Chesapeake Bay Governor's School for Marine and Environmental Science

Please note: Completed applications for selected students should be submitted to the CBGS Main Office by February 28, 2014

P.O. Box 1410
Tappahannock, VA. 22560
Phone: (804) 443-0267
Fax: (804) 443-4039
Website: www.cbgs.k12.va.us

GUIDANCE / COORDINATOR APPLICATION PACKET 2013 - 2014

Chesapeake Bay Governor's School
2013- 2014 Student Selection

Minimum Requirements for Students Interested in Applying to CBGS:

- 85th percentile or higher composite/total score on a standardized achievement with an 85th percentile or higher score on a math quantitative subtest
- "B" average for the current and previous school years (based on local grading scale)
- Successful completion of the following courses prior to attending CBGS:
  - Algebra I
  - Geometry
  - Two (2) high school credits in Science for juniors and one (1) for sophomores (Earth Science suggested)

Selection criteria will include:

- Measures of Academic Progress (MAP) Math (Reading & Science will be administered for data collection, possible inclusion in future selection criteria revision)
- Science Article Analysis/Writing Prompt
- Science Faculty Recommendation (with revised form)
- Math Faculty Recommendation (with revised form)
- Local Optional Interview (required to use standardized questions and rubric if local interview option is used)

Weighting of selection criteria:

Standard Application Weighting (Without interview)	Application with Interview
• MAP Math 30%	• MAP Math 30%
• Writing Prompt 20%	• Writing Prompt 20%
• Science Recommendation 15%	• Science Recommendation 10%
• Math Recommendation 15%	• Math Recommendation 10%
• GPA 20%	• GPA 20%
	• Interview/Interest 10%

Virginia Placement Test: (VPT scores are not used to determine CBGS eligibility.)

If selected for CBGS, students must complete the VPT. In order to receive dual enrollment credit for CBGS courses, the student must meet the scoring guidelines for the VPT set forth by the Virginia Community College System (VCCS) and Rappahannock Community College (RCC). Students must qualify for English 111 and pass a minimum of Math Modules 1-5. Acceptable scores that may be used in place of the VPT are listed below:

	PSAT	SAT	ACT
English/Writing	50	500	21
Reading	50	500	21
Mathematics	52	520	22

Applications are available in the Guidance Office or at www.cbgs.k12.va.us

Chesapeake Bay Governor's School

Overview of Program, Location, and Courses: The Chesapeake Bay Governor's School provides an educational option for high-ability and gifted students interested in or with an aptitude for math, science, and technology. Sophomores, juniors and seniors from fourteen participating school divisions in the Middle Peninsula and Northern Neck regions in Virginia attend the Governor's School during the morning at one of three sites: Rappahannock Community College-Glenns Campus, Rappahannock Community College-Warsaw Campus or Bowling Green High School in Caroline County.

Mission: The Chesapeake Bay Governor's School for Marine and Environmental Science provides a community of learners the opportunity to explore connections among the environment, math, science, and technology, and develops leaders who possess the research and technical skills, global perspective, and vision needed to address the challenges of a rapidly changing society.

Participating School Divisions:

RCC-Warsaw	RCC-Glenns	Bowling Green HS
Colonial Beach	Gloucester	Caroline
Essex	King & Queen	King George
Lancaster	Mathews	King William
Northumberland	Middlesex	
Richmond County	New Kent	
Westmoreland		

Courses Offered:

Sophomore-10th Grade	Junior-11th Grade	Senior- 12th Grade
Biology	Chemistry	Physics
Advanced Algebra II or Pre-Calculus	Pre-Calculus or Calculus I	Calculus or Calculus II Statistics
Foundations of Science	Marine & Environmental Science I	Marine & Environmental Science II
Outdoor Adventures – Required Field Studies program		

Chesapeake Bay Governor's School

for Marine and Environmental Science

Student Profile

Student Name: _____ School: _____

To be completed by Counselor

1. <u>Compiled Data</u>

Science Writing Prompt Score _____

Teacher Recommendation Scores: Math _____ Science_____

MAP Math Score_____

GPA Score _____

Interview Score (optional)_____

2. <u>Testing Information</u>

A. *Achievement Scores* (from most recent standardized tests using NPCT)

PSAT _____Verbal _____Quantitative Date:_____

SAT _____Verbal _____Quantitative Date:_____

MAP _____Math _____Science _____Total Composite Date: _____

B. *Additional Testing Information*

SOLs _____Algebra II _____Earth Science _____Biology _____Chemistry

Virginia Placement Test _____ (Math) Qualifies for _____

_____ (Reading) Qualifies for _____

_____ (Writing) Qualifies for _____

(Acceptable scores English 111 / Math Modules 1-5 or higher)

3. <u>Grade Point Average</u> (high school credit courses)

_____GPA ☐ Weighted ☐ Unweighted

4. <u>Transcript</u>

Please attach a copy of the student's transcript, test scores, and any supporting materials (SAT, PSAT, etc.). Transcript must include most recent semester grades. Also, include a copy of the student's most recent report card.

X_____ _____

Counselor's Signature Date

Chesapeake Bay Governor's School

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Student Selection Form *(<u>without interview</u>)*

Student Name: _____

<u>Science Writing Prompt (20%)</u>

Reader A _____ (0-10)

Reader B _____ (0-10)

<u>Teacher Recommendations (30%)</u>

	15	**14**	**13**	**12**	**11**	**9**	**7**	**5**	**3**	**1**	**0**	
Math (15%)	(132-129)	(128-124)	(123-118)	(117-111)	(110-103)	(102-94)	(93-84)	(83-73)	(72-61)	(60-48)	(48 - ↓)	_____ (0-15)

	15	**14**	**13**	**12**	**11**	**9**	**7**	**5**	**3**	**1**	**0**	
Science (15%)	(132-129)	(128-124)	(123-118)	(117-111)	(110-103)	(102-94)	(93-84)	(83-73)	(72-61)	(60-48)	(48 - ↓)	_____ (0-15)

<u>Measures of Academic Progress (MAP) (30%)</u>

	30	**25**	**20**	**15**	**10**	**5**	**0**	
Math Achievement (%ile rank)	(99)	(98)	(97-96)	(95-93)	(92-89)	(88-85)	(84 - ↓)	_____ (0-30)

<u>Grade Point Average (20%)</u>

	20	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**	**0**	
GPA	(4.0 - ↑)	(3.99-3.97)	(3.96-3.92)	(3.91-3.85)	(3.84-3.76)	(3.75-3.65)	(3.64-3.52)	(3.51-3.37)	(3.36-3.20)	(3.19-3.00)	(2.99 - ↓)	_____ (0-20)

Total: _____ (100)

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Student Selection Form *(<u>with interview</u>)*

Student Name: _____

<u>Science Writing Prompt (20%)</u>

Reader A _____ (0-10)

Reader B _____ (0-10)

<u>Teacher Recommendations (20%)</u>

	10	**9**	**8**	**7**	**6**	**5**	**4**	**3**	**2**	**1**	**0**	
Math (10%)	(132-129)	(128-124)	(123-118)	(117-111)	(110-103)	(102-94)	(93-84)	(83-73)	(72-61)	(60-48)	(48 - ↓)	_____ (0-10)
Science (10%)	(132-129)	(128-124)	(123-118)	(117-111)	(110-103)	(102-94)	(93-84)	(83-73)	(72-61)	(60-48)	(48 - ↓)	_____ (0-10)

<u>Measures of Academic Progress (MAP) (30%)</u>

	30	**25**	**20**	**15**	**10**	**5**	**0**	
Math Achievement (%ile rank)	(99)	(98)	(97-96)	(95-93)	(92-89)	(88-85)	(84 - ↓)	_____ (0-30)

<u>Grade Point Average (20%)</u>

	20	**18**	**16**	**14**	**12**	**10**	**8**	**6**	**4**	**2**	**0**	
GPA	(4.0 - ↑)	(3.99-3.97)	(3.96-3.92)	(3.91-3.85)	(3.84-3.76)	(3.75-3.65)	(3.64-3.52)	(3.51-3.37)	(3.36-3.20)	(3.19-3.00)	(2.99 - ↓)	_____ (0-20)

<u>Interview (10%)</u>

Student Panel Interview _____ (0-10)

Total: _____ (100)

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Student Interview Rubric *(optional)*

Student Name: _____

Directions for Interviewers:

Please rate this candidate for each category when comparing him or her to other applicants. Please use the rating scale provided below, with 0 indicating a low level of demonstration of the characteristic and 2 indicating the highest level of demonstration of the characteristic. *Suggested interview questions are attached.*

TIME MANAGEMENT

Able to meet deadlines for multiple tasks, plans ahead

0	1	2

INTEREST IN THE PROGRAM

Has a strong desire to attend CBGS

0	1	2

COMMITMENT

Demonstrates follow-through, successfully navigates obstacles to a task, shows perseverance

0	1	2

COLLABORATION/TEAM WORK

Contributes to the team whether in a supporting or leadership role, values and respects the contributions of others

0	1	2

POTENTIAL TO BENEFIT FROM THE OPPORTUNITY

Academic and/or social-emotional needs are not being met in the traditional classroom setting

0	1	2

TOTAL SCORE: _____

Interviewer Name: _____ **Date: _____**

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Suggested Interview Questions *(optional)*

- Describe a time when you were part of a team and how you contributed to the task.
- Describe your typical day.
- Can you give an example of when you had to persevere in order to achieve a goal?
- Can you give an example of having to give up something good for the sake of something better?
- What are your educational goals?
- What do you want to be when you grow up and how do you think you will get there?
- If you had $1,000 to give away, who would you give it to and why?
- If you caught a friend cheating, how would you handle it?
- What is it about Governor's School that interests you?
- What are your top three priorities?
- Recommend your favorite book or movie and explain why it is your favorite.
- What motivates you to do well?
- If you could be any fictional character, who would you chose and why?
- If you could pick any character from Little Red Riding Hood, who would it be and why?
- What do you anticipate will be your greatest challenge?

Chesapeake Bay Governor's School

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Writing Prompt

Student Name: _____

Directions for Student:

Please choose one of the science articles attached, read it carefully, and then compose an essay that includes answers to the following questions:

1. What is the major theme of the article?
2. In your own words, explain the meaning and significance of the environmental issue presented.
3. What inferences can be drawn from the information presented in the article?
4. What additional research might you want to conduct that could build on the information presented in the article?

Your essay will be evaluated using the following rubric:

Points	***Descriptor***
0	Provides no response or a response inappropriate to the article
4	Limited, vague, inaccurate, confusing, may quote from article, but not in meaningful sense
6	Simplistic, literal statements; only presents part of the issue
8	Meets expectations, addresses the issue and offers support; uses article ideas well
10	Exceeds expectations; insightful response that offers fluent, substantial support; research ideas are valid

You have 30 minutes to write your essay.

Chesapeake Bay Governor's School

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Writing Prompt: Article #1

Infections That Can Jump From Animals to People May Find Bats A Fine Place to Lurk

A new study by David Hayman and others at Colorado State University suggests that bat species may be more likely than rodent species to carry viruses that are known to jump from other animals to humans. Per species, bats also harbor more known viruses than rodents, called virus "richness." This includes viruses that infect only wildlife as well as viruses that may also infect people, says Angela Luis of Colorado State University in Fort Collins. On average a bat virus also has a greater number of species it can infect, Luis and her colleagues reported. Because bats live together in large groups, when species intermingle in a roost, they may share viruses with one another.

Recent years have brought headlines about scary viruses jumping from bats to people. The virus that caused the global SARS outbreak in 2003 and South Asia's emerging Nipah virus have been traced to bats. Rodents, in the meantime, spread other emerging diseases such as Hantavirus pulmonary syndrome and Lassa hemorrhagic fever. The possibility that gruesome outbreaks may arise from bat viruses feeds worries about bats. "The public — and scientists — often suffer from saliency bias, where we remember dramatic events and believe they occur more frequently than other less-dramatic ones," says veterinary epidemiologist Jonathan Epstein of EcoHealth Alliance, an environmental health nonprofit in New York City. He welcomes the Colorado State study as it attempts to quantify comparisons of virus "richness."
Luis and her colleagues analyzed scientific papers on viruses among the world's 1,000-plus bat species and the roughly 2,000 rodent species. Even though more studies have been published on rodent viruses, bats still ended up with more documented viruses per species. On average, a particular bat species harbors 1.79 viruses known to infect people while a particular rodent species harbors 1.48 viruses.

Trying to tease out what might cause such viral wealth, the researchers found that among bats, species sharing a region with other species of bats were more likely to carry higher numbers of viruses. The same effect was not nearly as strong in rodents. Many bat species mingle in roosts, Luis notes, but "there's not a place where rodents hang out together in the millions."
That link between overlapping habitats and virus numbers suggests that people watching for emerging diseases might pay special attention to places with high levels of mammal diversity, notes Kevin Olival, also with EcoHealth.

Olival also points out that there are other animal groups to consider. There is no doubt that bats host many viruses that humans can catch, he says. "But I think many people would say the jury is still out on whether or not they are the most important group of mammals." Epstein cautions that biologists still don't understand very much about bat physiology and immune systems. An important question that remains unanswered is whether bats are somehow more capable than rodents of carrying species-jumping viruses. Regardless, Luis says, bats are "doing really important things" for ecosystems and for people, such as saving farmers several billion dollars a year in pest-control costs by eating insects. Bats are also pollinators.

The problem is not bats but people. When the fast-growing human population crowds into what once were wildlife-only domains, viruses have more chances to jump between species. As David Hayman says, "Putting some distance between people and bats may be good for both."

Science News
February 7, 2013

Chesapeake Bay Governor's School

for Marine and Environmental Science

Writing Prompt: Article #2

Caffeine as a Sewage Contamination Indicator

Researchers led by Sébastien Sauvé of the University of Montreal's Department of Chemistry have discovered that traces of caffeine are a useful indicator of sewage contamination. The study "Fecal coliforms, caffeine and carbamazepine in storm water collection systems in a large urban area" was published in the online journal *Chemosphere* on November 8, 2011.

"E. coli bacteria is commonly used to both evaluate and regulate the levels of fecal pollution of our waterways due to storm water discharge. However, because the storm sewer systems in our urban areas collect surface runoff, non-human sources of fecal coliforms can also contribute significantly to the levels that are observed," Sauvé explained. [All warm blooded animals have coliform bacteria in their fecal wastes.] "Our study has determined that there is a strong correlation between the levels of caffeine and the levels of fecal coliforms in water. Therefore it seems that chemists could then use caffeine levels as an indicator of water pollution due to sewage systems."

The researchers took water samples from streams, brooks and storm sewer outfall pipes in Montreal, and analyzed them for caffeine, fecal coliforms, and a third suspected indicator, carbamazepine. Shockingly, all the samples contained these contaminants, which would suggest that contamination is widespread in urban environments. Carbamazepine is an anti-seizure drug which is also increasingly used for various psychiatric treatments, and the researchers thought it might be a useful indicator because it degrades very slowly. However, no correlation between it and sewage was found. A correlation between sewage and caffeine was found.

Caffeine degrades within a few months in the environment and is also very widely consumed. The presence of caffeine is also a sure indicator of human sewage contamination, as agriculture and industry do not tend to release caffeine into the environment. The team also noted that the data suggests that Montreal's storm water collection system is widely contaminated by household sewers. On the other hand, the researchers observed high levels of fecal coliforms but little or no caffeine in some of the samples. They attribute these coliforms, therefore, to urban wildlife.

"This data reveals that any water samples containing more than the equivalent of ten cups of coffee diluted in an Olympic-size swimming pool is definitely contaminated with fecal coliforms," Sauvé said. "A caffeine sampling program would be relatively easy to implement and might provide a useful tool to identify sewage contamination sources and help reduce surface water contamination within an urban watershed."

BioTech News
May 16, 2013

CHESAPEAKE BAY GOVERNOR'S SCHOOL
COUNSELOR'S CHECKLIST

APPLICANT'S NAME_____SCHOOL_____

APPLICATION PACKET	Date Requested	Date Completed
Signed Application		
Extracurricular, Honors Form		
Student Essay		
Dual Enrollment Application		
Science Faculty Recommendation Name:		
Mathematics Faculty Recommendation Name:		
Interview or Interest statement (local decision)		
National Normed Achievement Test		
Virginia Placement Test Scheduled		
Student Profile Form		
Other Information		

ACTION SUMMARY

Identification/Placement Committee Meeting Date: _____

_____ The ID/Placement Committee believes that the applicant qualifies for acceptance in the Chesapeake Bay Governor's School for Marine and Environmental Science.

_____ The ID/Placement Committee believes that the applicant qualifies for acceptance, but will be placed on a waiting list (pool of applicants). Due to limited slots, there is currently no space available.

_____ The ID/Placement Committee believes that the applicant does not qualify for acceptance in the Chesapeake Bay Governor's School for Marine and Environmental Science.

COMMITTEE MEMBER **POSITION** **COMMITTEE MEMBER** **POSITION**

_____ _____

_____ _____

_____ _____