities are *and/or* dependent on water quality of springs or impact water quality
- Groups in 2/3 in each group will research on following entities – give specific guidelines of parameters of research / impact on springs/ focus on economic, scientific, environmental, social, political impact or dependency or both
  1. **Agricultural businesses/** practices/ regulations in area regarding types of plants, fertilizers, pesticides, runoff, etc.
  2. **Cattle industry** practices / regulations
  3. **Landscaping businesses/** practices/ regulations in area regarding types of plants, fertilizers, pesticides, runoff etc. *Turf business \**
  4. **Local waste water treatment** facilities practices / septic tanks use/regulations



5. **Local businesses practices** / use / regulations – Bottle water facilities- with emphasis on quantity of water access and Spring access permits/regulations
6. **Recreational use of springs**- impact and reliance- Tourism- lodging, canoe/kayak rentals, dive shops, etc.,
7. **Human Consumption/ Weather**/climate conditions- rainfall impact/ over pumping ground water from aquifer

**Day Three**- Students continue research on chosen entity- complete required information to share with whole group

**Day Four**- - Sharing of ideas from each group in round robin groups with final Systems Thinking Synthesis of ideas

**Day Five**- Systems Thinking Synthesis of how each entity potentially adversely or positively affects water quality of springs

Brainstorm based on research what modifications of practices in each entity could <sup>use to</sup> mitigate the problem

**Systems thinking connection:** Synthesis of how each entity has ripple impact various ways whether economically, politically, environmentally, or ethically

**Learning Strategies:** Depth of Knowledge questions, Small group/ whole group learning

**Science Concept(s):**

Specific understanding of how nitrogen pollution through various practices impact water quality  
Specific understanding how certain practices impact health or degradation of springs

**Humanities Concept(s):**

Ethical / social, economic / political conundrums of practices that hinder or ensure healthy water quality of our springs

**Student Assessment Strategies:**

Rubric to assess researched information/ rubric to assess presentation of ideas/ assess viability, feasibility and efficacy of modifications proposed in action plan

**Benefit to my students:**

Understanding and appreciation of our own natural wonders in own backyard and our moral imperative to protect the springs. Understanding of how multiple entities can affect springs water quality and better understanding of how to mitigate or eradicate those effects through different policies or practices.

**Resources and Materials (supplies needed for activities):**

Howard T. Odum Florida Springs Institute website

Articles by Robert Knight- founder/leader of FI Springs Institute

Florida Memory website

Blue Water Audit – Know Your Aquifer Footprint website

Student generated research information

*Cynthia Barnett - articles - journalism / author UF - Books - Rain, Mirage*

*Lars Anderson - outdoor river guide - environmentalist, author*

