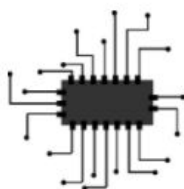


NG-STEM: NIGHTINGALE MIDDLE SCHOOL'S GIFTED STEM MAGNET



TRANSFORMING OUR WORLD THROUGH THE POWERS OF S.T.E.M.

IMPORTANT NOTE: The guiding question, reflection questions and rubric were adapted from [LAHSA's Portfolio and Defense Student Handbook](#).

Guiding Question: How has the STEM Magnet prepared you for college and career?

Timeline: Students had five weeks to prepare for their Portfolio & Defense presentations. All preparations took place in the English class, which meets daily for 47 minutes (except on Tuesdays when classes are 37 minutes long).

WEEK	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
1	Reflection on STEM pathway outcomes in Google Docs (How and when have you demonstrated...)	Present criteria for work samples, create & share STEM portfolio on Google Drive	Assemble portfolio by identifying, screenshotting and archiving work samples in STEM portfolio folder	Assemble portfolio by identifying, screenshotting and archiving work samples in STEM portfolio folder	Using Script Document , begin Introduction Paragraph in Google Docs
2	Using Script Document , begin Pathway Outcome Paragraph in Google Docs	Using Script Document , begin Growth Paragraph in Google Docs	Using Script Document , begin Growth Paragraph in Google Docs	Using Script Document , begin College & Career Paragraph in Google Docs	Using Script Document , begin Conclusion Paragraph in Google Docs
3	Create all pages (Portfolio page , Pathway Outcome page , Growth page , College & Career page)	Link all pages (buttons on the home page, titles of each page link to next page)	Setup Pathway Outcome page (photos of work samples and text)	Setup Growth page (photos of work samples and text)	Setup College & Career page (photos of work samples and text)
4	Review the portfolio and defense rubric and improve anything that	Presentation skills workshop (Q&A) using protocol	Presentation skills workshop (note cards) using Portfolio	Presentation skills workshop (voice) using HyaWave	Presentation skills workshop (body) using FlipGrid

	does not meet expectations		Alignment document		
5	1s and 2s lead mock presentations using Weebly in small groups for feedback	3s and 4s lead mock presentations using Weebly in small groups for feedback	Students incorporate feedback into presentation materials/script	Students review presentation materials and script according to rubric	Portfolio & Defense Presentations

NMS Portfolio Reflection Script

We used the following questions and sentence stems to guide students as they developed their portfolio reflection. Students chose whether they would use the questions or the sentence stems.

Introduction Paragraph

Good afternoon, I am ... and I am an eighth grader in the STEM/BET Magnet. This year, I learned how to...in my Engineering/Entrepreneurship class. Those projects include.... In my ___ class, I learned how to...In regard to my future, I also learned about...I hope to one day...

Pathway Outcome Paragraph

Why did you decide to join STEM/BET?

What have you learned about Science, Technology, Engineering, Math or Entrepreneurship (if you're in BET)?

Which assignment will you present?

What class was it for?

What did you need to know to complete this assignment?

What did you have to do to complete this assignment?

Which pathway outcome does this assignment demonstrate?

How does this assignment demonstrate that pathway outcome?

I decided to join STEM/BET because... I have learned that STEM/BET is about...The assignment I've selected to present is...I completed this (project/essay/lab/etc) in my...In order to complete this (project/essay/lab/etc) I needed to know about...I also needed to know how to...My (project/essay/lab/etc) demonstrates the pathway outcome of...I demonstrated the pathway outcome by...

Academic Growth Paragraph

What key skill(s) have you developed while at STEM/BET?

What assignment will you present as the first example of your academic growth?

What class is it for?

What did you need to know to complete this assignment?

What were you capable of doing on this assignment?

What assignment will you present as your second example of your academic growth?

NMS Portfolio & Defense Handbook

What did you do different on this assignment than the first example?
What led to the changes in your skill ability?
How will you use this skill in high school and beyond?

A key skill I developed while at STEM/BET has been...My (project/essay/lab) in my...class demonstrates what I was capable of before. In order to complete this assignment, I needed to know about...In comparison, my (project/essay/lab) in my...class demonstrates what I am capable of now. I can now...My academic growth resulted from...I will use the skill of...in high school and beyond by...

College & Career Paragraph

How has STEM prepared you for college and/or career?
Which assignment will you present?
What class was it for?
What did you need to know to complete this assignment?
What did you have to do to complete this assignment?
How will you use what you've learned from this assignment in high school and beyond?

STEM has prepared me for college by...The assignment I would like to present is..I completed this assignment in my...In order to complete my (name of the assignment), I needed to know about...I also needed to know how to...I will use what I've learned from this assignment when I'm older to...

Conclusion Paragraph

What is one academic goal you have for yourself in the coming year?
What will you need to achieve it?
What do you plan to pursue first, college or career?
How did you make the decision to pursue college or career first?
What is a goal you have set for yourself to accomplish by the time you are twenty?
How has the work you've done at STEM/BET helped you prepare to achieve that goal?
Anything else you'd like to share with the panel?

In closing, an academic goal I have set for myself in the coming year is to...In order to achieve this, I will need to...In regard to my future, I plan to pursue (college/career) first. I have decided to do that because...A goal I have set for myself to accomplish by the time I am twenty is...The work I have done at STEM has prepared me to achieve this goal by...Thank you for your time and consideration. Any questions?

Website

We decided to use a website as the platform for the portfolio presentation because we want students to use this website for college and career admission in a few years. We recommend using [Weebly](#) or [Wix](#) because students can sign up with their LAUSD Gmail account and the sites are user friendly.

NMS Portfolio & Defense Handbook

Students had access to a [model page](#) at all times. They created four pages on their site.

- [Portfolio Page](#)
 - The student will type the title, "Portfolio"
 - Underneath the title, they will type their first initial and last name (ie: G. Mayorga)
 - The student will create three buttons underneath their name. The first button should be titled Pathway Outcome, the second button should be titled Growth and the third button should be titled College & Career.
 - Students should link each button to the appropriate page.
- [Pathway Outcome Page](#)
 - Students will title the page, "Pathway Outcome."
 - Students will state what Pathway Outcome they have demonstrated.
 - Students will write one sentence that explains how they demonstrated the Pathway Outcome.
 - Students will include a photograph of the project/assignment that demonstrates the Pathway Outcome.
- [Growth Page](#)
 - Students will title the page, "Growth"
 - Students will state what skill they improved.
 - Students will write one sentence that explains their ability in the first worksample.
 - Students will include a photograph of the first project/assignment.
 - Students will write one sentence that explains their improved abilities in the second worksample.
 - Students will include a photograph of the second project/assignment.
- [College & Career Page](#)
 - Students will title the page, "College and Career"
 - Students will state how STEM helped them prepare for college and/or career.
 - Students will write one sentence that explains the worksample they've included for college and/or career.
 - Students will include a photograph of the project/assignment that demonstrates how they were prepared for college and/or career while at STEM.

[The Rubric](#)

Our rubric was adapted from [LAHSA's rubric](#). We kept the language from the the proficient column and the levels of mastery, but added a numeric component. We set the total points possible based on earning proficient in all categories. That way, a student who is advanced can earn over a hundred percent, while a student who is developing is not severely penalized. We set the passing score at 70%, which requires a student to earn 14 out of 20 points.

Standards	Not Present	Emerging	Proficient	Advanced
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Mastery of Knowledge: <i>What does this student know?</i>				
<ul style="list-style-type: none"> Demonstrates detailed content knowledge through each artifact, including context of each artifact 	0	1	2	3
<ul style="list-style-type: none"> Relates knowledge to the world around him/her 	0	1	2	3
Metacognition: <i>How reflective is this student?</i>				
<ul style="list-style-type: none"> Recognizes and discusses his/her growth, accomplishments and successes 	0	1	2	3
<ul style="list-style-type: none"> Honestly sets goals and discusses a concrete plan/strategy to achieve these goals 	0	1	2	3
Presentation Materials: <i>How does the student present their learning?</i>				
<ul style="list-style-type: none"> Describes digital and/or visual elements to demonstrate their learning 	0	1	2	3
<ul style="list-style-type: none"> Has clear and well-organized presentation (with beginning, middle and end, and utilizes appropriate transitions) 	0	1	2	3
Presentation Skills: <i>What is the evidence that the student can give a formal presentation?</i>				
<ul style="list-style-type: none"> Shows command of all presentation skills: body, posture, language, eye contact, voice and timing. 	0	1	2	3
<ul style="list-style-type: none"> Communicates clearly and uses effective language to convey a thesis, ideas and opinions in defense of his/her learning. 	0	1	2	3
Questions and Comments: <i>What is the evidence that the student can respond to spontaneous questions appropriately?</i>				
<ul style="list-style-type: none"> Responds directly to questions and comments from members of the panel 	0	1	2	3
<ul style="list-style-type: none"> Uses evidence/examples to convincingly support answers to questions 	0	1	2	3
	_____ points earned out of 20 points possible *Must earn 14 out of 20 points to pass			

Setting up the Presentation Schedule

- A sheet of paper with the lead teacher's name and a timeslot was cut up and placed in a container. Students randomly selected a paper for their initial timeslots.

- The teacher overseeing the presentation materials later made suggestions for struggling students to be placed later in the presentation day.
- The schedule allowed two presentations per class period. Each class is 47 minutes long and each presentation was scheduled to be around 21 minutes.
- Students filled out notification forms for the teacher whose class they would miss in order to deliver their presentation. Students delivered the notifications two days before the presentation to ensure they would know how and when to complete the work they missed.

Recruiting Panelists

- Panels would be composed of three people ranging from school staff, community members to industry professionals.
- It was decided that the Defense Presentations would take place on either a Friday or Monday so more industry professionals could participate.
- The three pathway teachers took the day off to serve as lead teachers on each panel.
- An email was sent to the Nightingale staff requesting their participation as panelists. Several teachers served during their conference period. The principal and assistant principal served during different periods so one administrator would be available for school issues at all times.
- The co-lead is currently taking classes at a local community college. They invited their classmates to serve as panelists. Three classmates participated.

Presentation Format

- Classroom teacher sets up website
- Presenters share: (10-15 minutes)
 - assignment that demonstrates a STEM Pathway Outcome (listed at right)
 - two assignments that demonstrate their academic growth
 - an assignment that demonstrates their preparation for college and career.
- Panel shares two wows and one wonder in initial feedback (2 minutes)
- Panel asks the presenter clarifying and reflection questions (4 minutes)
 - You mentioned...Could you tell me more about...
 - How might you...
 - Would you consider...
 - What has this experience taught you?
 - How did you develop that idea?
 - Why did you choose that artifact/work sample/assignment?

Additional Notes

- Set up all classrooms for presentations the day before
- Distribute all rubrics the day before
- Have light snacks and water available for panelists