



Watershed Classroom

Watersheds

Curriculum By Todd Adams

Casa Grande High School, Earth
Science & AP Environmental
Science

Content Standards addressed

HS-ESS3-6. Use a computational representation to illustrate the relationships among Earth systems and how those relationships are being modified due to human activity.
HS-ESS3-4. Evaluate or refine a technological solution that reduces impacts of human activities on natural systems.

Reading Tasks (primary documents and informational texts)

Measuring the Health of California Streams and Rivers - Harrington and Born
CK12 Earth Science Textbook

Writing Tasks (Arguments and Drawing Evidence)

As part of a final assessment, students will evaluate water quality metrics based on BMI and write an essay in which they argue from which stream the BMIs were collected from based on the stream's physical habitat and watershed conditions. Students will cite specific metrics which support their conclusion.

In addition, Environmental Science students will write a report on the physical habitat and water quality characteristics of a local stream and will make recommendations for restoration and/or pollution reduction measures that are appropriate for the stream.

Collaboration (Speaking and Listening/Discussion)

Students will work in small groups of 3-4 to collect and analyze data and discuss watershed concepts and issues.

Integration of Media Sources and Skills

Environmental Science students will create a presentation of their finding and present it to the class and at a workshop or meeting hosted by the Friends of the Petaluma River. Probes and sensors will be used to analyze water samples for pH, nitrates, phosphates, and possible sensors. Spreadsheets will be used to organize data and to make

calculations. The final report will be uploaded to the Watershed Classroom's Interactive Watershed Atlas.

CA Core Standards-based Assessments:

As part of a final assessment, students will evaluate water quality metrics based on BMI and write an essay in which they argue from which stream the BMIs were collected from based on the stream's physical habitat and watershed conditions. Students will cite specific metrics which support their conclusion.

In addition, Environmental Science students will write a report on the physical habitat and water quality characteristics of a local stream and will make recommendations for restoration and/or pollution reduction measures that are appropriate for the stream.

Presentation of Knowledge/Student Public Forum: Environmental Science students will post their bioassessment and physical habitat report to the Interactive Watershed Atlas. Collaborating with the Friends of the Petaluma River to present this information to the public as a workshop or other event is also a possibility.