Exhibit 3

HIGH SCHOOL: Science (Biology and Earth Space Science) Digital Resource Adoption

Program Recommended: We are recommending the *Houghton Mifflin Harcourt (HMH) Science Dimensions resources for Biology and Earth Space Science. The HMH Dimensions programs for Physics, Chemistry, and IPC are currently under development. Prototypes and finished versions are not currently available for review for these courses. Teachers expressed interest in these resources based on the design of HMH Dimensions for Earth Space Science and Biology. Teachers were not confident to make recommendations for a resource they were unable to review. Teachers of these three courses would like to review and possibly recommend these resources when they are available in 2019.*

Cost: $180,632.60 for 6-year license. This price includes 2018 HMH Science Dimensions Student Resource Package and Online teacher Digital Management Center for High School Biology and Earth Space Science.

Rationale for Purchase:

The HMH dimensions resources provide Biology and Earth Space Science teachers with instructional resources that are at least partially aligned to 3-dimensional learning in the NGSS. The HMH dimensions resources include the 3-dimensions of the NGSS in a manner that is not consistently and coherently interwoven. While not perfect, this resource does attempt to align to NGSS instruction.

Teachers are divided on the usefulness of this product. Some teachers like the resources and believe they support their ability to engage students in 3-dimensional learning. Other teachers believe the traditional style of the resource will send the wrong message in supporting teachers to instruct in a non-NGSS, traditional manner.

HMH has not yet developed an NGSS aligned (science dimensions) resource for Chemistry or Physics. These resources are to be released sometime in 2019. Physics, Chemistry, and IPC teachers on the committee did not feel confident to recommend a product they are not yet able to review.

Rationale for Proposed Additional Purchase: No additional resources are being recommended for purchase at this time

Selection Process:

January 5, 2018	RFP Issued
January 16, 2018	Pre-proposal meeting
February 2, 2018	Deadline for RFP proposal submission
February 5-8, 2018	Review of proposals
February 6, 2018	Supervisor, Content Specialist, and NGSS lesson reviewer narrowed selection to two best
February 13, 2018	Publishers of top choices presented digital resources
February 13 – March 14, 2018	Teachers review and pilot digital resources
March 14, 2018	Teachers reached unanimous consensus on recommended digital resource
May 15, 2018	Tentative Award Date

Selection Criteria: Teachers evaluated the resources for the following criteria:

Content alignment – Is content appropriate to the NGSS for middle school?

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Curriculum delivery – Does the resource support 3-dimensional learning?
Content delivery – Does the resource provide rigorous, relevant, real-world science Applications
Student Interest and Engagement – Does the resource provide structures that will students to engage in the content?
Alignment to Student Needs – Does the resource provide opportunities for differentiation to diverse student needs?
Additional Materials – Does the resource provide additional resources to support instruction and assessment?
Technology Component – Is the technology of this resource user-friendly and compatible to WCPS devices.

Teacher Comments:

- "I really like interactive, phenomena. Textbook still somewhat traditional"
- "NGSS, 3-D aligned, 5-E organization"
- "Like teacher planning time section, claim evidence reasoning, phenomenon."
- "Biology and earth have a completed book, none for Chemistry, Physics, and IPC. I think we can do better."
- "The resources I looked at will not support my implementation of 3-dimensional learning as well as resources we develop ourselves."
- "Resources are promising based on conversation, no final (or prototype to view)."

Included with Purchase:

2018 HMH Science Dimensions Earth/Space Student Resource package (6 year student online)
2018 HMH Science Dimensions Earth/Space Online Teacher Digital Management Center (6-year teacher online)
2018 HMH Science Dimensions Biology Student Resource package (6-year student online).
2018 HMH Science Dimensions Biology teacher digital management center (6 year teacher online).

Proposed additional purchase:

No additional resources proposed

Technology:

All digital resources are compatible with WCPS devices including iPads and Macbooks and computers.

Professional Development:

With the purchase, teachers will receive the following professional development opportunities:

- 6 hours of onsite professional development training.

Exhibit 3

Purchase:

Title of Item	Description	Order Quantity	Unit Price for School Year 2018 to School year 2024	Extended Price
Earth Space Science Instructional Resources	2018 HMH Science Dimensions Earth/Space Student Resource Package	691	$54.50	$37,452.20
Earth Space Science Teacher Resources	2018 HMH Science Dimensions Earth/space Online Teacher digital Management Center	18	$879.50	$15,831.00
Biology Instructional Resources	2018 HMH Science Dimensions Biology Student Resource Package	1,766	$60.90	$107,549.40
Biology Teacher Resources	2018 HMH Science Dimensions Biology Online Teacher digital Management Center	24	$825.00	$19,800.00
			Total	**$180,632.60**

Proposed Additional Purchase:

Title of Item	Description	Order Quantity	Unit Price for School Year 2018 to School year 2024	Extended Price
N/A				$0.00

Other Programs Reviewed:

Pearson Science

Teacher Comments:

The drawbacks of the digital resources and textbooks not recommended are:

- "Not NGSS aligned"
- "Traditional textbook, pedagogy not present"
- "content can be tied to NGSS, but not currently aligned"
- "Decent resource, no better than what we have - way over our grade-appropriate"
- "Same old textbook concept, too high of a level, visually looks complicated for a 10th grader."
- "This does not use NGSS, traditional book"

Selection Committee Members:

Carol Detora – Biology/Anatomy teacher – Williamsport High School
Chastity Gloyd – Biology/Chemistry/IPC teacher – Clear Spring High School
Melanie Hughes – Biology teacher – Williamsport High School
Ray Johnston – Physics/Chemistry/Earth Space Science/IPC teacher – Hancock High
Patty Leazier – Biology/Chemistry teacher – North Hagerstown High School
Bethanne Radomski – Chemistry/Anatomy teacher – Boonsboro High School
Alicia Robertson – Earth Space Science/IPC teacher – Smithsburg High School
Sherry Spithaler – Chemistry teacher – Boonsboro High School

Exhibit 4

MIDDLE SCHOOL: Science
Digital Resource Adoption

Program Recommended: Amplify Science

Cost: $447,204.48 for 6 year license and one materials kit for each of 26 units.

Rationale for Purchase: Teachers voted unanimously to adopt Amplify Science. Amplify Science is the best product received in the RFP to support middle school science teachers in engaging students in phenomena driven 3-dimensional learning, aligned to the Next Generation Science Standards.

Rationale for Proposed Additional Purchase: While the Amplify digital resources provide a full range of NGSS instructional opportunities for students, real, hands-on, science must still be experienced by students. Amplify provides this through additional resource kits for each unit. Many of the kit materials are already present in schools or can be purchased through our usual venders. We would like to purchase one of each kit in the beginning to identify the necessary materials and determine the most cost efficient methods of supplying these resources to teachers in the future.

Selection Process:

January 5, 2018 RFP Issued
January 16, 2018 Pre-proposal meeting
February 2, 2018 Deadline for RFP proposal submission
February 5-8, 2018 Review of proposals
February 6, 2018 Supervisor, Content Specialist, and NGSS lesson reviewer narrowed selection to two best
February 13, 2018 Publishers of top choices presented digital resources
February 13 – March 14, 2018 Teachers review and pilot digital resources
March 14, 2018 Teachers reached unanimous consensus on recommended digital resource
May 15, 2018 Tentative Award Date

Selection Criteria: Teachers evaluated the resources for the following criteria:

- Content alignment – Is content appropriate to the NGSS for middle school?
- Curriculum delivery – Does the resource support 3-dimensional learning?
- Content delivery – Does the resource provide rigorous, relevant, real-world science Applications
- Student Interest and Engagement – Does the resource provide structures that will students to engage in the content ?
- Alignment to Student Needs – Does the resource provide opportunities for differentiation to diverse student needs?
- Additional Materials – Does the resource provide additional resources to support instruction and assessment?
- Technology Component – Is the technology of this resource user friendly and compatible to WCPS devices.

Exhibit 4

Teacher Comments:

- "Lots of reading. Questions help with group reading. ELL needs are emphasized."
- "Engaging for students. Real world connections and articles are timely and engaging." simulations support the content."
- "Coherence and bundling of standards, true 3-D lessons."
- "Built for Next Generation teaching, engineering practices, and crosscutting concepts interwoven and continuous. Prepares for MISA"
- "More for today's student – not the traditional boring route."

Included with Purchase:

Amplify Science Student License (6 year)

Teacher access to the Amplify Science program is included with student licenses**.**

At least six (6) hours of on-site professional development training (2, six hour events)

Proposed additional purchase:

One of each middle school resource unit kits.

Technology:

All digital resources are compatible with WCPS devices including iPads and Macbooks and computers.

Professional Development:

With the purchase, teachers will receive the following professional development opportunities:

- 6 hours of onsite professional development training.

Purchase:

Title of Item	Description	Order Quantity	Unit Price for School Year 2018 to School year 2024	Extended Price
Middle School Science Instructional Resources	Amplify Science Student License (6-year license)	5,075	$ 86.0	$436,450.00
Middle School Science Teacher Resources	Teacher access to the Amplify science program is included with student licenses.			
Professional Development	At least six (^) hours of on-site Professional Development Training	2	$3,200	Included with purchase
			Total	$436,450.00

Exhibit 4

Proposed Additional Purchase:

Title of Item	Description	Order Quantity	Unit Price for School Year 2018 to School year 2024	Extended Price
Additional Middle School Resources	26 kits total – one kit for each unit in grades 6-8	1	$10,754.48	$10,754.48
			SUB-TOTAL	**$447,204.48**

Other Programs Reviewed:

Houghton Mifflin Harcourt Science Dimensions

Teacher Comments:

The drawbacks of the digital resources and textbooks not recommended are:

- "Weak phenomena, worksheet style just in a digital form, adequate but not always coherent."
- "Practices and concepts are presented but not interwoven. Traditional text-book, just digital."
- "A textbook online. Not extremely engaging. Needs more hands on labs."
- "Seems like no more than an online textbook – not fully 3 dimensional."
- "phenomena not as strong, Inquiry is not emphasized, not as 3-dimensional."

Selection Committee Members:

Michele Harbaugh – science teacher – E. Russell Hicks Middle School
Jessica Keister – science teacher – Western Heights Middle School
Lori Kelley – science teacher – E. Russell Hicks Middle School
Elizabeth Lynn – science teacher – Hancock Middle/High School
Donna Rishell – science teacher – Smithsburg Middle School
Lisa Waters – science teacher – Smithsburg High School
Amy Hilliard – lead teacher – Western Heights Middle School
(NGSS national resource evaluation team member)