

Stage 1 Chemistry

Food Additives

Name _____

Advisory _____

Purpose:

This assessment allows you to:

- demonstrate and apply knowledge and understanding of chemical concepts and interrelationships
- demonstrate an understanding of how knowledge of chemistry can be used to draw informed conclusions or make informed decisions, taking into account social and environmental contexts
- communicate in a variety of forms, using appropriate chemical terms and conventions.

Description of assessment:

Food additives are in all our processed food. Some people (including scientists and doctors) think they are safe, others (including other scientists and doctors) are highly concerned about them.

You are to produce either a presentation or pamphlet for high school students about 3 different food additives (at least one each of inorganic and organic). You are to examine chemical structures, production, uses, science and health information for your additives.

All information should be referenced, references should contain an author, date of publication, Title and publication location. Websites should also have view dates
e.g. Grunin, Lori, 2012, Best Mirrorless Cameras for less than \$1000,
[http://news.cnet.com/8301-17938_105-57360565-1/best-mirrorless-cameras-for-less-than-\\$1000/](http://news.cnet.com/8301-17938_105-57360565-1/best-mirrorless-cameras-for-less-than-$1000/), [Viewed 9/8/12]

Assessment Conditions:

The product will be created in personal and class time over a period of 5 weeks (for draft) and 6 weeks (for final version)

Stage 1 Chemistry Assessment Rubric

	Investigation	Analysis and Evaluation	Application	Knowledge and Understanding
A	<ul style="list-style-type: none"> • Designs a logical, coherent, and detailed chemistry investigation. • Critically and logically selects and consistently and appropriately acknowledges information about chemistry and issues in chemistry from a range of sources. • Manipulates apparatus and technological tools carefully and highly effectively to implement well-organised, safe, and ethical investigation procedures. • Obtains, records, and displays findings of investigations, using appropriate conventions and formats accurately and highly effectively. 	<ul style="list-style-type: none"> • Systematically analyses data and their connections with concepts, to formulate logical and perceptive conclusions and make relevant predictions. • Logically evaluates procedures and suggests a range of appropriate improvements. 	<ul style="list-style-type: none"> • Applies chemistry concepts and evidence from investigations to suggest solutions to complex problems in new and familiar contexts. • Uses appropriate chemical terms, conventions, formulae, and equations highly effectively. • Demonstrates initiative in applying constructive and focused individual and collaborative work skills. 	<ul style="list-style-type: none"> • Consistently demonstrates a deep and broad knowledge and understanding of a range of chemistry concepts. • Uses knowledge of chemistry perceptively and logically to understand and explain social or environmental issues. • Uses a variety of formats to communicate knowledge and understanding of chemistry coherently and highly effectively.
B	<ul style="list-style-type: none"> • Designs a well-considered and clear chemistry investigation. • Logically selects and appropriately acknowledges information about chemistry and issues in chemistry from different sources. • Manipulates apparatus and technological tools carefully and mostly effectively to implement organised, safe, and ethical investigation procedures. • Obtains, records, and displays findings of investigations, using appropriate conventions and formats mostly accurately and effectively. 	<ul style="list-style-type: none"> • Logically analyses data and their connections with concepts, to formulate consistent conclusions and mostly relevant predictions. • Evaluates procedures and suggests some appropriate improvements. 	<ul style="list-style-type: none"> • Applies chemistry concepts and evidence from investigations to suggest solutions to problems in new and familiar contexts. • Uses appropriate chemical terms, conventions, formulae, and equations effectively. • Applies mostly constructive and focused individual and collaborative work skills. 	<ul style="list-style-type: none"> • Demonstrates some depth and breadth of knowledge and understanding of a range of chemistry concepts. • Uses knowledge of chemistry logically to understand and explain social or environmental issues. • Uses a variety of formats to communicate knowledge and understanding of chemistry coherently and effectively.
C	<ul style="list-style-type: none"> • Designs a considered and generally clear chemistry investigation. • Selects with some focus, and mostly appropriately acknowledges, information about chemistry and issues in chemistry from different sources. • Manipulates apparatus and technological tools generally carefully and effectively to implement safe and ethical investigation procedures. • Obtains, records, and displays findings of investigations, using generally appropriate conventions and formats with some errors but generally accurately and effectively. 	<ul style="list-style-type: none"> • Analyses data and their connections with concepts, to formulate generally appropriate conclusions and make simple predictions, with some relevance. • Evaluates some procedures in chemistry and suggests some improvements that are generally appropriate. 	<ul style="list-style-type: none"> • Applies chemistry concepts and evidence from investigations to suggest some solutions to basic problems in new or familiar contexts. • Uses generally appropriate chemical terms, conventions, formulae, and equations, with some general effectiveness. • Applies generally constructive individual and collaborative work skills. 	<ul style="list-style-type: none"> • Demonstrates knowledge and understanding of a general range of chemistry concepts. • Uses knowledge of chemistry with some logic to understand and explain one or more social or environmental issues. • Uses different formats to communicate knowledge and understanding of chemistry, with some general effectiveness.
D	<ul style="list-style-type: none"> • Prepares the outline of a chemistry investigation. • Selects and may partly acknowledge one or more sources of information about chemistry or an issue in chemistry. • Uses apparatus and technological tools with inconsistent care and effectiveness and attempts to implement safe and ethical investigation procedures. • Obtains, records, and displays findings of investigations, using conventions and formats inconsistently, with occasional accuracy and effectiveness. 	<ul style="list-style-type: none"> • Describes basic connections between some data and concepts, and attempts to formulate a conclusion and make a simple prediction that may be relevant. • For some procedures, identifies improvements that may be made. 	<ul style="list-style-type: none"> • Applies some evidence to describe some basic problems and identify one or more simple solutions, in familiar contexts. • Attempts to use some chemical terms, conventions, formulae, and equations that may be appropriate. • Attempts individual work inconsistently, and contributes superficially to aspects of collaborative work. 	<ul style="list-style-type: none"> • Demonstrates some basic knowledge and partial understanding of chemistry concepts. • Identifies and explains some chemistry information that is relevant to one or more social or environmental issues. • Communicates basic information to others, using one or more formats.
E	<ul style="list-style-type: none"> • Identifies a simple procedure for a chemistry investigation. • Identifies a source of information about chemistry or an issue in chemistry. • Attempts to use apparatus and technological tools with limited effectiveness or attention to safe or ethical investigation procedures. • Attempts to record and display some descriptive information about an investigation, with limited accuracy or effectiveness. 	<ul style="list-style-type: none"> • Attempts to connect data with concepts, formulate a conclusion, and make a prediction. • Acknowledges the need for improvements in one or more procedures. 	<ul style="list-style-type: none"> • Identifies a basic problem and attempts to identify a solution in a familiar context. • Uses some chemical terms or formulae. • Shows emerging skills in individual and collaborative work. 	<ul style="list-style-type: none"> • Demonstrates some limited recognition and awareness of chemistry concepts. • Shows an emerging understanding that some chemistry information is relevant to social or environmental issues. • Attempts to communicate information about chemistry.