HS Biology Curriculum Adoption

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OAKLAND UNIFIED SCHOOL DISTRICT

Community Schools, Thriving Students

Our Vision

All OUSD students will find joy in their academic experience while graduating with the skills to ensure they are caring, competent, fully-informed, critical thinkers who are prepared for college, career, and community success.

Our Mission

Oakland Unified School District (OUSD) will build a Full Service Community District focused on high academic achievement while serving the whole child, eliminating inequity, and providing each child with excellent teachers, every day.

Ask of the Board

- Approve adoption and purchase of LabAids materials for grades Biology.

Outline

- Background
- Selection Process
- Fiscal Impact
- Strengths & Supports

State of Curriculum (2023-24)

	Elementary	Middle School	High School
English Language Arts	*EL Education* *Foundational Skills: SIPPS* (*Benchmark* for Dual Language)	*EL Education 2.0*	**ELA: FishTank**
Mathematics	Eureka2	Illustrative Mathematics	Illustrative Mathematics
Science	FOSS Next Generation	FOSS Next Generation	Biology Pilot 23-24 Chem and Phys 24-25
History / Social Studies	3rd Gr. Oakland History 4-5 Gr. OUSD on Newsela	Pearson MyWorld Interactive	Committee formed 22-23 Pilot US/World/Econ/Gov + Adoption 23-24

High Quality Materials

Pilot/Selection in Process

Lack of High Quality Materials

Background:

The adoption is an opportunity to:

- **Update and modernize** the learning and teaching experience for students & teachers. The current Biology curriculum was adopted in 2007.
- Provide all teachers with opportunity to **connect** and **collaborate** around common lessons and pedagogy.
- Offer teachers materials that align with **Next Generation Science Standards** and stakeholder feedback
- Offer multiple opportunities for **hands-on activities and investigations** to support development of **Science and Engineering Practices**
- Support science **literacy** and **discourse** skills
- Offer new Biology teachers a **strong set of materials** to start their careers in OUSD.

Selection Process

- **2019 and 2022 groundwork:** Science teachers surveyed around curriculum and instructional; participation in field testing of unpublished curriculum
- **22-23 SY Steering Committee:** Coordinator and teacher leads Identified 2 curriculum options
- **Piloting: 10 teachers representing 7 high schools** received training in summer and fall of 2023 from curriculum publishers. The majority of teachers opted to pilot at least 2 units.
- **Adoption Committee:** Gen Ed and SpED Teachers, Teachers supporting EL and Newcomers, and content experts
- **Additional stakeholder input:** SpED, students, Science Leads, Coordinators, Curriculum Field-testers
- **Deliberation:** The final deliberation brought together piloting teachers and other community members connected to Science education to weigh all feedback collected, and come to consensus on recommendation.

LabAids Strengths

- **LOTS of hands-on materials organized into kits for each unit**

- **Units organized around:**
  - clear phenomena
  - focal questions
  - storylines

- **Clear and useable teacher resources to support:**
  - literacy & discourse
  - diverse learners
  - assessments

LAB-AIDS

SEPUP®
Issue-Oriented Science

Pilot Unit Background

CELLS: IMPROVING GLOBAL HEALTH

Unit issue: Human health is increasingly subject to emerging global patterns, including extreme heat events, changes in the frequency of disease, and climate effects on the food supply.

Overarching question: What are the challenges to human health in a changing world?

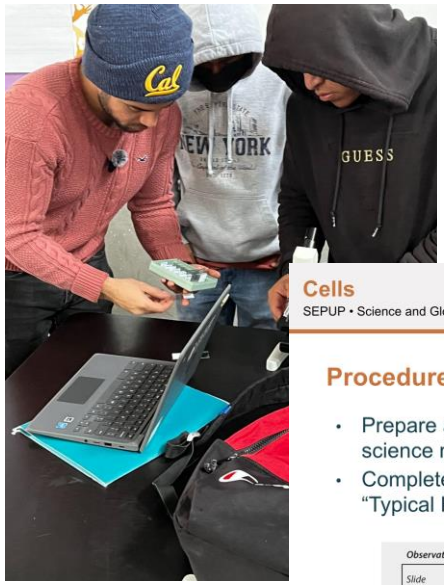
Unit storyline: Students explore the idea that living organisms have to maintain certain internal conditions in order to live in a changing environment. Students focus on the importance of a stable internal temperature, adequate hydration, and quality nutrition as key factors in maintaining normal functioning. They investigate how human survival relies on being able to maintain internal stability (homeostasis) during change. Students construct an understanding of the structures and functions of various levels of organization in an organism's body systems in maintaining homeostasis.

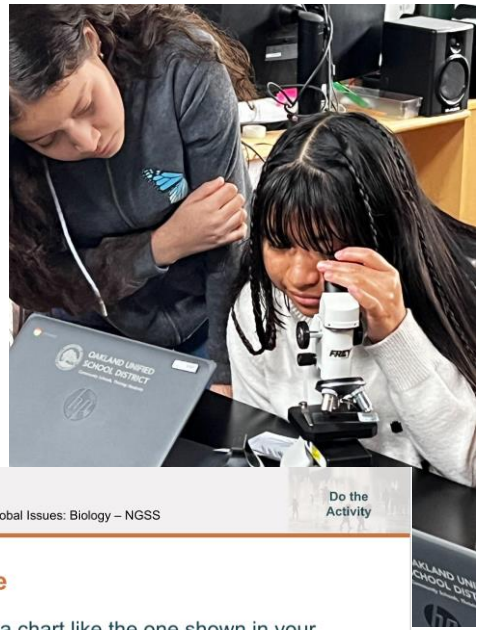
Pilot Unit Background

LEARNING SEQUENCE	ACTIVITIES	INVESTIGATIVE PHENOMENON	PERFORMANCE EXPECTATIONS ADDRESSED
1	1, 2, 17	Human health is affected by emerging global patterns, such as a changing climate.	HS-LS1-2 HS-LS1-3 HS-LS2-7
2	3–8	Global patterns related to the prevalence of illness are changing.	HS-LS1-2 HS-LS1-3 HS-LS2-7 HS-LS1-1
3	9–16	Human health is dependent on the energy and matter derived from food.	HS-LS1-3 HS-LS1-5 HS-LS1-6 HS-LS1-7 HS-LS2-3 HS-LS2-4

Student and Teacher Experiences

- Clear guidelines to support hands-on activities
- Kit materials to use with equipment already in science classes





Cells

SEPUP • Science and Global Issues: Biology – NGSS

Do the Activity

Procedure

- Prepare a chart like the one shown in your science notebook.
- Complete the chart for the prepared slide: "Typical Human Blood" and add a sketch.

Observations of Blood Samples

Slide	*Shape of cells*	*Color of cells*	*Number of cells in field of view*

Student and Teacher Experiences

- Frequent opportunities to analyze and interpret data and evaluate models

- Textbook organized with prompts to guide reading, analysis, and discussion

1. With your group, look at the map of coral diversity in Figure 5.1. Use what you learned about coral reefs in the previous activity to discuss which abiotic factors may help to explain this pattern. Write your explanation in your science notebook, and be prepared to explain your scientific reasoning with the class.

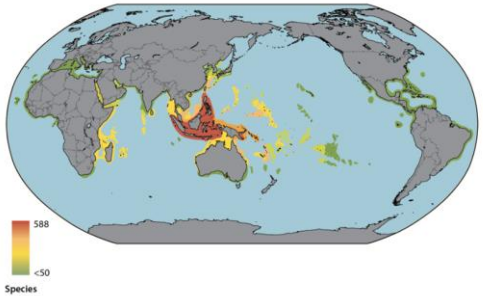
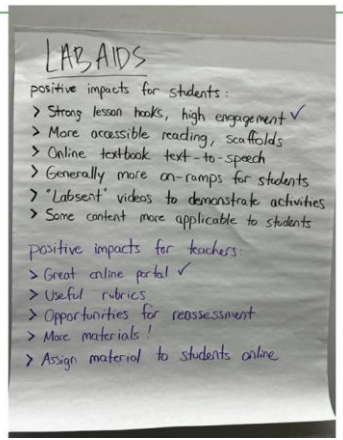
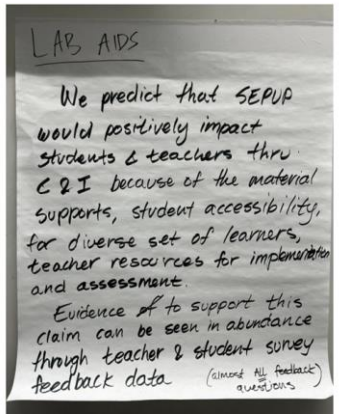


Figure 5.1: *Global coral diversity*

Next Steps to Support Teachers

- Establish a spring committee of majority teachers and department leads to support with rollout at their school site.
- Ensure ongoing PD to unpack and understand the curriculum
- Focus training on student engagement, experiential learning and bringing teachers up to date on NGSS
- Train leads and site based instructional coaches to ensure use of the curriculum with new teachers.





Ask of the Board

- Approve adoption and purchase of LabAids for HS Biology

Thank you

For more information, please reach out:

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Additional Slides

Not part of presentation

For additional information and/or in response to Board member questions

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OAKLAND UNIFIED SCHOOL DISTRICT

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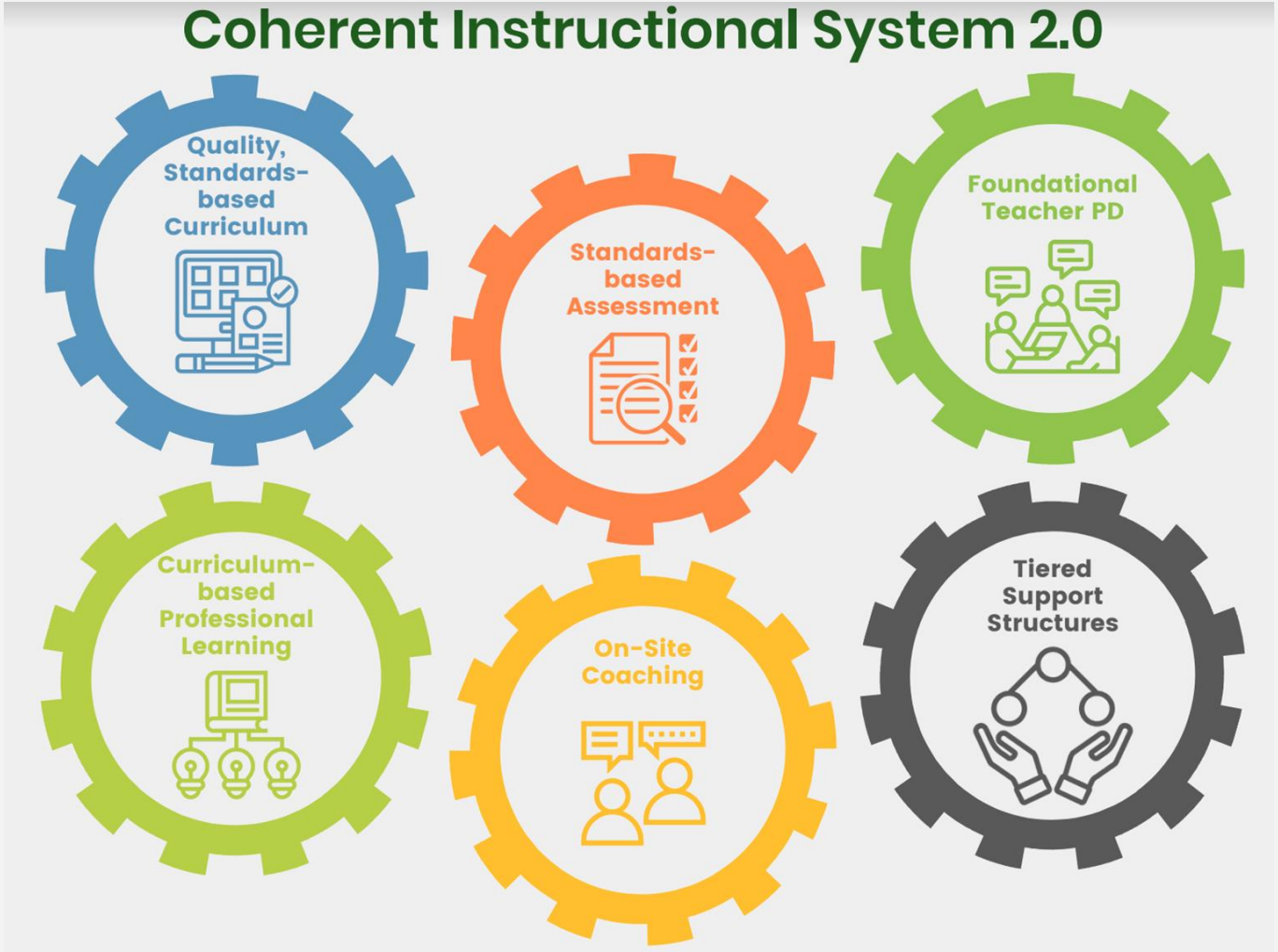
www.ousd.org @OUSDnews

1011 Union Street, Oakland, CA 94607

Coherent Instructional System 2.0



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Supporting Data - Biology

- **100% of teachers at deliberation recommend adoption of LabAids**

- **Students said:**
  - "I think we are learning more…I like the labs"
  - "The book is useful and easy to learn from. It's a good reference. We didn't really have a textbook before we started using this."
  - "I like how the book is organized. It's kind of the same as books in other classes, but also the sections are easier to find."
  - "We had materials to do activities that represented [and modeled] things…like we had to show how grasshoppers could survive with these hexagon pieces and cups."
  - "We have a lot of writing…"

- **Teachers said:**
  - *"This was a much better curriculum for my students. The texts they were reading were still challenging them but they weren't getting too lost in the science vocabulary. I saw my kids engage more with the activities provided in the curriculum like the sorting activities."*
  - *"This was the curriculum my colleagues were most excited about - specifically because there were so many labs incorporated into the curriculum. I believe the "Labsent" videos and the labs are a huge asset to curriculum. I really liked the literacy supports provided in the student textbooks."*
  - *The curriculum is more developed (farther along in offering alternatives and supports for diverse learners). There are more digital and analog tools and resources in support of student learning than in BSCS…*

Biology Fiscal Impact:

Years 1-7, 2024-2031 Instructional Materials

Year	Summary of Materials to be Purchased	Costs
2024-25	LabAids portal Teacher Licenses Printed and bound teacher resources LabAids portal Student Licenses Digital and print full-length Biology texts Material Kits	**$958,884.85**
2025-31	LabAids material Kits refills	**$69, 823.78 each year**
	TOTAL =	**$1,377,827.53**

This assumes that all consumable materials are used by every teacher each year and needs to be completely refurbished; annual cost will most likely be lower

Fiscal Impact:

Years 1-7, 2024-2031 - Professional Learning

Year	Summary of Professional Learning Offerings	Costs
2024-25	LabAids Professional Learning and Train the Trainer Services Standards & Equity Institute Foundational Curriculum Training Monthly 2nd Wednesday Series September & January PD Days *Spring 2024 Chemistry Pilot*	**$155, 900**
2025-26	LabAids Professional Learning and Train the Trainer Services Standards & Equity Institute Foundational Curriculum Training Monthly 2nd Wednesday Series September & January PD Days *Curriculum training for trainers PD*	**$154, 900**
2026-27	LabAids Professional Learning and Train the Trainer Services Standards & Equity Institute Foundational Curriculum Training Monthly 2nd Wednesday Series September & January PD Days *Curriculum training for trainers PD*	**$109, 900**
2027-31	LabAids Professional Learning and Train the Trainer Services Standards & Equity Institute Foundational Curriculum Training Monthly 2nd Wednesday Series September & January PD Days Science Teacher Lead/Coaching Collaborative	**$95, 000 each year**
	TOTAL =	**$800, 700**