

How the Environment Affects Our Health
Karen Prange

Lesson Title	How the Environment Affects Our Health: Infectious Diseases
Grade level	9 th grade
Content Area	Reading (Health Science Academy)
Time Allotment	One semester (18 weeks)
Academic Standards Addressed	<p>Texas Essential Knowledge and Skills (TEKS)</p> <ul style="list-style-type: none"> • (1A) The student reads widely for a variety of purposes in varied sources. The student is expected to read self-selected and assigned texts in varied sources as literature, journals, textbooks, maps, newspapers, electronic texts, and other media • (2E) The student builds extensive vocabulary through reading and systematic word study. The student is expected to use reference materials such as a glossary, dictionary, thesaurus, and available technology to determine precise meaning and usage. • (3C) The student will establish and adjust both immediate and overarching purposes for reading such as to find out, to understand, to interpret, to enjoy, or to solve problems. • (4B) The student reads critically to evaluate texts and the authority of sources. The student is expected to evaluate the credibility of information sources and their appropriateness for various needs. • (4E) The student reads critically to evaluate texts and the authority of sources. The student is expected to apply modes of reasoning such as induction and deduction to think critically. • (5A) The student uses study strategies to learn from text. The student is expected to learn and recall ideas and concepts from text such as previewing, skimming, scanning, rereading, and answering questions. • (5B) The student uses study strategies to learn from text. The student is expected recall important information by taking notes. • (5C) The student uses study strategies to learn from text. The student is expected summarize information from text through the use of outlines, study guides or learning logs. • (5G) The student uses study strategies to learn from text. The student is expected to draw inferences and support them with textual evidence. • (5H) The student uses study strategies to learn from text. The student is expected draw conclusions from text information. • (5I) The student uses study strategies to learn from text. The student is expected to analyze text structures such as compare/contrast, cause/effect, or chronological order for how they influence understanding. • (6A) The student inquires through reading and researching self-selected and assigned topics. The student is expected to generate relevant, interesting, and researchable questions. • (6B) The student inquires through reading and researching self-selected and assigned topics. The student is expected to locate print and non-print information using text.

	<ul style="list-style-type: none"> ● (6D) The student inquires through reading and researching self-selected and assigned topics. The student is expected to organize and record new information in systematic ways such as notes, charts, and graphic organizers. ● (6E) The student inquires through reading and researching self-selected and assigned topics. The student is expected to produce research projects and reports in various formats for audiences. ● (6F) The student inquires through reading and researching self-selected and assigned topics. The student is expected to draw relevant questions for further study from research findings or conclusions. ● (7B) The student expresses and supports responses to various types of texts. The student is expected to respond to informational reading through varied and appropriate modes such as writings, performances, projects, graphic displays, and available technology.
Abstract	<p>At the conclusion of individual student research on an infectious disease caused from environmental situations, students will compile their information by comparing and contrasting. Students will create one power point presentation and a tri-board to illustrate and describe their research. Students will display and present their research at the Health and Science Academy Fair.</p>
Goals	<p>Students will learn:</p> <ul style="list-style-type: none"> ● what countries some infectious diseases come from ● what environmental situations cause infectious diseases ● how infectious diseases are spread ● what the symptoms, treatments, prevention, transmission, diagnosis, etc., are of an infectious disease ● what diseases have in common ● what they can do to help the environment
Performance Indicators	<p>Final research includes:</p> <ul style="list-style-type: none"> ● credible resources and thorough research on subtopics provided ● illustrations and a visual representation (chart, graph, table etc.) ● a bibliography using the MLA format ● a typed copy of the research paper with rough draft and bibliography note sheets ● a definition of the disease, how the disease is impacted by the environment, causes, transmission, symptoms, diagnosis, treatment, prevention, complications, research, bioterrorism threat, and prevalence in other countries <p>Final presentation includes:</p> <ul style="list-style-type: none"> ● a well practiced oral presentation appropriate for the audience ● a loud and clear voice ● each student speaking ● appropriate dress and posture

Background Information	<ul style="list-style-type: none"> • Students will be provided the goals of Earthwatch and the research being conducted on Long Island and other islands in the Bahamas. Students will understand how natural disasters and man-made disruptions of the environment affect our surroundings and our future.
Materials	<ul style="list-style-type: none"> • <u>Code Orange</u> by Caroline B. Cooney • Spiral • Student objective and instructional page • Bibliography handouts for sources used • Tri-board and decorative materials • Rubrics for the research paper and oral presentation • Flash drive • CD's
Technology	<ul style="list-style-type: none"> • Computers for student research • One laptop for power point presentation • Infocus machine • Access to databases such as: EBSCO, Fact on File, Encyclopedia Britannica, and Newsbank • Access to power point and microsoft
Instructional Procedures	<p>How the Environment Affects your Health: Infectious and Degenerative Diseases</p> <p>Focus: Show pictures from Earthwatch in Long Island, Bahamas to show an example of what research is being done and how a natural disaster caused destruction to the environment. Students will also understand what the term, “invasive species” means. Students will read <u>Code Orange</u> by Caroline B. Cooney, a story about a boy that discovers smallpox scabs found in a medical book.</p> <p>Objective: Each student will research an infectious disease that was impacted the by the environment. Students will then combine their research to present to the ninth grade Health Science Academy. They will also display the complete project at the Health and Science Academy Fair.</p> <p>Purpose: Students will learn where infectious diseases come from and how they affect society.</p> <p>Instruction: Students will read <u>Code Orange</u> and in their spirals they will write the following information:</p>

Date
Chapter number
Pages read

Vocabulary

(Word, page, definition as the word is used in the book)

Summary

(Must be 5 well-developed sentences)

Response

(Must be 5 well-developed sentences and is reflective writing). The response is what you are thinking and feeling about what you are reading. You should set a purpose before reading on and write questions you have about the reading.
Example: I wonder why...? What would happen if...?

Chapter discussion:

Students will read and write at home and bring their spirals to school on Fridays to discuss each chapter. The following chapters are due on each Friday:

- Chapters 1-3
- Chapters 4-5
- Chapters 6-8
- Chapters 9-10
- Chapters 11-13
- Chapters 14-15
- Chapters 16-19

Research paper

Assignment- Students will research an infectious disease impacted by the environment and must include the following information but not limited to this information:

- Definition of the disease
- How this disease is impacted by the environment
- Causes
- Transmission
- Symptoms
- Diagnosis
- Treatment
- Prevention
- Complications
- Research
- Bio-terrorism
- Is this disease prevalent in other countries?

Research can be found but not limited to the following sites:

- CDC- Centers for Disease Control and Prevention
- NIH- National Institute of Health
- DSHS- Texas Department of State Health Services
- WebMD
- ABC News
- MSNBC
- WHO- World Health Organization
- ATSDR- The Agency for Toxic Substances and Disease Registry
- www.colorado.edu/geography/gcraft/warmup/cholera/cholera_f.html
- Go to google and type in the following information: **Amazon.com: Medical Geography, Second Edition: Melinda S. Meade** and then click on the following web-site: www.amazon.com/Medical-Geography-Melinda-Meade/dp/159385160x-270k- Then click on the word *more* (in the review) and find the definition of disease, degenerative disease and infectious disease.
- <http://wn.cdc.gov/travel/default.aspx> (disease in other countries)
- EBSCO host
- News Bank
- Facts on File

	Students are not allowed to plagiarize and must include a bibliography. Students will individually report on an infectious disease. They will share their research with each other and devise a plan to combine their information, identifying any commonalities, for a formal presentation. Student will also be required to complete community service and provide a journal of their experiences as part of their grade and report.
Assessment	Scoring guides are included for the oral and written presentations. (The "Group Work Rubric" and the "Group Presentation Assessment Rubric" came from the speech book: <u>Communication Applications</u> . The authors are: Randall McCutcheon, James Schaffer, and Joseph R. Wycoff.2001)
Connection to Other Content Areas	English -Students will follow the MLA format and research rubric used in English I Speech -Students will follow the scoring rubric used in speech. Science -Students will understand how the environment affects peoples' health. Students will learn about infectious diseases. Geography -Students will understand where infectious diseases are prevalent.

Earthwatch Presentation

Focus: Students will view pictures taken at Long Island, Bahamas to create background knowledge about the scientific research on the coastal ecology.

Objective: To inspire concern and promote understanding about keeping our environment clean for the health, safety, and enjoyment of all people.
To help the world realize its goal of a sustainable environment.

Earthwatch is the world's largest environmental volunteer nonprofit. Founded in 1971, our goal is simple- to field research and enable regular people to volunteer on projects around the world. The result? At 120 field sites in more than 40 countries, Earthwatch-supported scientists and our volunteers work together to find solutions to today's most pressing environmental challenges.

Purpose: To open a whole new world of understanding on how scientific researchers collect data to evaluate the ecological impact of chronic and acute changes.

Name _____ Date _____ Period _____

Research Report: Infectious Disease

Grade

Daily Grades

Works Cited Final Draft
Final Outline
Folder Requirement

Documentation (35 points)

Three accurately documented sources per paragraph
One **and only one** direct quote used in each body paragraph
Report uses at least three different **types** of sources
Annotated bibliographies are complete and accurate
Highlighting is precise
Slug sheet is available for reference

Content (50 points)

Meets minimum word count requirements
The introduction has a clearly written thesis statement
Topic sentences convey meaning within paragraph
Concluding sentences end and/or transition into next paragraph
Each body paragraph is cohesive and does not stray from the topic
Details are relevant and informative
Paragraphs follow logical organization

Mechanics and Word Choice (15 points)

The entire report is written in third person.

Following words are avoided:

I, me, my, myself

You, your(s), yourself

Us, we, our, ourselves

Grade level vocabulary is used. Reports avoids the following:

A lot, tons, a bunch, very, thing(s), stuff, good, great, wonderful

Sentence structure is fluid and coherent.

4 sources < 79 5-6 sources < 89 7-12 sources 100
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Score

Group Work Rubric

Criteria	Apprentice	Basic	Learned	Exemplary
Decision Making	One person dominates decision-making.	Some students contribute to decision-making.	Most students contribute to decision-making.	Students contribute to decision-making.
Social Interaction	Students frequently interrupt and/or put down the views of others. Students do not ask questions or clarification.	Students pay attention to the group discussion. Some students ask questions and build on others comments.	Body and/or verbal responses indicate active listening. Most students ask questions and build on others comments.	Students respect and encourage the views of others. Students ask questions or clarification. Students build on others comments.
Contributing	Students do not contribute in any positive way to the group work.	Some students contribute positively to the group work.	Most students contribute positively to the group work.	Students consistently contribute in a positive way to the group work.
On Task Behavior	Students exhibit on-task behavior inconsistently.	Students exhibit on-task behavior some of the time.	Most students exhibit on-task behavior most of the time.	Students exhibit on-task behavior consistently.
Group Structure and Functioning	With assistance, students have difficulty sequencing steps. Task is not being completed on time.	With assistance, students are able to sequence steps. Students rush to complete tasks. Division of tasks and responsibilities are inefficient and students waste time.	Students complete a sequence of steps. The leader assigns responsibilities and tasks. The tasks are completed on time.	Students complete a clear and logical sequence of steps. Students complete task with form and reflection and revision. Members volunteer to take responsibilities and roles.

Group Presentation Assessment Rubric

Apprentice	Basic	Learned	Exemplary
<p>* Presenters are difficult to hear. The rates of speaking are too fast or too slow.</p> <p>* The speakers do not show much interest and/or enthusiasm in the topic. May sound like speakers are reading the presentation.</p> <p>* Eye contact is made with only some of the audience.</p> <p>* The speakers may have nervous habits which distract presentation. The speakers are not presentable.</p> <p>* Presentation shows little organization, unclear purpose, unclear relationship and/or transition between presenters, rambles or may seem like a list of facts. Lacks conclusion.</p> <p>* Details and examples are lacking or not well chosen for the topic or audience. Lacks evidence of research.</p>	<p>* The presentation is generally similar to one receiving a novice rating, but there are one or two elements which are relatively well done.</p>	<p>* The presentation is as good as one receiving a distinguished rating, but there are one or two elements which are less polished.</p>	<p>* Presenters speak in a clear voice and show a flair for communicating with the audience.</p> <p>* Rates of speech are appropriate.</p> <p>* A speaker makes eye contact with everyone and has no nervous habits., is appropriately dressed and has excellent posture.</p> <p>* Presentation involves audience, allowing time for audience to think and respond.</p> <p>* Presentation is well organized with a beginning, middle and end. There is a strong organizing theme, with clear main ideas and transitions.</p> <p>* Information is complete and accurate. Clear evidence of research.</p> <p>* Visual aids are well done and are used to make presentation more interesting and meaningful.</p> <p>* Handout(s) attractive, well organized and includes relevant information.</p>

