

One Health

Connecting humans, animals and the environment.

Description

Humans, animals and the environment...we are all connected. The One Health Initiative integrates a variety of disciplines in a united front at a local, national and global level to address a multitude of health issues. Students will research the One Health Initiative and create a Microsoft document based on their findings. Students will include a table, SmartArt, chart, and illustrations in their document.

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Lesson Plan Tags

Check the standards that are met in your lesson plan, check all that apply.

High School Biology Anatomy Other High School Science High School Math HS BFIT HS Marketing & Entrepreneurship Agriculture HS Technology Health Science

Introduction

This lesson plan is designed for students who know how to operate MS Word 2010 or 2013. Utilizing the required components of Microsoft Academy, a high school CTE course focused on teaching students the fundamentals of using the Microsoft Office software programs, students will create and manage a research document based on One Health and a disease/issue. Students will demonstrate mastery of the concepts learned by formatting and designing a table, chart and SmartArt graphic. Students will also use mathematic skills to develop a chart interpreting data researched.

Curriculum Alignment

CTE BM10 Microsoft Word and PowerPoint Objective 1.00

Understand word processing software application skills using Microsoft Word.

Common Core State Standards for High School Mathematics:

[CCSS.MATH.CONTENT.HSS.IC.B.3](#)

Recognize the purposes of and differences among sample surveys, experiments, and observational studies; explain how randomization relates to each.

[CCSS.MATH.CONTENT.HSS.ID.B.5](#)

Summarize categorical data for two categories in two-way frequency tables. Interpret relative frequencies in the context of the data (including joint, marginal, and conditional relative frequencies). Recognize possible associations and trends in the data.

Common Core Mathematical Practice Standards:

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

Common Core English/Language Arts Standards for Grades 9-10:

- [CCSS.ELA-LITERACY.RST.9-10.4](#) Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to *grades 9-10 texts and topics*.
- [CCSS.ELA-LITERACY.RST.9-10.5](#) Analyze the structure of the relationships among concepts in a text, including relationships among key terms.

- [CCSS.ELA-LITERACY.RST.9-10.7](#) Translate quantitative or technical information expressed in words in a text into visual form (e.g., a table or chart) and translate information expressed visually or mathematically (e.g., in an equation) into words.
- [CCSS.ELA-LITERACY.RST.9-10.8](#) Assess the extent to which the reasoning and evidence in a text support the author's claim or a recommendation for solving a scientific or technical problem.

High School NC Technology Essential Standards:

- HS.SI.1 Evaluate resources needed to solve a given problem.
- HS.TT.1 Use technology and other resources for assigned tasks.
- HS.RP.1 Design project-based products that address global problems.
- HS.SE.1 Analyze issues and practices of responsible behavior when using resources.

Biology NC Essential Standards:

- Bio.2.1.1 Analyze the flow of energy and cycling of matter (water, carbon, nitrogen and oxygen) through ecosystems relating the significance of each to maintaining the health and sustainability of an ecosystem.
- Bio.2.1.2 Analyze the survival and reproductive success of organisms in terms of behavioral, structural, and reproductive adaptations.
- Bio.2.1.3 Explain various ways organisms interact with each other (including predation, competition, parasitism, mutualism) and with their environments resulting in stability within ecosystems.
- Bio.2.1.4 Explain why ecosystems can be relatively stable over hundreds or thousands of years, even though populations may fluctuate (emphasizing availability of food, availability of shelter, number of predators and disease).

Earth/Environmental Science NC Essential Standards:

- EEn.2.7.1 Explain how abiotic and biotic factors interact to create the various biomes in North Carolina.
- EEn.2.7.2 Explain why biodiversity is important to the biosphere.
- EEn.2.7.3 Explain how human activities impact the biosphere.

Objectives

- Students will understand Microsoft Word
- Students will perform basic editing in Microsoft Word document
- Students will apply character formatting and paragraph formatting in Microsoft Word document
- Students will manage text flow in Microsoft Word document
- Students will conclude findings of disease/issue in a table in Microsoft Word document

- Students will work with themes, style sets, backgrounds, quick parts, and text boxes in Microsoft Word document
- Students will use illustrations and graphics in Microsoft Word document
- Students will proof a document using Microsoft Word Review Ribbon commands
- Students will format document as a research paper
- Students will perform mail merge
- Students will maintain document properties and macros
- Students will protect and share document
- Students will implement advanced options in Microsoft Word
- Students will research statistics dealing with a One Health disease/issue of their choice
- Students will interpret One Health data in a chart

Time & Location

7 class blocks - 90 minutes each block

Teacher Materials

Computers

Internet

MS Word 2010 or 2013

One Health Paper Rubric

Student Materials

Computer

Internet

MS Word 2010 or 2013

One Health Paper Rubric

Safety

None needed

Student Prior Knowledge

- Keyboarding skills (Middle School CTE)
- Microsoft Word 2010 or 2013
- Word processing skills

- Research paper process

Teacher Preparations

- Teams:
 - Prior to activity Teacher will divide class into teams (roughly 5 teams with 5 students per team)
- Topics: each team will be given a topic
 - Health economics
 - Human medicine
 - Veterinary medicine
 - Ecology
 - Environmental Health

Activities

Day 1:

Phase 1: (30 minutes)

- The teacher will explain One Health
- The teacher will have students look at One Health Initiative website(<http://www.onehealthinitiative.com/>) and CDC website(<https://www.cdc.gov/onehealth/>) for an overview of concepts
- The teacher will divide students into predesigned teams
- The teacher will assign teams their topic
- The teacher will explain:
 - Each team must choose a disease/issue related to the topic
 - Conduct research on their disease/issue and One Health
 - Prepare a research paper on One Health and the disease or issue
 - The paper **must** contain:
 - SmartArt graphic related to disease(issue)/One Health (*For non-Microsoft focused classes this requirement could be swapped for including relevant and well formatted images)
 - Table made by the group related to disease(issue)/One Health
 - Chart made by the group related to disease(issue)/One Health
 - Illustration related to disease(issue)/One Health
 - Heading Styles
 - One section of columns
 - A text box
 - Protect the document using a password
 - Section that discusses career opportunities

- The team will create a mail merge document creating awareness for their disease/issue. * A mail merge document is a form letter sent out to multiple people using one letter. This section may be skipped for students not in Microsoft Academy courses.

Phase 2: (60 minutes)

- The teams will choose a disease/issue related to their topic.
- The teams will conduct research about their disease/issue and history of the One Health Initiative.

Day 2: (90 minutes)

- The teams will begin the creation process of the document.
 - Bellwork: Teacher choice to include curriculum topic or One Health Initiative topic
 - Teams will begin typing first draft of research paper.
 - Papers should include Introduction, supporting information and Conclusion

Day 3: (90 minutes)

- Bellwork: Teacher choice to include curriculum topic or One Health Initiative topic
- The teams will conclude the creation of document.
 - Finish typing the research paper.
 - Teams should edit the paper for grammatical and spelling errors

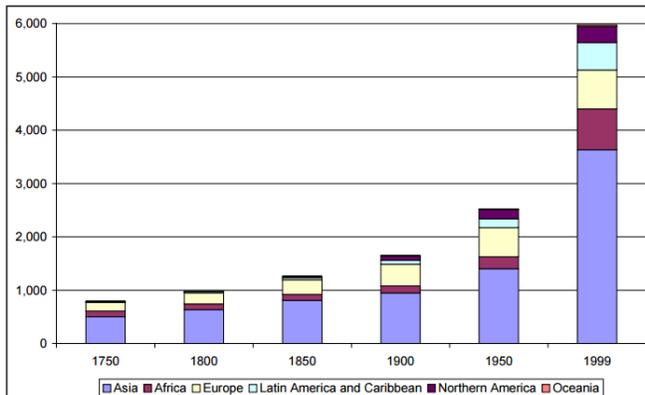
Day 4: (90 minutes)

- Bellwork: Teacher choice to include curriculum topic or One Health Initiative topic
- The teams will incorporate SmartArt graphic into their document
 - SmartArt graphic should illustrate a graphical process or hierarchy representation of topic.
 - SmartArt command and options are under the Insert Tab
- The teams will incorporate Illustration into their document.
 - Teams will insert at least one picture into their document.
 - Picture may be found online but must be saved onto computer and,
 - Inserted using the Insert Tab
 - Teams must site source for picture

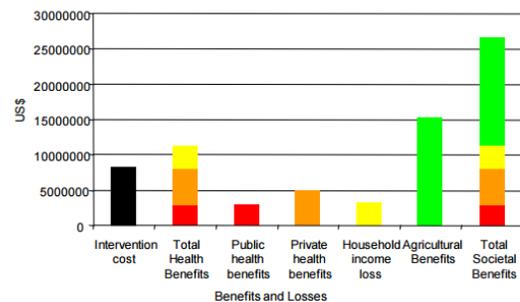
Day 5: (90 minutes)

- Bellwork: Teacher choice to include curriculum topic or One Health Initiative topic
- The teams will explore the different types of tables and charts applicable to their disease/issue.
 - Table and Chart may be inserted from the Insert Tab and,
 - Using the Table Tools and Chart Tools each may be designed and formatted as needed
- The teacher will show the following examples for reference.

World Population 1750 to 1999



Livestock mass vaccination against brucellosis in Mongolia

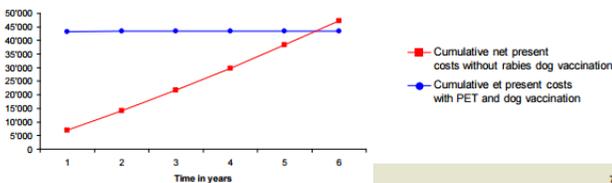


Control interventions emerged as highly cost-effective from the ph sector perspective

Brucellosis	Mongolia
Alveolar and Cystic Echinococcosis	Tibet, Global (EC)
Rabies	Africa, Asia, Global
<i>Tryp. brucei rhodesiense</i> sleeping sickness	South-East Uganda, Uganda
Cysticercosis	Cameron

Highly cost effective: < 25 US\$ / averted DALY

Proposed cost-sharing scheme



https://www.cdc.gov/onehealth/pdfs/atlanta/esther_schelling.pdf
https://www.cdc.gov/onehealth/pdfs/atlanta/jonathan_rushton.pdf

- The team will create a chart and table for their document.

Day 6: (90 minutes) (this day may be omitted)

- Bellwork: Teacher choice to include curriculum topic or One Health Initiative topic
- The teams will create a mail merge document
 - Create new database list
 - Create main letter
 - Create merge document

Day 7: (90 minutes)

- Bellwork: Teacher choice to include curriculum topic or One Health Initiative topic
- The teams will finalize all pieces
- The teams will submit complete document and mail merge.

Assessment

One Health Paper Rubric

Critical Vocabulary

- Character - Any single letter, number, symbol, or punctuation mark.
- Character Styles - A style that is applied to individual characters or words that users have selected.
- Columns - Vertical blocks of text in which text flows from the bottom of one column to the top of the next.
- Data Source - A file that contains information to be merged in the main document during a mail merge.
- Document Properties - Information that identifies the creator of the document, date the document was created, subject, category, and keywords that can be used to search for the document.
- Document Theme - A set of predefined formatting options that includes theme colors, fonts, and effects.
- Field Names - In a mail merge, the description for the specific data, such as a person's first name, last name, address, city, state, and zip code, to be merged from the data source.
- Mail merge - a process to create personalized letters and pre-addressed envelopes or mailing labels for mass mailings from a form letter – a word processing document which contains fixed text, which will be the same in each output document, and variables, which act as placeholders that are replaced by text from the data source.
- Main Document - In a mail merge, the document that contains the text and graphics that are for each version of the merged document.
- Paragraph Styles - A style in which the formats are applied instantly to all text in the paragraph where the insertion point is located, whether or not text is selected.
- SmartArt Graphics - Graphical illustrations available within Word from a list of various categories, including List diagrams, process diagrams, Cycle diagrams, Hierarchy diagrams, Relationship diagrams, Matrix diagrams, and Pyramid diagrams.

- Text Box - An invisible, formatted box in which you can insert and position text and/or graphic objects.

Author Information

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One Health Paper Rubric

Concept	Possible Points	Points Earned
Content and Text <ul style="list-style-type: none"> - Document contains brief One Health history - Document explains topic - Document provides information on disease/issue - Document is exceptionally researched, extremely detailed, and accurate. 	20	
Formatting <ul style="list-style-type: none"> - Heading styles applied - Appropriate character formatting used - Appropriate paragraph formatting used - Theme applied - At least one section is 2 columns 	15	
Graphics and Illustrations <ul style="list-style-type: none"> - SmartArt graphic related to disease/issue - Illustration(s) related to disease/issues 	5	
Table <ul style="list-style-type: none"> - Document includes a created table related to disease/issue - Table is formatted and designed appropriately - Information in table is interpreted accurately 	10	
Chart <ul style="list-style-type: none"> - Document includes a created chart related to disease/issue - Chart is formatted and designed appropriately - Includes all needed chart elements - Data in chart is inferred accurately 	15	
Text Box <ul style="list-style-type: none"> - Document includes a text box - Text box is appropriately used - Text box is correctly formatted and positioned 	5	
Advanced Properties <ul style="list-style-type: none"> - Document is protected with a password - Document has a subject/category/keyword in Properties Panel - AutoRecover is modified to save changes - Fonts are embedded to save with file is closed 	5	
Mail Merge <ul style="list-style-type: none"> - Main document with merge fields - Data source typed list - Merged document 	15	
Career Opportunities <ul style="list-style-type: none"> - Section of document discusses: <ul style="list-style-type: none"> ▪ Educational fields/majors ▪ career opportunities 	10	