

On the Air

REVISION PLAN

2019-2020

David Yarmchuk

B.S. in Biological Science & Education from Rutgers Univ.

M.A. in Education Policy & Administration from Univ. of Maryland

6 years of science classroom teaching at middle & high school level in Baltimore

3 years as a school-based STEM curriculum specialist in DC charter school

3 years as a non-profit based STEM education consultant

2 years as an elementary school outdoor educator

Now freelance STEM educator

Overview of Scope of Work

- Analyze current *On the Air* curriculum for alignment to NGSS, SOLs, CCSS, and best practices in education pedagogy
- Background research on available resources & current CAP goals
- Propose modifications to curriculum for approval
- Update document-based curriculum for pdf version
- Create online-based curriculum version
- Lead evaluation process with education content experts
- Lead evaluation process with area educators
- Support rollout of new curriculum

Timeline

November 2019: Project launch

December 2019 – January 2020: Background research

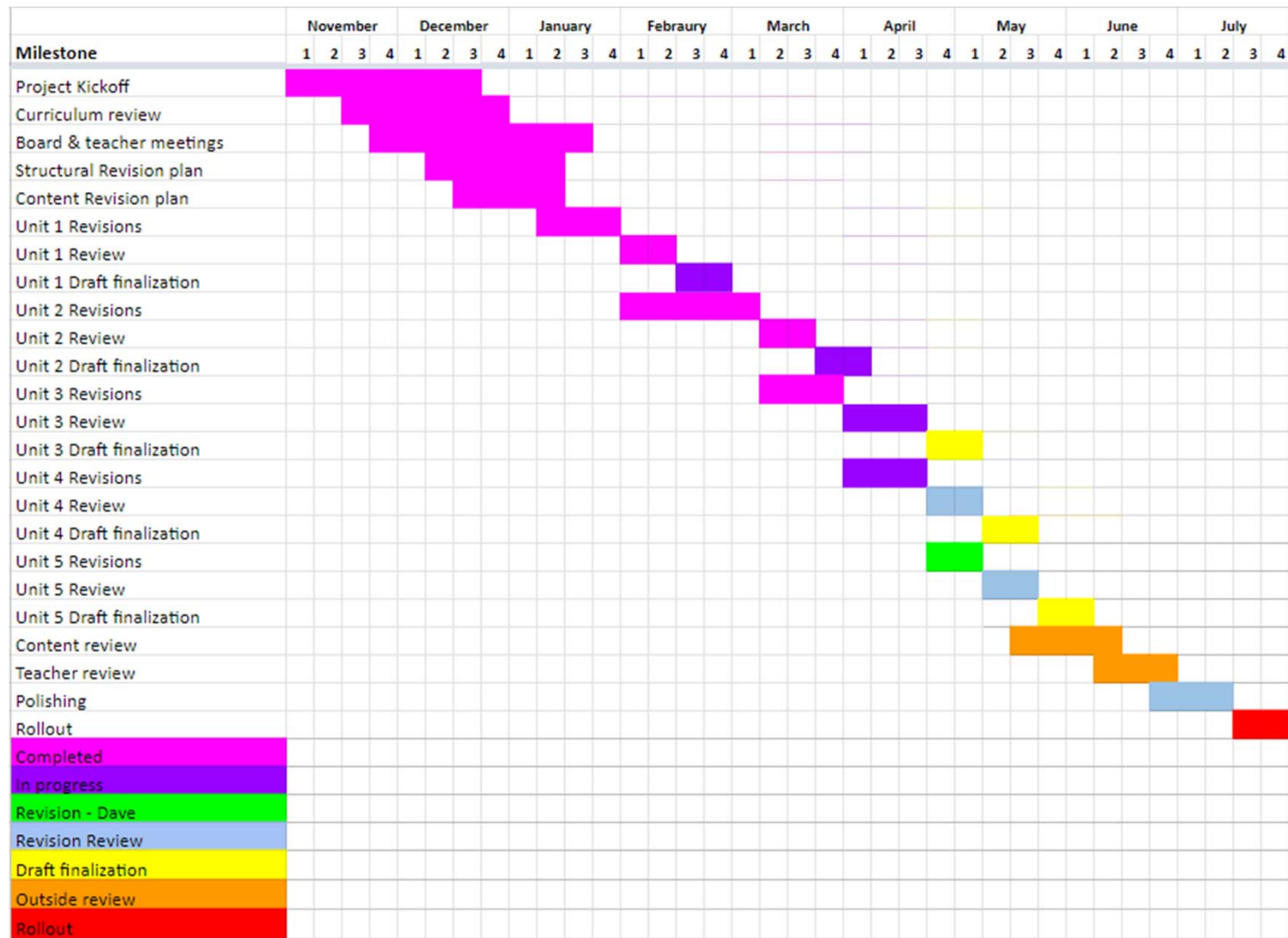
January – May 2020: Individual unit and activity revisions

May – June 2020: Content review (NGSS Lesson Screener Tool)

June 2020: Teacher review (online focus group)

June – July 2020: “Final” revisions

July 2020: Rollout



Work Plan: Roles & Responsibilities

Jen Desimone – financial oversight, goal-alignment, CAP liaison

Clean Air Partners Education Committee – content oversight

Clean Air Partners Board Members – content expertise and evaluation

Rebecca Davis – content and activity oversight and support

Dave Yarmchuk – everything else

Initial Analysis of *On the Air*

- Solid foundation of activities & science content
- Pedagogy of activities needs updating to align with NGSS, SOLs: Emphasis on exploring phenomena vs. remembering facts
- Gap in additional resources compared to other curricula
- Web-based curriculum should be more than online documents

3 types of updates

- Structural updates to improve usefulness of the overall curriculum
- Big picture content updates to consolidate & focus learning
- Activity updates to align w/ NGSS & SOLs (content & pedagogy)

Structural Updates

Original On the Air

- Paper & printable
- 7 units
- 2 “45-minute” activities per unit
- Few additional components (weblinks)

On the Air 2020

- Interactive online & printable
- 5 modules (1 unit)
- 8-10 activities per unit (~6-8 days/unit)
- Assessments of learning
- Additional components (glossary, how to use, etc.)

Content Updates

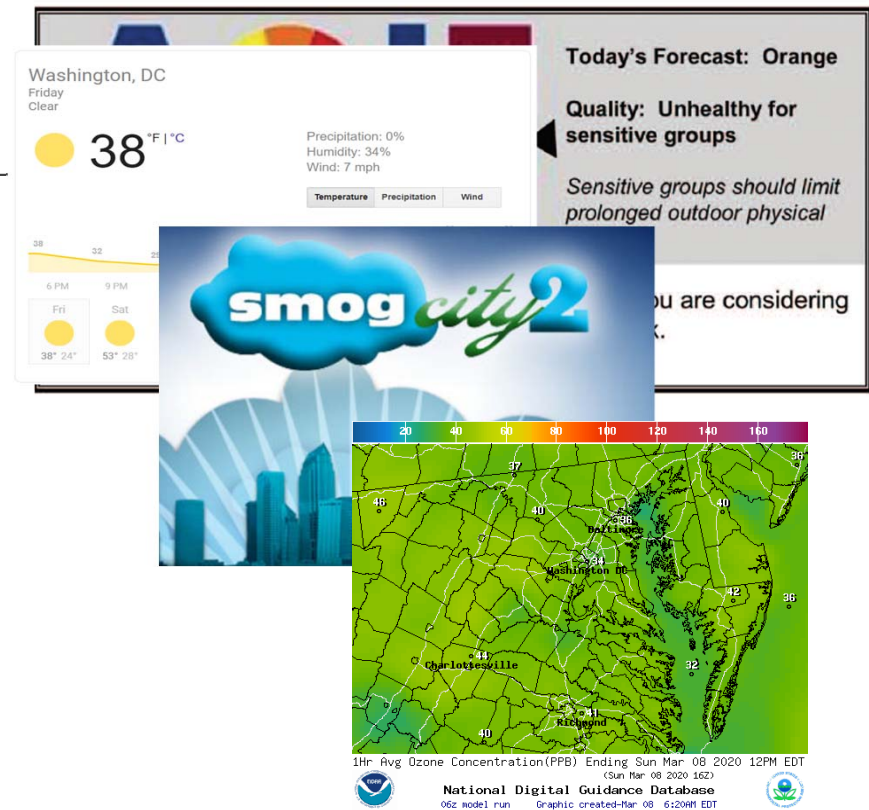
- M1: Our Lungs, Our Air, Our Health
- M2: The Air Around Us
- M3: Air Pollution Sources & Solutions
- M4: Air Pollution & the Chesapeake Bay (N focus)
- M5: Air & Climate Change

Maintains the content of the original *On the Air* while reorganizing it into more robust, meaningful modules

Activity Modifications

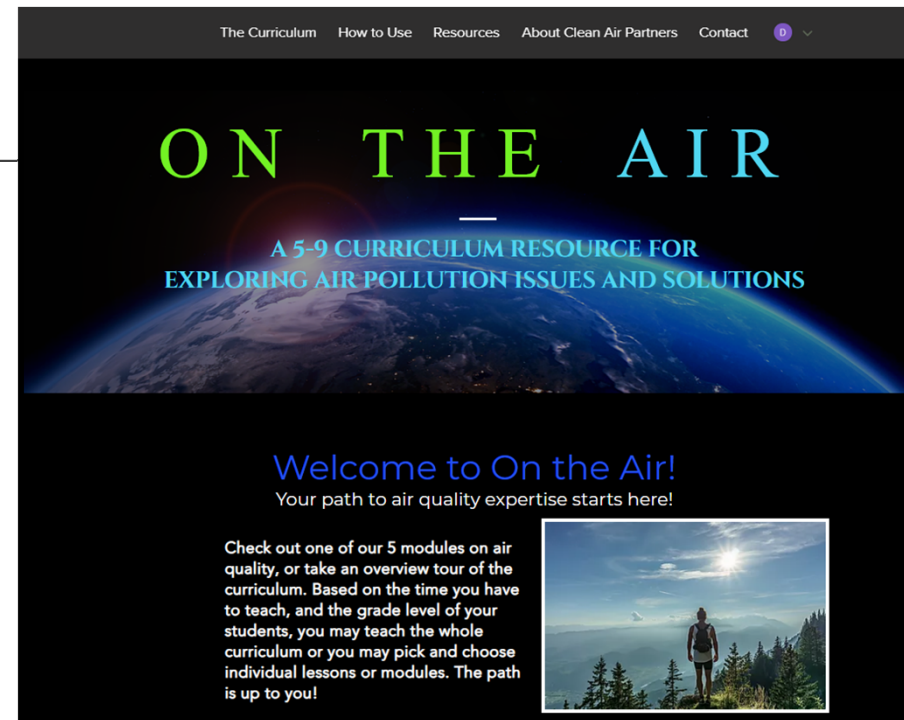
What does this mean for *On the Air*?

- Original: AQI role-play activity
- Revised: AQI forecast lesson sequence
 1. Learn about weather & forecasting
 2. Simulate how weather & ozone affect AQI
 3. Use models to create an AQI forecast




Website walkthrough

- Uses Wix platform
- Currently only accessibly by password for internal review
- Interactive + downloadable pdf
- Will have CAP/COG URL



The Curriculum
How to Use
Resources
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AIR AND OUR HEALTH

Humans drink less than 1/2 gallon of water every day, but we breathe about 3,000 gallons of air. The quality of that air can have a tremendous effect on our health.

Expand All
Collapse All

Module Overview

The air we breathe provides us with the oxygen we need to survive. But it can also introduce dangerous and harmful chemicals into our lungs and our bodies. In this unit, students will investigate the connection between the air we breathe and our health by studying the human respiratory system and respiratory ailments, especially asthma.

Time to teach entire unit: 6 60-minute class periods

Materials needed to teach entire unit:

NGSS Standards Alignment


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Resources


Videos

How moss detected an undetected air pollution threat in Portland

Source: PBS Newshour



News Articles



[Notre Dame fire wakes the world up to dangers of lead dust](#)
By THOMAS ADAMSON
December 22, 2019

Questions?

David Yarmchuk

DBYeducation@gmail.com



Looking Forward

Considering long-term strategy
and implementation

Connecting with teachers to
support implementation

