

WHAT IS HAPPENING IN SCIENCE EDUCATION/PHYSICS IN DELAWARE?

DELAWARE DEPARTMENT OF EDUCATION
PRESENTATION BY: TONYEA MEAD, SCIENCE
EDUCATION ASSOCIATION, K-12



THE NEXT GENERATION SCIENCE STANDARDS CAME OUT IN 2013

- DELAWARE WAS THE 4TH STATE TO ADOPT THE NGSS (NEXT GENERATION SCIENCE STANDARDS) WWW.NEXTGENSCIENCE.ORG
- DELAWARE'S NGSS STANDARDS WERE CLUSTERED BY GRADE LEVEL FOR K-5, BUT NEEDED TO BE GROUPED BY GRADE LEVEL FOR 6TH-12TH GRADE. DOE FORMED A GROUP OF TEACHERS, CURRICULUM DIRECTORS, NATIONAL SCIENCE EXPERTS, HIGHER ED, AND BUSINESS PARTNERS TO DETERMINE WHERE EACH STANDARD SHOULD BE PLACED. [SCIENCE / NEXT GENERATION SCIENCE STANDARDS \(DOE.K12.DE.US\)](http://SCIENCE/NEXTGENERATIONSCIENCESTANDARDS(DOE.K12.DE.US))
- DOE RECOMMENDS THAT ALL CURRICULAR RESOURCES BY HQIM (HIGH QUALITY INSTRUCTIONAL MATERIALS THROUGH ED REPORTS. [EXPLORE REPORTS \(EDREPORTS.ORG\)](http://EXPLOREREPORTS(EDREPORTS.ORG))

- ELEMENTARY: AMPLIFY SCIENCE [AMPLIFY SCIENCE | ELEMENTARY & MIDDLE SCHOOL CURRICULUM | AMPLIFY](#)
- MIDDLE SCHOOL: OPENSCIED [WWW.OPENSCIED.ORG](#)
 - 6TH GRADE: [6TH GRADE SCIENCE THERMAL ENERGY - MS-PS1-4, MS-PS3-3, MS-PS3-4, MS-PS3-5, MS-PS4-2, MS-ETS1-4 \(OPENSCIED.ORG\)](#)
 - 8TH GRADE: [8TH GRADE PHYSICAL SCIENCE - MS-PS2-1, MS-PS2-2, MS-PS3-1, MS-LS1-8, MS-ETS1-2, MS-ETS1-3 \(OPENSCIED.ORG\)](#)
- HIGH SCHOOL: OPENSCIED: [HTTP://WWW.OPENSCIED.ORG/](#)
- PHYSICS: [INSTRUCTIONAL MATERIALS - OPENSCIED](#)

MOST DISTRICT CURRICULAR RESOURCES



ALL CURRICULUM MUST

- BE ALIGNED TO STANDARDS
- START WITH A PHENOMENON
- HAVE A STORYLINE THAT TIES BACK TO THE UNIT PHENOMENON
- THREE DIMENSIONAL ASSESSMENTS-TESTS PRACTICES, CORE IDEAS AND CROSSCUTTING CONCEPTS.



ANCHORING PHENOMENON ROUTINE

We share an experience.



NAVIGATION ROUTINE

We figure out where we are and where we need to go next.



INVESTIGATION ROUTINE

We develop evidence from investigations to explain parts of the phenomena.



DRIVING QUESTION BOARD

We develop questions for the Driving Question Board.



PUTTING THE PIECES TOGETHER ROUTINE

We come to a consensus on what we've figured out so far.



PROBLEMATIZING ROUTINE

But new questions emerge through evidence we find.



PUTTING THE PIECES TOGETHER ROUTINE

We come to a consensus on what we've figured out, and have a more complete explanation of the phenomenon.



INVESTIGATION ROUTINE

We develop evidence from investigations to explain parts of the phenomena.



QUESTIONS ANSWERED

We've answered many of the questions from our Driving Question Board and are ready to explain some new phenomena.





SHARED 9TH GRADE FORCES AND INTERACTION/ENERGY TRANSFER AND CONSERVATION END OF UNIT ASSESSMENT

PLEASE EMAIL ME IF YOU ARE INTERESTED IN HAVING A COPY OF THE ASSESSMENT-STUDENT AND TEACHER VERSION



CONCERNS IN DELAWARE

1. NO PIPELINE-STUDENTS ARE NOT GOING INTO THE FIELD OF EDUCATION, LET ALONE SECONDARY SCIENCES.
2. ELEMENTARY SCIENCE IS NOT A PRIORITY. THE FOCUS IS STATE TESTING OF READING AND MATHEMATICS. STUDENTS MIGHT GET 20 MINUTES OF SCIENCE IN A WEEK. THAT IS THE NATIONAL AVERAGE TOO!
3. SCIENCE IS BEING CUT AND MIDDLE AND HIGH SCHOOL WITH BLOCK SCHEDULING. FOR ONE GRADUATE CREDIT, STUDENTS ARE SUPPOSED TO HAVE 135 HOURS. MOST STUDENTS ARE RECEIVING HALF THOSE HOURS.

SOME SUCCESS-

1. DOE HAS CHANGED THE PHYSICS PRAXIS PASS GRADE FROM 144 TO 140 TO MATCH SURROUNDING STATES.
2. THERE IS NOW AN EDUCATION PATHWAY FOR STUDENTS IN HIGH SCHOOL.

HOW DO YOU EVALUATE A SCIENCE TEACHER IN THE CLASSROOM

CLASSROOM WALKTHROUGH TOOL

[TTPS://WWW.DOE.K12.DE.US/CMS/LIB/DE01922744/CENTRICITY/DOMAIN/391/CSSS%20OBSERVATION%20TOOL_1%20W_LINKS_JUNE.PDF](https://www.doe.k12.de.us/cms/lib/DE01922744/CENTRICITY/DOMAIN/391/CSSS%20OBSERVATION%20TOOL_1%20W_LINKS_JUNE.PDF)



THANK YOU!

TONYEA.MEAD@DOE.K12.DE.US