

Appendix A through G



Bridge Plan for Academic Validation [01/16/08]

For the most current information about the Bridge Plan, go to MdBridgePlan.org.

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Appendix A

Bridge Plan Student Forms

Instruction Sheet

There are four forms which must be signed by the student, his/her parent/guardian, project monitor, and designated school representative. Below is a brief description of each form.

Academic Validation Project Planner

The student will meet with a designated school representative, and possibly the content area teacher/department head where appropriate, to complete the Academic Validation Project Planner. Parent(s)/guardian(s) are encouraged to be part of this planning process as well.

Under the Project Module Section are four HSA content areas as well as brief descriptions of the Project Module's Content Expectations for each area.

Step 1: Write the student's highest HSA score in the appropriate HSA content area on the Assignment Calculator.

Step 2: Using the Assignment Chart, find the number of projects to be assigned to the student based on his/her HSA score.

Step 3: Select appropriate project modules. Record the modules selected on the Student Work Agreement Form.

Bridge Plan for Academic Validation Student Agreement

The student, his/her parent(s)/guardian(s), project monitor, and designated school representative complete the Bridge Plan for Academic Validation Student Agreement. The Student Agreement specifies:

- The Academic Validation Project Package - outlining the project modules from the Academic Validation Project Planner. All work submitted in the Academic Validation Project Package is to be completed by the student and thus meet the core values of academic integrity: truth, honesty, fairness, respect, and responsibility.

Bridge Plan for Academic Validation Schedule for Project Package Completion

The student, project monitor, and designated school representative develop a schedule of project module reviews and assign an expected Project Package completion date.

Academic Validation Project Package Submission Form

The student, his/her parent/guardian, project monitor, and designated school representative sign off on the project module materials included in the Academic Validation Project Package and ensure that the materials meet the core values of academic integrity: truth, honesty, fairness, respect, and responsibility.



Maryland High School Assessments

Date _____

Student Name _____

Student ID # _____

School _____

School System _____

Step 1: Write the student's highest HSA score in the appropriate HSA content area on the Assignment Calculator.

Step 2: Using the Assignment Chart, find the number of projects to be assigned to the student based on his/her HSA score.

Step 3: Select appropriate project modules. Record the modules selected on the Student Work Agreement Form.

Assignment Calculator		
Student's Highest HSA Score	HSA Content Area	No. of Projects Needed
	Algebra	
	English	
	Biology	
	Government	

Assignment Chart				
No. of Projects	Algebra	English	Biology	Government
One	390-411	374-395	378-399	372-393
Two	368-389	352-373	356-377	350-371
Three	346-367	330-351	334-355	328-349
Four	324-355	308-329	312-333	306-327
Five	302-333	286-307	290-311	284-305
Six	280-301	264-285	268-289	262-283
Seven	Below 280	Below 264	Below 268	Below 262

Appendix B Bridge Plan Project Package Planner Model

PROJECT MODULE SECTION

A student who must complete multiple project modules will be assigned a project module from each Content Expectation before being assigned any additional modules in a specific Content Expectation.

PROJECT CODE	CONTENT EXPECTATION (adopted from VSC/CLG*)
	ALGEBRA/DATA ANALYSIS
	A-a Analyzing Patterns and Functions
	A-b Modeling Real-World Situations
	A-c Collecting, Organizing & Analyzing Data
	A-d Using Data to Make Predictions
	ENGLISH
	E-a Reading Comprehension & Interpretation
	E-b Making Connections & Evaluations in Reading & Literature
	E-c Composing in a Variety of Modes
	E-d Controlling Written Language
	BIOLOGY
	Skills and Processes of Biology (Embedded in other expectations)
	B-a Structure and Function of Biological Molecules
	B-b Structure and Function of Cells & Organisms
	B-c Inheritance of Traits
	B-d Mechanism of Evolutionary Change
	B-e Interdependence of Organisms in the Biosphere
	GOVERNMENT
	G-a U.S. Government Structure, Function & Principles
	G-b Systems of Government & Foreign Policy
	G-c Protecting Rights & Maintaining Order
	G-d Impact of Geography on Governmental Policy
	G-e Economic Principles, Institution & Processes



Appendix C

Bridge Plan Student Agreement Model

Date _____

School _____

Student Name _____

School System _____

Student ID # _____

Anticipated Graduation Year _____

In accordance with the Maryland state graduation requirements, this student has not yet fulfilled the testing requirement. In order for the student to use the Bridge Plan for those High School Assessment (HSA) tests not passed, he/she must have taken the exam twice, participated in intervention activities, and met all eligibility criteria. The student's performance on the HSAs and participation in intervention activities are as follows:

	1st Time Testing		Appropriate Assistance		2nd Time Testing	
	Date	Score	Date	Type (<i>specify</i>) <i>classroom instruction, course, tutoring, independent study, other</i>	Date	Score
Algebra/ Data Analysis						
English						
Biology						
Government						

Indicate plan if applicable: ELL Plan Individualized Education Program 504 Plan

The student has met or is on schedule to meet all other state and local graduation requirements. At this time, the student, student's parent(s)/guardian(s), and designated school representative have agreed to employ the Bridge Plan for Academic Validation. Using the information from the student's Academic Validation Project Planner, check the HSA content area(s) for which the student will be completing project module(s):

Algebra/Data Analysis English Biology Government

Academic Validation Project Package

All parties, the student, his/her parent(s)/guardian(s), content area teacher/department head (if appropriate), and designated school representative, have agreed that the student will complete the following project modules, taken from the student's Academic Validation Project Planner, as his/her Academic Validation Project Package:

HSA Test	Project Module/Code	Project Title



Appendix D Bridge Plan Project Package Completion Schedule Model

Date _____ Student Name _____ Student ID # _____

School _____ School System _____ Anticipated Graduation Year _____

All parties, the student, his/her parent(s)/guardian(s), Project Monitor, and designated school representative, have agreed that the student will complete the following project modules, taken from the student's Academic Validation Project Planner, as his/her Academic Validation Project Package in accordance with the timeline below:

HSA Test	Project Module/Code	Progress Review Date	Student/Project Monitor Initials	Target Completion Date						

By signing this document, you are in agreement with the terms of the Bridge Plan for Academic Validation developed for this student and accept the responsibilities outlined above.

Student (Printed) _____ Signature _____ Project Monitor (Printed) _____ Signature _____

Student Parent/Guardian (Printed) _____ Signature _____ School Representative (Printed) _____ Signature _____





Appendix F

Bridge Plan Sample Project

Biology B-c.1

Students will demonstrate their understanding of biology through scientific inquiry. Given a real-world problem or scenario, they will design and conduct an investigation that incorporates the skills and processes and concepts of biology.

Expectation 3.1: The student will be able to explain the correlation between the structure and function of biologically important molecules and their relationship to cell processes.

3.1.3 The student will be able to compare the transfer and use of matter and energy in photosynthetic and non-photosynthetic organisms.

- photosynthesis (energy conversion: light, chemical; basic molecules involved)

Sample Project

Design, conduct, and evaluate an investigation to determine an effect of light intensity on the rate of photosynthesis. The investigation should be a controlled experiment and include research to support conclusions.

Sample Outline

1. Student is presented a real-world scenario or problem.
Example: Students on a biology field experience observe that there is less submerged aquatic vegetation (SAV) in a bay compared to their last visit. They also observe that the water appears cloudier. Several students pose the question, "Is there a relationship between the cloudiness of the bay water and the reduced number of plants?"
2. Student develops a hypothesis identifying the relationship between the amount of light and plant growth. (Hypotheses are assessed in biology.) A sample hypothesis is, "If the amount of light is reduced, plant growth will decrease."
3. Student designs a procedure to test the hypothesis in the laboratory. This procedure should also identify specific data to be collected and how this data will support the hypothesis. (Experimental design is assessed in biology.) A sample procedure is to place elodea in different test tubes and expose the aquatic plants to different light intensities. The number of bubbles released within a given period of time can be used to indicate the rate of photosynthesis and infer the growth rate.
 - Teacher provides materials and approves procedure and safety precautions before the student conducts the investigation. Suggested materials may include test tubes, elodea (aquatic plant), and different light sources. (Selecting materials, designing procedures, and identifying safe lab practices are assessed in biology.)
 - If students have conducted similar investigations during class, the scenario may be modified to test the effect of pH, salinity, dissolved nutrients, etc.
4. Student designs a data table. (Data collection is assessed in biology.)
5. Student conducts the experiment and collects data.
6. Student conducts repeat (multiple) trials using appropriate sample size. (Experimental design is assessed in biology.)
7. Student displays data in tables and/or graphs.
8. Student analyzes the data. (Data analysis is assessed in biology.)
9. Student develops and communicates conclusions using presentation software or appropriate technology. (Conclusions are assessed in biology.)
10. Student provides additional support for conclusions by providing an annotated bibliography with five reputable references to the effects of environmental factors on the survival of submerged aquatic vegetation.



Appendix F

Bridge Plan Sample Project

Biology B-c.1

Skills and Processes Are Integrated With the Concepts of Biology

Students demonstrate the ability to use the scientific skills and processes (Core Learning Goal 1) and major biological concepts to explain the correlation between the structure and function of biologically important molecules and their relationship to cell processes.

The following skills and processes are assessed during this sample project.

- 1.1.2 The student will modify or affirm scientific ideas according to accumulated evidence.
- 1.2.3 The student will formulate a working hypothesis.
- 1.2.4 The student will test a working hypothesis.
- 1.2.5 The student will select appropriate instruments and materials to conduct an investigation.
- 1.2.6 The student will identify appropriate methods for conducting an investigation (independent and dependent variables, proper controls, repeat trials, appropriate sample size, etc.).
- 1.3.2 The student will recognize safe laboratory procedures.
- 1.4.1 The student will organize data appropriately using techniques such as tables, graphs, and webs (for graphs: axes labeled with appropriate quantities, appropriate units on axes, axes labeled with appropriate intervals, independent and dependent variables on correct axes, appropriate title).
- 1.4.2 The student will analyze data to make predictions, decisions, or draw conclusions.
- 1.4.6 The student will describe trends revealed by data.
- 1.4.9 The student will use analyzed data to confirm, modify, or reject a hypothesis.
- 1.5.2 The student will explain scientific concepts and processes through drawing, writing, and/or oral communication.
- 1.5.3 The student will use computers and/or graphing calculators to produce the visual materials (tables, graphs, and spreadsheets) that will be used for communicating results.
- 1.5.4 The student will use tables, graphs, and displays to support arguments and claims in both written and oral communication.
- 1.5.6 The student will read a technical selection and interpret it appropriately.
- 1.5.9 The student will communicate conclusions derived through a synthesis of ideas.
- 1.7.1 The student will apply the skills, processes, and concepts of biology, chemistry, physics, or earth science to societal issues.



Appendix G

Bridge Plan Scoring Tool

Sample Project: Biology B-c.1

Overview

In order to satisfactorily complete this project, the student must:

- demonstrate understanding of twenty (20) indicators
- demonstrate understanding of at least one indicator within each category

Students earn credits by demonstrating their understanding of indicators. The indicators are organized into categories so that students address a variety of concepts and skills within each project.

Terms Used in the Scoring Tool Document

Term	Description
Category	A category is a group of objectives for which a student can receive credit.
Credit	A credit is a value obtained by successfully demonstrating achievement on an indicator.
Credit Cap	Each category has a credit cap. The credit cap ensures that a student demonstrates acceptable levels of understanding of concepts, skills, and processes from all categories in order to successfully complete the project.
Credits Earned	The credits earned is the sum of the credits earned for each category.
Indicator	This statement is developed from the Biology Core Learning Goals.

Category 1: Science Ideas and Investigative Approaches

A student must demonstrate understanding of at least one (1) indicator, but not more than four (4) in this category.

Credit	G/E/I*	Indicator Statement
	1.1.2	The student will modify or affirm scientific ideas according to accumulated evidence.
	1.2.3	The student will formulate a working hypothesis.
	1.2.4	The student will test a working hypothesis.
	1.2.5	The student will select appropriate instruments and materials to conduct an investigation.
	1.2.6	The student will identify appropriate methods for conducting an investigation (independent and dependent variables, proper controls, repeat trials, appropriate sample size, etc.).
0	Satisfactory Indicators in Category 1 (1 to 4) * Goal/Expectation/Indicator	

Comments

Category 2: Data Collection and Analysis

A student must demonstrate understanding of at least one (1) indicator, but not more than four (4) in this category.

	G/E/I*	Indicator Statement
	1.3.2	The student will recognize safe laboratory procedures.
	1.4.1	The student will organize data appropriately using techniques such as tables, graphs, and webs. <i>(for graphs: axes labeled with appropriate quantities, appropriate units on axes, axes labeled with appropriate intervals, independent and dependent variables on correct axes, appropriate title)</i>
	1.4.2	The student will analyze data to make predictions, decisions, or draw conclusions.
	1.4.6	The student will describe trends revealed by data.
	1.4.9	The student will use analyzed data to confirm, modify, or reject a hypothesis.
0	Satisfactory Indicators in Category 2 (1 to 4) * Goal/Expectation/Indicator	

Comments

Category 4: Science, Mathematics, and Technology

A student must demonstrate understanding of at least one (1) indicator, but not more than two (2) in this category.

Credit	G/E/I*	Indicator Statement
	1.6.1	The student will use ratio and proportion in appropriate situations to solve problems.
	1.6.4	The student will manipulate quantities and/or numerical values in algebraic equations.
	1.7.1	The student will apply the skills, processes and concepts of biology, chemistry, physics, or earth science to societal issues.
	1.7.2	The student will identify and evaluate the impact of scientific ideas and/or advancements in technology on society.
0	Satisfactory indicators in Category 4 (1 to 2) * Goal/Expectation/Indicator	

Comments

Category 5: Concepts of Biology

3.1 Expectation: The student will be able to explain the correlation between the structure and function of biologically important molecules and their relationship to cell processes.

A student must demonstrate understanding of at least one (1) indicator, but not more than ten (10) in this category.

Credit	G/E/I*	Indicator Statement
	3.1.1	water (<i>inorganic molecule, polarity, density, and solvent properties</i>)
	3.1.1	carbohydrates (<i>organic molecule; monosaccharides are building blocks; supplier of energy and dietary fiber; structural component of cells: cell wall, cellulose</i>)
	3.1.2	osmosis (<i>predicting water flow across a membrane based on the cell's environment; explain role in living systems</i>)
	3.1.2	temperature (<i>effect upon enzyme activity and metabolic rate; effect upon rate of diffusion and states of matter</i>)
	3.1.2	pH (<i>pH scale: relative values for acids and bases; effect on living systems: cellular, organismal</i>)
	3.1.3	photosynthesis (<i>energy conversion: light</i>)
	3.1.3	photosynthesis (<i>energy conversion: chemical</i>)
	3.1.3	photosynthesis (<i>basic molecules involved: carbon dioxide</i>)
	3.1.3	photosynthesis (<i>basic molecules involved: water</i>)
	3.1.3	photosynthesis (<i>basic molecules involved: sugar</i>)
	3.1.3	photosynthesis (<i>basic molecules involved: oxygen</i>)
	3.1.3	carbon cycle (<i>movement of carbon between living systems and the environment, cyclic relationship between photosynthesis and respiration</i>)
	3.1.3	cellular respiration (<i>distinctions between aerobic and anaerobic, energy released, use of oxygen; basic molecules involved in aerobic</i>)
	3.1.3	ATP (<i>energy carrier molecule</i>)
0	Satisfactory Indicators in Category 5 (1 to 10) * Goal/Expectation/Indicator	

Comments



Appendix G

Bridge Plan Scoring Tool

Sample Project: Biology B-c.1

Category 6: Miscellaneous

A student may demonstrate understanding of two indicators in this category. There is no minimum requirement.

Students may address modules in more depth or in ways that are not anticipated. Credit can be awarded for indicators that the student demonstrates understanding of but are not included in this scoring tool. The G/E/I and Indicator statement should be added to this scoring tool in order to document that the student displayed understanding of an indicator. Students may obtain up to 10% (2 credits) of the project value with credits in this category.

	G/E/I*	Indicator Statement
0	Satisfactory Indicators in Category 6 (0 to 2) * Goal/Expectation/Indicator	

Comments	
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Calculation of Credits Earned

Category 1		(maximum of 4)
Category 2		(maximum of 4)
Category 3		(maximum of 4)
Category 4		(maximum of 2)
Category 5		(maximum of 10)
Category 6		(maximum of 2)
Total		(minimum of 20 required)