

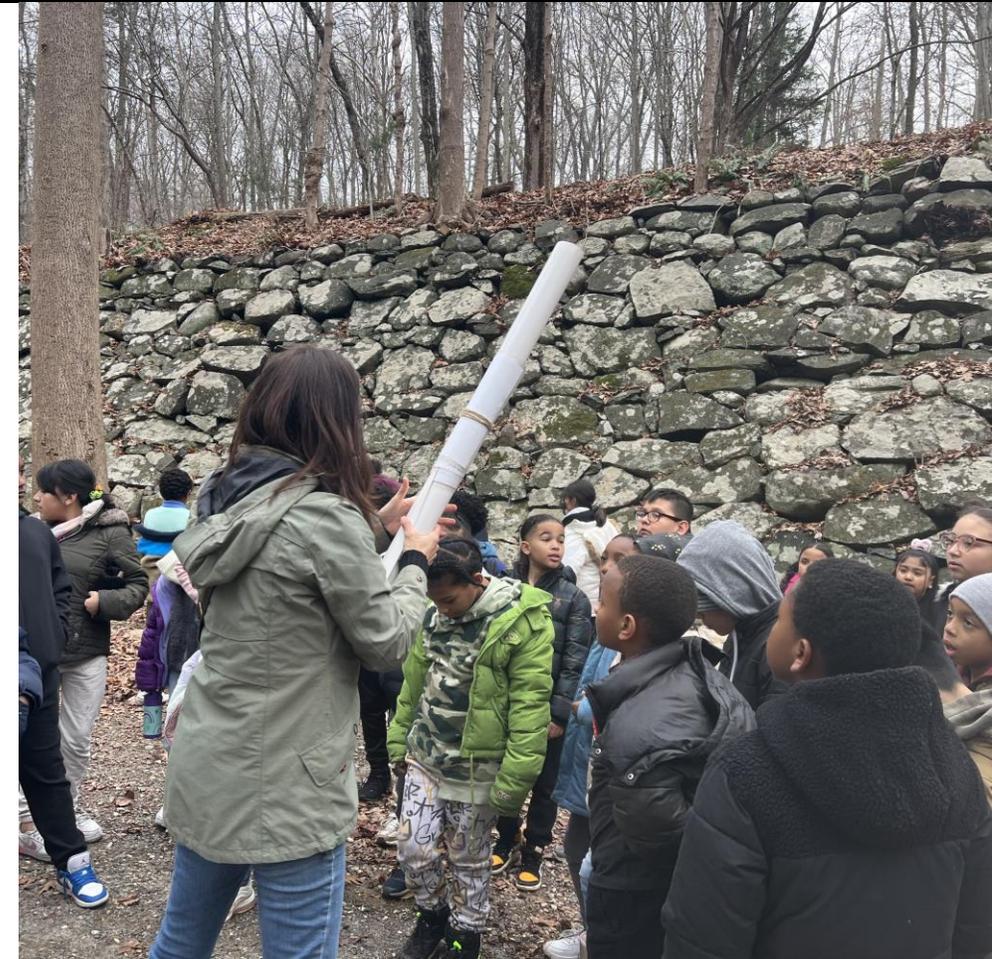
YOUNG MINDS HELPING IMPROVE OUR ENVIRONMENT

**How past innovation can impact our
approach to a current
environmental problem in society**



ENDURING UNDERSTANDINGS

- Ideas can be generated from what is around us
- We are all responsible for our environment (interdependence)
- Human choices impact the environment in which we live
- We can test, revise and improve on our ideas
- Young people have valid ideas that can have positive impacts on society



I CAN...

Science

- define a design problem and identify the constraints and criteria for a design solution
- research and design possible solutions to a problem
- investigate how well the solution performs

Social studies

- Connect individuals to their technology and describe the impact made with this innovation
- examine the location of the capital of New York State and the major cities of New York State in relation to their home community, using directionality, and latitude and longitude coordinates

ELA

- Describe the impact of the aqueduct and dam on the environment and society at the time of development
- Apply knowledge gathered from reading and field trips to brainstorm questions related to a current problem around their community
- Utilize their questions to create and investigate possible solutions

EVIDENCE & ASSESSMENTS

Role:

- Historian – look at innovations from the past and how they impacted society at that time
- Environmental Engineer - to defend people from adverse environmental effects (rain damage/erosion/soil displacement)

Audience: school community (administration, buildings and grounds director)

EVIDENCE & ASSESSMENTS

Situation: Increased rainfall has led to erosion and landslides. Students will visit the Old Croton Aqueduct and Dam to be inspired by innovation and will then be challenged to develop a solution to this problem.

Product(s): *Clarify what the students will create and why they will create it.*

- Thinglink 360 degree –narrated depiction of the WEIR and its components.
- Powerpoint/Canva/Sway explaining an innovation to prevent/stop landslides in Yonkers.
- Drone aerial footage of the Croton Dam imported to some tech.
- Powerpoint/Canva/Sway (Infographic) describing the impact the Aqueduct and Dam had in the population at the time of construction.



LEARNING ACTIVITIES

- **Week 1**
 - **Monday**- view slide show of aqueduct
<https://aqueduct.org/how-ny-became-empire-city>
 - **Tuesday** – read aqueduct history
<https://aqueduct.org/oca-history>
 - **Wednesday** – visit the Croton Reservoir and Dam, and the Weir
 - **Thursday** – work in groups to write information about an area of interest at either Reservoir/Dam or Weir
 - **Friday** - use Thinglink to narrate knowledge gained

TIME TO EXPLORE



LEARNING ACTIVITIES



Monday – BrainPop Erosion; *Soil Erosion and How to Prevent It*, by Natalie Hyde: Find out where soil comes from, what erosion is, and many problems erosion may cause. (Ages 8-10)

Tuesday – Erosion (BrainPop Ext Reading Mother Nature)

Wednesday – Watch this time span video that shows the effects of weathering and erosion over the course of one year. Before you push “play”, predict how far back the erosion will go. https://www.youtube.com/watch?v=ChEHQUMekXw&ab_channel=framkid

Thursday – What Causes Landslides and Mudslides (Rdg)

Friday - How Can You Stop a Landslide (Lab)



LEARNING ACTIVITIES

Monday – read aloud: what is EDP

https://www.generationgenius.com/videolessons/engineering-design-process-video-for-kids/?g_adtype=search&g_adgroupid=107516202223&g_campaign=Teachers+-+Sci+-+Topics+-+6-8&g_campaignid=11097636175&g_keyword=engineering%20design%20process%20for%20kids&g_networkk=g&g_adid=649010521841&g_acctid=279-897-8338&g_keywordid=aud-935802473508:kwd-321431755403&utm_source=google&utm_medium=cpc&utm_term=engineering%20design%20process%20for%20kids&gclid=Cj0KCQjwuNemBhCBARIsADp740Sab0Mo_2sISRgf2SlqymKPLQ3B2B7zTGSc7PK9GbHS7Ux0zjpBdFkaAq30EALw_wcB

HMH Intro to Engineering; Exploration 1 Quick Tower Building

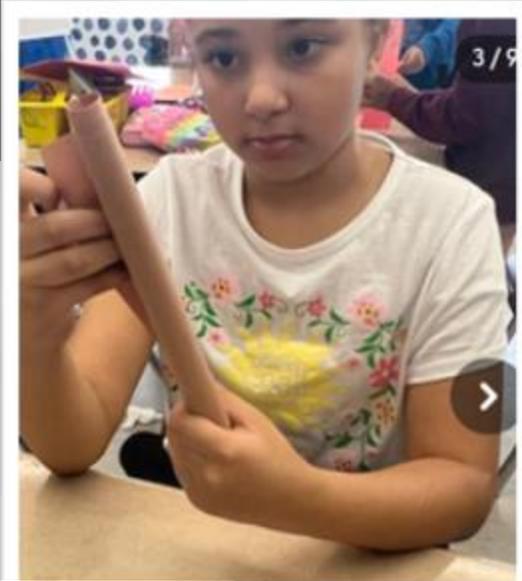
Tuesday – Exploration 2 Designing a Listening Device

Wednesday – Exploration 3 What is Engineering?

Thursday – Exploration 4 How Engineers Solve Problems

Friday – FUNamental Reader – Desk Designers

HMH IN ACTION



LEARNING ACTIVITIES

Monday – Dream Jobs: Environmental Engineer (Rdg); videos of Yonkers landslide

- <https://www.yonkersny.gov/live/public-safety/emergency-management/disaster-specific-fact-sheets/landslides>
- <https://www.fox5ny.com/news/yonkers-landslides-knock-out-metro-north-hudson-service>
- <https://bronx.news12.com/landslide-in-yonkers-collapses-wall-buries-car-closes-roads>
- <https://news.hamlethub.com/swyonkers/life/1282-yonkers-mudslides-and-how-they-happen>

Tuesday – use EDP to work through the challenge of Landslides in Yonkers, specifically around MLKA

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Thursday – choose tech to publish idea (Canva, PowerPoint, Sway)

Friday - choose tech to publish idea (Canva, PowerPoint, Sway)

