

Project Planning Template

What about Zika?

COURSE: Health Science	DURATION: 2 weeks	TEACHER:	Womens' Health: What about Zika?
GLOBAL ISSUE OVERVIEW			
<p>In 2015, the current outbreak of Zika began in Brazil. It has spread through South America, the Caribbean, Pacific Islands, and North America. Recently, the Zika virus has been isolated in the Miami, Florida region. For some individuals infected, no symptoms occur. For others, as in pregnant women, the results are devastating—the fetus develops microcephaly. The degree of severity depends on when the pregnant woman becomes infected. These babies will require lifelong special care. Scientists are also finding other complications in the general population that can be life altering. The WHO (February 2016) declared the outbreak a Public Health Emergency of International Concern.</p> <p>Global Competencies Addressed:</p> <ul style="list-style-type: none"> • Investigate the World: Initiate investigations of the world by framing questions, analyzing and synthesizing relevant evidence, and drawing reasonable conclusions about global issues. • Recognize Perspectives: Recognize, articulate, and apply an understanding of different perspectives. • Communicate Ideas: Select and apply appropriate tools and strategies to communicate and collaborate effectively, meeting the needs and expectations of diverse individuals and groups. • Take Action: Translate ideas, concerns, and findings into appropriate and responsible individual or collaborative actions to improve conditions. 			

STANDARDS ADDRESSED		
Career/Technical Knowledge and Skills	Academic Knowledge and Skills	21 st Century Skills
<p>The student will conduct:</p> <p>Scientific inquiry/research of the Zika virus, modes of transmission and the associated effects.</p> <p>Cost analysis of medical research, vaccine development, environmental interventions and long term care of individuals with life long disabilities.</p> <p>Common Career Technical Core <u>Career Ready Practices</u> CRP – 1 Act as a responsible and contributing citizen and employee. CRP – 4 Communicate clearly, effectively, and with reason. CRP – 5 Consider the environmental, social, and economic impacts of decisions. CRP – 6 Demonstrate creativity and innovation. CRP – 7 Employ valid and reliable research strategies. CRP – 10 Use technology to enhance productivity. CRP – 12 Work productively in teams while using cultural/global competence</p>	<p>The student will:</p> <p>Conduct research utilizing appropriate web sites and other reputable sources.</p> <p>Create a final product utilizing proper grammar, punctuation and spelling.</p> <p>Accurately and succinctly communicate information in appropriate terms for different target audiences.</p> <p>Create graphs and tables as needed to illustrate costs.</p> <p>Writing: Communicate information and ideas in narrative, informative, and persuasive writing with clarity and effectiveness. W.9-10.3 W.11-12.3 WHST.9-10.2 WHST.11-12.2 WHST.9-10.4 WHST.11-12.4 WHST.9-10.7 WHST.11-12.7</p> <p>Speaking: Deliver planned and impromptu oral presentations. SL.9-10.1 SL.11-12.1 SL.9-10.4 SL.11-12.4 SL.9-10.6 SL.11-12.6</p> <p>Language: Apply the conventions of standard English using appropriate domain specific language. L.9-10.1 L.11-12.1 L.9-10.2 L.11-12.2</p>	<p>The student will demonstrate:</p> <p>Learning and Innovation Skills:</p> <ul style="list-style-type: none"> • Creativity and Innovation • Critical Thinking and Problem Solving • Communication and Collaboration <p>Information, Media, and Technology Skills:</p> <ul style="list-style-type: none"> • Information Literacy <p>Life and Career Skills:</p> <ul style="list-style-type: none"> • Flexibility and Adaptability • Initiative and Self-Direction • Productivity and Accountability • Leadership and Responsibility

L.9-10.6 L.11-12.6

Literacy:

RST.11-12.7

Integrate and evaluate multiple sources of information presented in diverse formats and media (e.g., quantitative data, video, multimedia) in order to address a quest of a process, phenomenon, or concept, resolving conflicting information when possible.

RST.11-12.9

Synthesize information from a range of sources (e.g., texts, experiments, simulations) into a coherent understanding

PROJECT DEFINITION & GOALS/OBJECTIVES

The students will research the Zika virus (origin, modes of transmission, symptoms of infection, complications of infection, prevention strategies, scientific research, vaccination development, mosquito termination, and costs of research, vaccine development, complications, and termination) in countries/continents infected. The students will work in a group, each picking one of the following activities:

Project Goals/Objectives:

1. Students will design a power point presentation for other health science students/professionals that explain the origin, the modes of transmission, symptoms of infection, as well as potential and actual complications of the Zika virus.
2. Students will design a power point presentation for other health science students/professionals that will discuss personal methods of prevention. Different modes of transmission will be addressed with specific methods of prevention. This presentation will also include a synopsis of what other countries are recommending and implementing for the elimination of the responsible vector.
3. Students will investigate the costs association with the Zika virus. This can include but not be limited to, cost of research and vaccine development, cost of environmental interventions, projected cost of general population viral complications, and lastly, the projected cost associated with the lifelong care of infants with disabilities. The students will also investigate the presence of funding and where the money is coming from as well as lack of funding and what is being done to find money. This information will be shared in a written paper. A summary of the information will be verbally shared with peers.
4. The students will create a poster and brochure (paper or electronic) for public education. It will include basic information about the virus, the different modes of transmission, the risk to women who are trying to become pregnant or are already pregnant, and the risk to the fetus, potential complications for the general public, and what an individual is able to do to prevent exposure.

SCENARIO OR PROBLEM: What scenario or problem will you use to engage students in this project?

The Zika virus is no longer something that is “over there”. The virus originated in Africa, and has spread throughout South America. It has now been documented in North America as well as Pacific Islands and Asia. While some of the impacts of the Zika virus are clear, there is much we don’t yet know and much “common knowledge” that is not grounded in fact. For those working in the health fields, it is important to have accurate and timely information to protect our own health as well as the health of the patients we care for.

The investigation of the Zika outbreak will be broken into the following sub-topics: virus information and education of health science students/professionals, methods of prevention, costs involved with the disease, and education of the general public. Students will select a group to work with. The groups will select a sub-topic to research and create a power point, professional paper, or a poster and pamphlet. The information will be made available to the public.

Essential Questions

1. How is the Zika virus affecting the world around me, locally, regionally, and globally?
2. Can Zika affect me personally?
3. Why should I become involved in the education of the general public?
4. Is public education necessary?
5. What can be done to allocate money for research, vaccine development and the termination of the mosquitos?
6. Will the methods chosen to terminate the mosquitos harm the environment? Harm animals? Harm people?
7. What resources are available to assist with the care of infants born with microcephaly?

Grade Level Adaptations

For younger students, you could provide students with information from the CDC Zika website to use in designing the powerpoints instead of having them research to find the information themselves. You could also provide younger students with the basic cost information for the virus, and have them determine the calculations they will use to show the overall expense associated with the disease.

More advanced students could compare the response to the Zika virus to past responses to other disease outbreaks (Ebola, “Bird” flu), focusing on looking at how what was learned from one outbreak was (or wasn’t) used to improve worldwide response to subsequent outbreaks of disease.

ASSESSMENT: How will you determine what students have learned? (Check all that apply.)

FORMATIVE		SUMMATIVE	
Quizzes/Tests		Multiple Choice/Short Answer Test	
Notes/Graphic Representations	X	Essay Test	
Rough Draft	X	Written Product with Rubric	X
Practice Presentation	X	Oral Presentation with Rubric	X
Preliminary Plans/Goals/Checklists of Progress		Other Product or Performance with Rubric	X
Journal/Learning Log		Self-Evaluation or Reflection	X
Other: poster; pamphlet	X	Evaluation by Authentic Audience	X
		Other:	

MATERIALS, RESOURCES, or CONSTRAINTS: What materials and resources will be needed? Are there any perceived challenges?

- Computer
- Internet
- Power Point
- Printer
- Paper
- Projector
- Poster board
- Glue
- Scotch tape
- Markers
- Copier

- CDC, About Zika:
<http://www.cdc.gov/zika/>

- World Health Organization, Zika factsheet:
<http://www.who.int/mediacentre/factsheets/zika/en/>

- Virology blog, Zika Virus:
<http://www.virology.ws/2016/01/28/zika-virus/>

- *NY Times*, What is the Zika Virus?:
http://www.nytimes.com/interactive/2016/health/what-is-zika-virus.html?_r=0

- *NBC News*, Man Dies of Zika Related Paralysis in Puerto Rico:
<http://www.nbcnews.com/storyline/zika-virus-outbreak/man-dies-zika-related-paralysis-puerto-rico-n634776>

- *NBC News*, Zika Might Affect Adult Brains Too:
<http://www.nbcnews.com/storyline/zika-virus-outbreak/zika-might-affect-adult-brains-too-study-finds-n633951>

- CDC, Health Effects of Zika:
<http://www.cdc.gov/zika/healtheffects/gbs-qa.html>

- CDC, Sexual Transmission of Zika:

<http://www.cdc.gov/zika/hc-providers/clinical-guidance/sexualtransmission.html>

- *Washington Post*, Elderly Zika Patient May Have Infected a Family Contact:
<https://www.washingtonpost.com/news/to-your-health/wp/2016/07/18/elderly-zika-patient-in-utah-may-have-infected-a-family-contact/>
- Mother to Baby, Zika Virus and Pregnancy:
<https://mothertobaby.org/fact-sheets/zika-virus-pregnancy/pdf/>
- National Institute of Neurological Disorders and Stroke, Guillain-Barré Syndrome:
http://www.ninds.nih.gov/disorders/gbs/detail_gbs.htm
- *Science Daily*, Two Zika Proteins Responsible for Microcephaly Identified:
<https://www.sciencedaily.com/releases/2016/08/160811131554.htm>
- World Health Organization:
<https://www.who>

SUPPORT, MODIFICATIONS, AND EXTENSIONS: What is needed to provide support for students who have difficulty learning the content, modify for students with special learning needs, or to provide enrichment for advanced students?

Students will be working in teams/groups/partners selected by teacher. Modifications will be determined on an as need basis depending on the individual student’s needs. Extended time may be allotted for those that need it. Study skills options and reading assistance may be offered for those with reading disabilities.

CALENDAR OF MAJOR LEARNING ACTIVITIES—What are the learning activities or tasks for each day? Are there any project milestones? When will formal assessment activities occur?

Week 1				
Monday	Tuesday	Wednesday	Thursday	Friday
Introduce scenario. Students will select groups. Begin research. Instructor must approve research sources.	Research to continue. Begin to formulate an outline for paper, power point, or poster/pamphlet.	Continue with outline creation. Continue research as needed as additional research questions arise.	Begin to construct presentation material rough draft (paper, power point or poster/pamphlet.	Continue construction of material. Share material with at least one other group. Receive warm/cool responses from peers on written presentation material. Incorporate responses into work.

Week 2				
Begin to practice presentation with own group. Group will give warm/cool responses to each other	Will practice presentation with one other group. Group will be given warm/cool responses from the observing group. The process will continue as the groups switch places.	Presentations begin.	Presentations continue. Posters and pamphlets will be distributed to highly visible areas of the school. Students will be encouraged to take and display pamphlets at other community organizations.	Self-reflection/group reflection will be conducted.

STUDENT REFLECTION ACTIVITIES—How will students reflect on their work? Add reflection questions and/or activities here.

Students will reflect in writing on the following questions:

- What were the most surprising findings from your study of the virus?
- How does the Zika outbreak influence the daily life of health care providers? Of the general public? Of the international community?
- What can you do to effectively use the information you learned in your position as a health care provider?

Adapted from: Southern Regional Education Board, Unit Planning Template, 592 10th St. N.W., Atlanta, GA 30318-5776