# Using **the *Key Issues* Framework**

## *to investigate environmental issues*

## Background

Since its inception in 1992, **Key Issues Institute**, now known as **Beyond the Classroom** has provided educators various tools to guide their students through environmental issues investigations. Although the practical approaches to teaching **Key Issues** curriculum has evolved over the years, the backbone of this experience, the **Key Issues** framework, has remained a consistent guide. The framework encourages the process of inquiry to the study of environmental issues. It is a step-by-step set of instructions that guides students through an interdisciplinary fact based investigative process. As an interdisciplinary tool, the framework integrates science, math, social studies, and language arts throughout the investigation. Activities within the Key **Issues** curriculum are aligned to Common Core and Next Generation Science standards. The framework guides educators in a standards-based instructional process. The **Key Issues** investigation addresses national standards from multiple disciplines while meeting state and district guidelines. Due to its universality, the **Key Issues** framework is easily transferable and is applicable to each educator's needs. The steps of the framework can be applied to any environmental issue.

## *Key Issues* Interdisciplinary Unit

During **Beyond the Classroom**, Keystone Science School presents the steps of the **Key Issues** framework to an issue of concern. The curriculum unit evolves throughout the workshop as **Key Issues** facilitators guide teachers through an environmental issue investigation local to Summit County. By the end of the workshop, all steps of the framework are actively modeled and the majority of lessons in the curriculum unit are presented. Ultimately, the complete curriculum unit, driven by a non-biased, investigative, standards based, interdisciplinary approach is provided. This curriculum can be presented in its entirety, individual lessons can be presented independently, or the unit can act as a guide into an exploration of any issue, local or global.

## The Basic Framework

1. Define an *Environmental Issue* and related terms.
2. Determine *an Environmental Issues* of concern to you, your students, and your community. Select one to investigate.
3. Analyze the *Players*.
4. Begin piecing together the *Big Picture* of the issue.
5. Determine what pieces of the *Big Picture* are still missing and design research questions to complete the information.
6. Determine research plans, sampling methods and create data collection instruments.
7. Carry out research plans and analyze data collected.
8. Examine possible solutions.
9. Choose a solution by reaching consensus with all *Players.*
10. Make recommendations, share findings, and decide if further action is necessary.

# A Detailed Framework

1. **Define an environmental issue and related terms.**
   - Define an *environmental problem*.
   - Identify the difference between the *problem* and *issue*.
   - Identify who is concerned about or affected by environmental issues.
   - Introduce terms: *player*, *belief*, *interest* and *values*, *position*, *resources*
   - Conduct opinion activity to help understand diversity of opinions.

2. **Determine environmental *issues* of concern to you, the students, and your community. Select one to investigate.**
   - Gather information about environmental issues from local sources.
   - Brainstorm a list of environmental issues.
   - Categorize issues.
   - Determine criteria for choosing an issue to investigate.
   - Consider: student interest, time, resources availability, chances for completion, one issue/whole class or multiple issues/small group investigation.
   - Students and/or teachers choose issue(s).

3. **Analyze the *Players*.**
   - Determine who is involved in or affected by the issue.
   - Compile a Player Analysis. Determine the *values*, *beliefs, positions*, *interests,* and *resources* of the players involved. Conduct additional value and consensus-building activities if necessary.
   - Create a concept map. Review information from the player grid to identify possible causes of the problem.

4. **Begin piecing together the *Big Picture* of the issue.**
   - Continue to gather information about specific issue(s).
   - Understand the relationship of scientific concepts and the issue(s).
   - Conduct an introductory analysis of key players. Have students gather information on players and possibly assume roles as a means of providing general information.
   - Students begin to understand player motives and values.

5. **Determine what pieces of the *Big Picture* are still missing and design research questions to complete the information.**
   - Gather already compiled data, including player analysis and concept map.
   - Brainstorm questions about the issue that you might research.
   - Design research questions.

6. **Determine research plans, sampling methods and create data collection instruments.**
   - Identify experiments that will clarify the issue.
   - Identify *who* to ask and *how* to ask.
   - Describe and develop data collection instruments for this issue.
   - Practice skills necessary for collecting data: creating surveys, writing letters, making phone calls, conducting interviews, and taking physical samples.

- Plan field trips, guest speakers, etc.
- Analyze sampling methods:
- Qualitative vs. quantitative, determining a representative sample, etc.

7. **Carry out research plans and analyze data collected.**
   - Collect data using instruments developed in Step 6.
   - Use additional methods to collect data and conduct experiments that will help in understanding this issue.
   - Tabulate and graph results.
   - Distinguish between conclusions and inferences.
   - Determine if further investigation is needed in order to examine possible solutions (if so, return to Step 6).

8. **Examine possible solutions.**
   - Brainstorm possible solutions.
   - Examine and discuss risk factors (economic, environmental, political, social) involved in possible solutions. Utilize information gathered, guest speakers, community experts, etc..
   - Role play the various players and their positions, conduct a consensus-building event (Townhall).

9. **Choose a solution by reaching consensus with all *Players.***
   - Discuss complexity of making decisions about environmental issues. Questions to ask include:
     - How are decisions made?
     - Who are the decision makers?
     - What level of government is involved?
     - What are the perceived risks involved?
     - What is the scientific basis for understanding/making a decision on this issue?
     - What are the economic, environmental, political, social etc. consequences of various decisions?
     - Who is affected by these decisions?
     - How can the affected people influence decision makers?
     - What methods will be used for dealing with conflict?

10. **Make recommendations and share findings.**
    - Identify and recommend possible next steps and actions to take, including:
    - deciding to investigate further
    - teaching others what you have learned
    - lobbying: phone calls, petitions, letter writing campaigns
    - writing newspaper editorials
    - making a video
    - attending decision-making meetings
    - organizing activities (tree plantings, beach clean-ups, etc.)
    - taking no action
    - If action is taken, complete the Issue Action Plan
    - Produce a final report.

- Present investigation, results, and recommendations