

# STEM Summer Assignment 2019

The STEM Academy will embark on similar journey as summer's past - the **Choose Your Own STEM Adventure**. In order to complete the adventure, each student will choose assignment(s) from the provided list. Each student needs to **CHOOSE ONE OF THE OPTIONS BELOW** to complete over the course of the summer. This will be assessed through a creative presentation of 2-3 minutes - POWERPOINTS AND POSTER BOARDS ARE NOT ALLOWED! Be creative and innovative. **Ideas for presentations include: an original TED-Talk, a video presentation, an original web-site, a professional (not tri-fold) poster, a prototype, or other creative outlet.** The presentation expectations are found on the attached rubric.

1. Volunteer (Service Learning) a minimum of 8 hours. Prepare a presentation relating the experience to the STEM Habits and d.School process. Ideas include: STEM Camp, see Mrs. McInturff (teal.mcinturff@knoxschools.org) for more information.
  - Give a detailed description of work done; include explanations as appropriate, so that audience understands scope of work.
  - Exposure to something that was unexpected or description of new learning
  - Describe your thoughts, emotions, and feelings regarding your experience. Include things that you may have learned about yourself or challenges you may have faced and/or how you went about solving challenges.
  - Include pictures/visuals of your experience. No children's faces should be captured in photos. Broad, general, experiment type pictures.

Prepare a presentation for advisory, connecting the volunteer experience to our STEM habits and the d.school process, examining and providing solutions to the problem that made the volunteer opportunity necessary.

2. Job Shadow (and then Interview) someone in a STEM occupation for a minimum of 8 hours. Prepare a presentation relating the experience to the STEM Habits and the d.School process. Students **MAY NOT** job shadow a relative, but may participate in the same place a relative works. The job shadow **MAY NOT** count towards endorsement. Information to be included:
  - Current title and role of individual
  - Educational preparation required – years of schooling, degrees, continuing education
  - Why he or she chose this profession
  - A brief description of the field/career
  - Current salary ranges, including starting salary
  - Skills and strengths needed for success in the field
  - Suggestions that the individual you are interviewing has for you as a STEM student

After you complete the interview, respond to the following reflection questions: What impressions do you have about this career? In what ways does it meet, exceed, or fail to meet your expectations? In what ways are you surprised by what you've learned?

3. Use the d.School process to solve a problem. Your choice, be creative, bonus points for implementing a solution OUTSIDE of your world, and prepare a presentation.
4. Read a STEMish novel of a minimum of 300 pages. Prepare a presentation relating the book to the STEM Habits and the d.School process. Some possibilities include: *Across the Universe*, Beth Revis, *Adaptation*, Matlinda Lo, *Bomb: The Race to Build – and Steal – the World's Most Dangerous Weapon*, Steve Sheinkin, BZRK, Michael Grant, *Cinder*, Marissa Meyer, *Coda*, Lydia King, *Handmaid's Tale*, Margret Atwood, *Insignia*, S.J. Kincaid, *This Mortal Coil*, Emily Savada, *Timeline*, Michael Crichton. **Parental note: Please understand most of these novels contain varying degrees of profanity, or adult content and themes. These are merely suggested titles due to their STEM themes; students are invited to research with their parents to find alternates with similar STEM connections which are acceptable within familial restrictions.**
5. Watch a series of five TEDx talks designed to inform, inspire and make you think. Then prepare a presentation relating the talks to the STEM Habits, the d.School design process, and the future of STEM Education (100 pts.). These can be found searching TEDx or YouTube for titles supported specifically by TEDx. The videos must be academically based, school appropriate, and related to STEM content.
6. **Class of 2022 Only:** (choose one of the following A or B)
  - A. Sophomore STEM Orientation. 8/1/19 from 6PM to 8PM (Program will begin at 6:45PM if you decide not to eat dinner). Students will engage with STEMbassador leaders to learn about STEM Habits and the Stanford d.School process through hands-on activities. This is a family event with breakout sessions for students and parents to learn about STEM Academy at HVA, and dinner can be purchased for \$5 in the atrium prior to the sessions. Students will be required to present beginning August 12, during flight time, details will be shared by STEMbassadors during breakout sessions. More details will follow via Robo-call and STEM Academy website. Please RSVP by July 26 so we can plan food accordingly.
    - Please RSVP by clicking the following link <https://tinyurl.com/2020STEMORIENTATION> no later than July 26.
  - B. Go to [www.collegefortn.org](http://www.collegefortn.org). If you were a 9<sup>th</sup> grader at HVA, skip to step 2. (You've already completed the surveys.)
    1. Create an account and complete the surveys (interests, values, skills, learning style, personality) under "Learn About Yourself" tab at top.
    2. Go to "Career" tab and select "Explore" under "Find a Career", sort the list by "Match", then sort by "Hiring Trend", complete a Job Survey including 5 to 7 jobs from "High to Medium" Match and "Very High to Medium" Hiring Trend.
    3. Students will need to prepare a 2-3 minute presentation with a visual (NO POSTERBOARD or POWERPOINT). The presentation should include information on 5 to 7 careers including the following researched information: minimum and average salary, education/training required, job skills required, top companies, duties, and career pathways (found by hovering over the job in the listings).

Summer Assignments will be presented upon return to school beginning August 12, 2019

For more information go to <https://www.knoxschools.org/hardinvalley> or [rudy.furman@knoxschools.org](mailto:rudy.furman@knoxschools.org)

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## Presentation Rubric

	<b>Exemplary – 12</b>	<b>Commendable – 9</b>	<b>Acceptable – 8</b>	<b>Revisit – 5</b>
Introduction and time limit	Presenter powerfully introduces the topic and Essential Question. Presentation adheres to 3-5 minute time limit.	Presenter clearly introduces the topic and Essential Question. Presentation is slightly longer than 5 minute time limit.	Presenter introduces Essential Question. Presentation is slightly shorter than 3 minute minimum.	Presenter does not introduce Essential question. Presentation is significantly out of time range (above or below).
Diction and eye contact	Presenter speaks clearly and uses appropriate volume and pacing. Presenter maintains eye contact.	Presenter speaks clearly and loud enough to be heard. Presenter makes eye contact frequently.	Presenter can be heard. Presenter makes some eye contact with the audience.	Presenter is difficult to hear. Presenter makes little eye contact, reads presentation.
STEM Habits connection	Presenter clearly understands STEM habits and draws strong connections to each.	Presenter has partial understanding of STEM habits and draws some connections.	Presenter shows little understanding of STEM habits and makes minimal connections.	Presenter does not demonstrate understanding of STEM habits and/or does not draw connections.
d.school Engineering Design Connection	Presenter clearly understands Design process and draws strong connections.	Presenter has partial understanding of design process and draws some connections.	Presenter shows little understanding of design process and makes minimal connections.	Presenter does not demonstrate understanding of design process and/or does not draw connections.
Information	Information is accurate and relevant; details and examples are carefully chosen to make the exhibition more meaningful.	Information is accurate and relevant; details and examples are used.	Information is accurate and covers the major issues surrounding the topic.	Information is inaccurate or significant information is left out.
Conclusion	The presenter answers the EQ with valid and convincing evidence.	The presenter answers the EQ with valid evidence.	The presenter answers the EQ with some evidence.	Presenter does not answer EQ.
Visual aids NO POWERPOINTS NO POSTER BOARDS	Visuals are skillfully executed, effectively incorporated into the exhibition, and are used to make the exhibition more meaningful.	Visuals are competently executed, used to complement the information and make the exhibition more interesting.	Visuals can be seen clearly and convey relevant and accurate information about the topic.	Visuals are poorly executed, lacks connection to topic.
Works cited and image citations	Presenter flawlessly cites multiple resources showing varied media and citation of images.	Presenter correctly cites most resources showing varied media and citation of images.	Presenter makes minimal citations or incorrectly cites few resources, including citation of images.	Presenter does not cite resources or images.