Supports the Strategic Plan

DATE: 5-7-2018

FROM: Dr. Susan Enfield, Superintendent

LEAD STAFF: Catherine Thompson, Chief Curriculum & Instruction Officer

I. TITLE High School Chemistry Instructional Materials Adoption

II. WHY BOARD ACTION IS NECESSARY Per Board Policy 2020, the School Board is responsible for the adoption of all core materials used in the District as recommended by the Instructional Materials Committee.

III. BACKGROUND INFORMATION
The Highline Public Schools Secondary Science Team led a course of study review to determine whether or not the instructional materials currently in use aligned to the Next Generation Science Standards. The Washington Comprehensive Assessment of Science is based on these standards. The findings from the course of study review showed that our current materials were outdated and were not aligned to current state standards. The last instructional materials were adopted in 2003 for chemistry. This finding led to an eight month long materials adoption process following Superintendent Procedure 2020P, culminating in a recommendation to adopt Living by Chemistry (for more details, please review the attached memo).

IV. RECOMMENDED MOTION
I move that the Highline School Board approve the adoption of Living by Chemistry as the core materials for chemistry.

V. FISCAL IMPACT/REVENUE SOURCE
Fiscal impact to this action will be [amount and source including fund Example - $522,000 from general fund Title 1 revenue].
Instructional Materials $96,803 Lab Equipment $30,000
The revenue source for this motion is from Basic Education Allocation funds.

Expenditure: ☒ One-time ☐ Annual

VI. APPLICABLE POLICY(S)
This action is in compliance with the following:
Board Policy No. 2020

VII. ALTERNATIVES
If the materials are not adopted, teachers will use the existing adopted materials and will need to locate multiple supplementary materials from open resources to fill gaps so that current standards are appropriately addressed. This places a burden on teachers and does not meet the district's obligation to provide core instructional materials.

VIII. COMMUNITY ENGAGEMENT
Community Engagement Required: ☒ Yes ☐ No
Family members and university partners served on the adoption committees and a centrally-located open house
was held as a means of seeking input from all stakeholders.

IX. POLICY MONITORING PLAN
This □ new or □ revised policy will be monitored by the School Board:
□ Quarterly    □ Semi-Annually    □ Annually    □ Not Applicable

The metrics that will be used to monitor this policy include: ____

X. ATTACHMENTS
Board memo outlining the adoption process (Note: The memo includes multiple links for in depth review of the process)
PowerPoint for presentation of the instructional materials recommendation at May 16, 2018 Board meeting
MEMORANDUM

To: HSD School Board of Directors

From: Dana Dyer and Nicole Flynn, Secondary Science Specialists

Date: 5/11/2018

Re: Chemistry and Physics Instructional Materials Recommendation

Introduction: As per Board Policy 2020 and Superintendent Procedure 2020P, a team was created to review the current adopted instructional materials for both the Chemistry and Physics courses, where it was determined that the materials did not align to the Next Generation Science Standards (NGSS). This document details the process followed by the Highline Science Adoption Committee, with monthly guidance from the Instructional Materials Committee (IMC), in its selection of *Living by Chemistry* and *Active Physics* as the new core instructional materials.

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• Three science teachers and a content specialist performed a review of the current adopted instructional materials for Chemistry and Physics, and it was determined that neither one aligns with the Next Generation Science Standards (NGSS). | Science Materials Survey  
Science Materials Review Report               |
| Adoption Information Night for Teachers and Families | 10.03.2017      | • Community members and all science teachers were invited to attend to learn about the adoption process and timeline.                                                                                                                                                       | Flyers in:  
English  
Spanish  
Vietnamese |
| Committee Application Process                | 10.03.2017-10.19.2017 | • *Highline families*: One participant from each of the North and South service areas was selected, but both declined. One of the higher education partners on the committee is also a Highline parent.  
• *Highline teachers*: All current high school science teachers were invited to join. The ten teachers who served on the committee represented a range of schools.  
• *Higher education partners*: Two partners were recruited and joined the committee – a current Highline College faculty member in Physics and a former University of Washington science education researcher. | Family Application  
Teacher Application  
Committee Application Process Notes          |
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| Adoption Committee Meeting 1: Criteria Development | 10.23.2017  | - Developed common understanding of research-based practices that support NGSS.  
- Generated a list of criteria for the first screening of materials that were then ranked by importance.                                                                                                                                   | Criteria rating survey                          |
| Publisher and Open Educational Resource Research | 10.24.2017  | - Specialists used review of criteria ratings to develop letter to request samples from publishers.  
- Used lists of publishers from other states' departments of education to develop a list of publishers to request samples (letters sent on 11.02.2017).  
- Met with WA Office of Superintendent of Public Instruction representative to discuss Open Educational Resources (OERs) (11.17.2017). | Letter template  
Publisher and OER research               |
| Adoption Committee Meeting 2:  
First Screening                               | 11.29.2017  | - Decided to rate all criteria equally, but to add an additional criterion as a "Holistic Rating."  
- Two teams, each focused on a topic/unit, screened instructional materials and OERs using previously established criteria.  
- Teams' criterion screening scores were averaged for each set of materials, then materials were ranked by the sum of their criteria scores. | Criteria Notes  
Data Overviews: Chemistry & Physics  
Data Analysis Notes                          |
| Adoption Committee Meeting 3 & 4:  
Second Screening                              | 12.12.2017  | - Decided to use EQuIP rubric, Category I, Criteria A-C as a "gate".  
- Calibrated on definitions of passing each of these criteria.  
- Teams completed reviews of top materials from 1st screening using these criteria (2 screenings for each set of instructional materials), with each team focused on a particular topic/unit. | Agreements about criteria A-C                  |
| Adoption Committee Meeting 5:  
Decision for Pilots                           | 01.08.2018  | - Decided on two sets of materials to pilot for each course.  
  o Physics: Active Physics & STEMscopes  
  o Chemistry: Chemistry in the Community & Living by Chemistry  
- Provided input regarding data to collect during the pilots.  
- Completed bias evaluations. | Review summaries: Chemistry & Physics  
Data input: Team 1 & 2                        |
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| Materials Pilot Process                             | 01.18.2018 - 04.06.2018 | • Professional development for teachers on pilot materials where they provided input on unit planning.  
• Piloted units during Quarter 3. Observations done by specialists and data collected.                                                                 | Unit planning survey           |
| Instructional Materials Adoption Showcase for        | 03.20.2018 | • Invitations distributed to users of the Highline app and via email to families of all students piloting materials.  
• Attendees explored materials and asked questions to content specialists, then filled out a form with feedback questions. | Flyer Feedback questions       |
| Community Members and Teachers                      |            |                                                                                                                                                                                                                         |                               |
| Adoption Committee Meeting 6: Selection for         | 04.19.2018 | • Committee members used the pilot data to complete a final review of materials.  
• Physics: Recommended *Active Physics*.  
• Chemistry: Recommended *Living by Chemistry*.  
**Note:** Some teachers were not in favor of adopting at this time since instructional materials for Chemistry are lagging behind the implementation of NGSS. It was difficult to find instructional materials that were fully aligned. The final vote was to recommend *Living by Chemistry* as a resource to support implementation of the new course. The intent is to develop frameworks to ensure that students will meet the different dimensions required of the performance expectations in NGSS. | Data sets used for review      |
| Recommendation                                      |            |                                                                                                                                                                                                                         | Materials Review Survey & Results |