



HEADWAYS for STEM Teachers **2019-2020 Schedule and Topics**

HEADWAYS for STEM Teachers will be facilitated by Christianne Loupelle, Science Department Head, STEAM Coordinator, and Teacher at Trafalgar School for Girls. Dates and times for the five discussions will be announced in mid-August.

❖ ***The Importance of Inquiry in STEM***

Topics to consider: Different types of inquiry, making room for inquiry in content heavy courses, student agency in inquiry, teacher role in inquiry, design thinking, scientific method, QUEST, project based learning (PBL), phenomenon based learning, (PhBL), authentic performance tasks linked to real issues, importance of student agency, inquiry-based careers in STEM

❖ ***Mindsets in STEM***

Topics to consider: Attitudes, behaviors and skills that need to be nurtured for successful STEM projects (patience, resiliency, problem solving, critical thinking, innovator's mindset, maker's mindset, entrepreneurial mindset, broadening reflexivity to change mindsets); importance of student reflection on problems, challenges, roadblocks, successes, surprises; developing mindsets through iterative nature; journaling and drawing in STEM.

❖ ***Purposeful Making across STEM Classes***

Topics to consider: Usefulness of tools (cutters, 3D printers, carpentry tools), need and use of shared spaces within schools that act as a maker lab, gallery walk of what people are doing within the NCGS community (show and tell or idea exchange)

❖ ***Partnerships within the Community to Foster STEM***

Topics to consider: Mentoring possibilities (Technovation, Girls Who Code), program enrichment (space constraints and curriculum), what to look for in a partnership.

❖ ***Maintaining Interest in STEM Areas of Study during School and Beyond***

Topics to consider: Enrichment programs, the impact of early coding and robotics for girls, incorporation of Hard Fun, does early intervention and support translate to more girls in STEM?