ISTE SEAL OF ALIGNMENT REVIEW FINDINGS REPORT
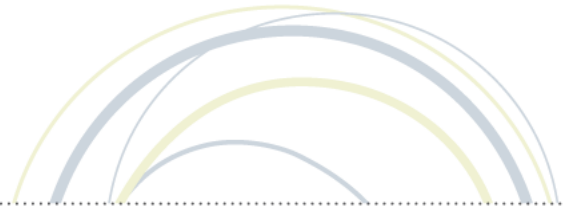
21things4students

JULY 2017

International Society for Technology in Education (ISTE)

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ABOUT

ABOUT ISTE

The International Society for Technology in Education (ISTE) is the premier nonprofit membership organization serving educators and education leaders. ISTE is committed to empowering connected learners in a connected world and serves more than 100,000 education stakeholders throughout the world.

As the creator and steward of the definitive education technology standards, our mission is to empower learners to nourish in a connected world by cultivating a passionate professional learning community, linking educators and partners, leveraging knowledge and expertise, advocating for strategic policies, and continually improving learning and teaching

ISTE SEAL OF ALIGNMENT

Resources and products designed with the ISTE Standards in mind are choosing to demonstrate their commitment to support critical digital age learning skills and knowledge. Regardless a solutions' intended grade level, purpose or content area, by addressing the ISTE Standards and earning a Seal of Alignment, a solution is shown to consciously, purposefully and meaningfully supports best-practices for digital age teaching and learning.

ISTE considers a solution aligned to the ISTE Standards only after an extensive review conducted by trained ISTE Seal of Alignment reviewers, and has been determined to meet all critical elements of a particular standard indicator in accordance with specific review criteria.

By earning a Seal of Alignment, ISTE verifies that this product:
- Promotes critical technology skills
- Supports the use of technology in appropriate ways
- Contributes to the pedagogically robust use of technology for teaching and learning
- Aligns to the ISTE Standards in specific ways as described in the review finding report

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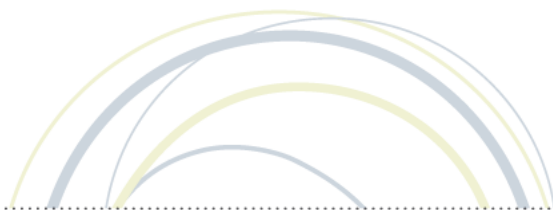
RESOURCE DESCRIPTION

WHAT IS THE 21THINGS4STUDENTS RESOURCE?

21things4students is a project-based curriculum developed by educators in Michigan and made available for free worldwide. The site's goal is to provide a comprehensive library of tutorials on technology tools and digital literacy concepts. The activities and tasks are focused on building proficiency among students in grades 5-9, and are directly aligned to the ISTE Standards for Students. The 21 instructional modules or "Things" may be assigned by teachers in a structured sequence, or separately as a set of resources for increasing student proficiency in targeted technology skills or on demand as needed. Students are provided with a number of tools to monitor and reflect on their own learning goals and progress.

21things4students offers a comprehensive catalog of skills and strategies in the platform. Computing concepts such as cloud storage, Internet safety, information literacy, and collaborative tools are included along with spreadsheets, presentation strategies, and Google applications. Taken as a whole, the platform offers learners a strong foundation for living and working in a digital world.

HOW IS 21THINGS4STUDENTS ORGANIZED?

There are 21 instructional modules or "Things". Things are organized around 'big ideas' such as Collaboration, Powerful Presentations, Digging the Data. Within each Thing the quests offer a variety free online tools as appropriate for completing the tasks. Learners are instructed to select the tool that best fits their learning goal. Quests are open-ended, allowing the learner to adapt them according to their interests. Quests may be completed quickly, giving the learner a sense of success and ownership as they move through the tasks. Many of the "Things" also include a Gold Medal Quest that promotes the application of the skills practices in the module at a higher, independent level.

Each learning modules involves approximately 20-30 hours of participation and the exam lengths depend on the module level. Base and Intermediate module exams are 45 minutes in length, and Advanced modules are 60 minutes in length. Exams cover both conceptual knowledge as well as practical activities.

HOW IS 21THINGS4STUDENTS USED?

The platform may be used by students independently or as a more formal online course. For teachers, there are documents to help them manage student progress through the curriculum, lesson plans, tutorials, task lists and rubrics, along with badges and certificates to award to

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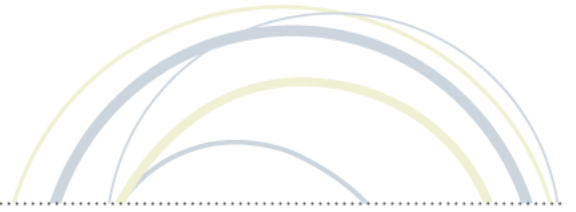
students as they complete each Thing. The concepts and related materials are well organized, rich in content, and easy to use. Skills and tools introduced in their own Thing are often applied as part of another Thing, reinforcing the new knowledge in a new context. The quests themselves are engaging and anchored in real-world contexts. Students will find the organization, access, and success in acquiring new knowledge inviting and useful. While not included as part of the review, a new Teacher Resource center is available to help any teacher build their own skills and knowledge base of the material covered in each Thing.
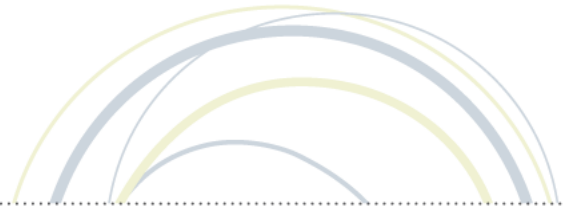
ISTE SEAL OF ALIGNMENT REVIEW

Product: 21things4students
Company: 21Things Project
Date of Award: July, 2017

REVIEW METHODOLOGY

ISTE Seal of Alignment reviews are conducted by a panel of education and instructional experts. Reviewers use data collected both separately and collectively through the review process to determine how a solution addresses specific elements described in each of the indicators of the ISTE Standards. Special instruments are used by reviewers to collect data on potential alignment across all resource materials. Alignment is determined based on the extent to which all or some of specific elements are addressed within the materials. Reviewers conduct regular calibrations to assure the validity and reliability of the results and final review findings are combined for an overall score for alignment on each individual indicator.

The 21things4students resource was reviewed for alignment against the 2016 ISTE Standards for Students, at the Readiness level. Readiness level reviews examine how a resource instructs and/or assesses specific skills and knowledge that have been identified as foundational to the elements of the ISTE Standards.

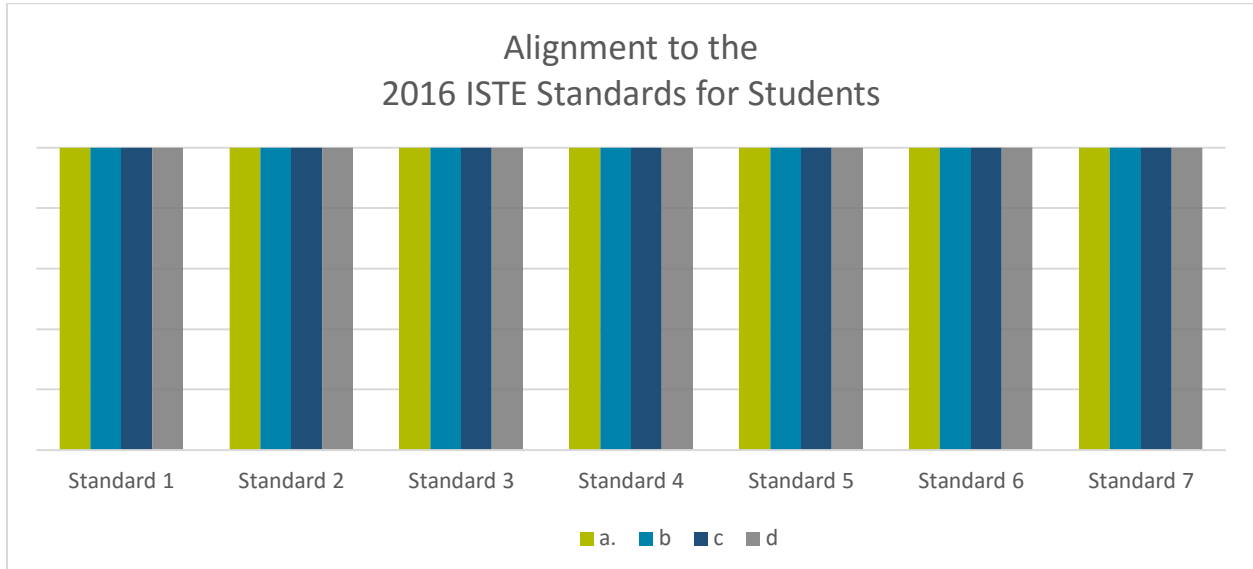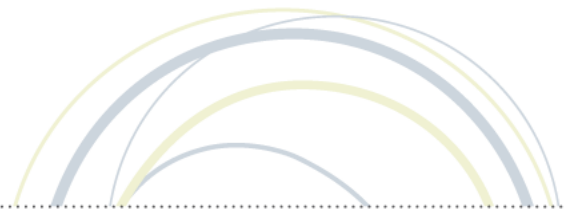The 21things4students resource was reviewed on its ability to:
- Facilitate the development of foundation of technology skills
- Address specific skills and knowledge in ways described by the indicators of ISTE Standards for Students

SCOPE OF REVIEW

The reviewers analyzed all 21 things presented in the resource, and each of the individual quests found within each Thing. Reviewers then collected data on when and how each quest addressed skills and knowledge described in the ISTE Standards for Students. Finally, reviewers compiled findings to determine overall alignment across all ISTE standards and indicators. Aggregate findings were then compiled to form the basis of the overall alignment results.
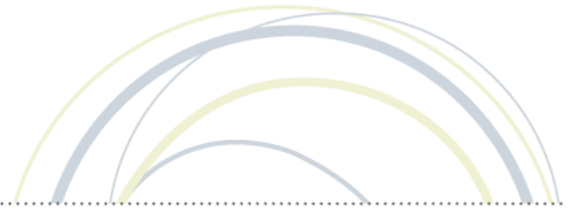
REVIEW FINDINGS

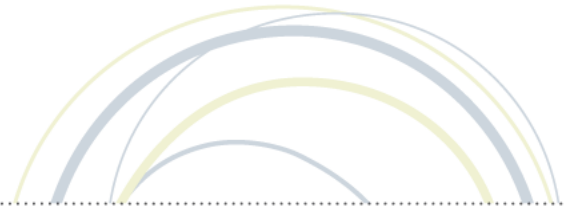Overall, the 21things4students resource was found to align all indicators of the 2016 ISTE Standards for Students.

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Alignment to the
2016 ISTE Standards for Students

Overall, the 21things4students resource supports the 2016 ISTE Standards for Students in the following ways:

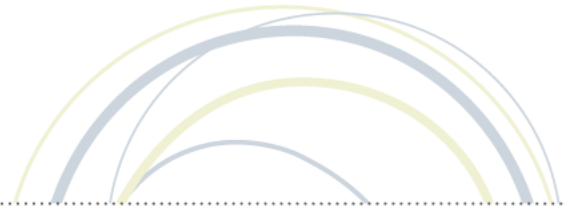| ISTE Standard	Finding Statement
1. Empowered Learner	
1.a. Articulate and set personal learning goals, develop strategies leveraging technology to achieve them and reflect on the learning process itself to improve learning outcomes.	Learners are provided with learning maps that enable them to monitor their progress and reflect on their goals and learning styles.
1.b. Build networks and customize their learning environments in ways that support the learning process.	Learners are given choices to customize their learning path to fit their individual needs and vision and are guided in making appropriate choices.
1.c. Use technology to seek feedback that informs and improves their practice and to demonstrate their learning in a variety of ways.	Each Thing includes options for demonstration of learning and, where appropriate, are given opportunities to provide and receive feedback on their presentations.

1.d. Understand the fundamental concepts of technology operations, demonstrate the ability to choose, use and troubleshoot current technologies and are able to transfer their knowledge to explore emerging technologies.	Fundamental tools and strategies are revisited throughout the platform scaffolding their application in new contexts.
2. Digital Citizen	
2.a. Cultivate and manage their digital identity and reputation and are aware of the permanence of their actions in the digital world.	The multiple places where learners may reveal aspects of their identify are presented in combination with the permanence of publishing information remaining on the web.
2.b. Engage in positive, safe, legal and ethical behavior when using technology, including social interactions online or when using networked devices.	Attention is consistently given to the legal, safe regulations and practices when working with cloud-based applications, posting and interacting online, and sharing resources.
2.c. Demonstrate an understanding of and respect for the rights and obligations of using and sharing intellectual property.	Demonstrations of learning are designed to showcase student understanding of Legal and Safe practices.
2.d. Manage their personal data to maintain digital privacy and security and are aware of data-collection technology used to track their navigation online.	Data privacy and security is reinforced within the context of consuming and producing information on the web.
3. Knowledge Constructor	
3.a. Plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.	Learners practice multiple search strategies that empower them to locate the information they need.
3.b. Evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.	Learners explore strategies and methods for evaluating and identifying trusted sources and apply these strategies in their demonstrations of learning.
3.c. Curate information from digital resources using a variety of tools and methods to create collections of artifacts that demonstrate meaningful connections or conclusions.	Tools and strategies for curating, organizing, and sharing found resources is explored while providing important information for categorizing and connecting sources.
3.d. Build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.	Learners use real-world examples to practice their skills in evaluating information, analyzing data, and creating meaningful demonstrations of learning.
4. Innovative Designer	

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4.a. Know and use a deliberate design process for generating ideas, testing theories, creating innovative artifacts or solving authentic problems.	The design process is used as a framework to guide many of the final projects and presentations in a variety of formats.
4.b. Select and use digital tools to plan and manage a design process that considers design constraints and calculated risks.	Within many Quests learners have an opportunity to select from multiple tools and use the tool(s) that best fits their needs and design vision.
4.c. Develop, test and refine prototypes as part of a cyclical design process.	The design process is used as a part of the game design process.
4.d. Exhibit a tolerance for ambiguity, perseverance and the capacity to work with open-ended problems.	Quests offer students an opportunity to refine and revise their work to achieve their presentation goals.
5. Computational Thinker	
5.a. Formulate problem definitions suited for technology-assisted methods such as data analysis, abstract models and algorithmic thinking in exploring and finding solutions.	Data analysis is explored using a number of strategies and visualization formats.
5.b. Collect data or identify relevant data sets, use digital tools to analyze them, and represent data in various ways to facilitate problem-solving and decision-making.	The representation of data is compared in a variety of formats to explore how the visualization method supports the analysis.
5.c. Break problems into component parts, extract key information, and develop descriptive models to understand complex systems or facilitate problem-solving.	Using a graphic organizer or storyboard, learners make decisions about relevant information to be included in their presentation and revise as appropriate for clarity.
5.d. Understand how automation works and use algorithmic thinking to develop a sequence of steps to create and test automated solutions.	Computational thinking and the design process are used in a variety of contexts.
6. Creative Communicator	
6.a. Choose the appropriate platforms and tools for meeting the desired objectives of their creation or communication.	Learners demonstrate their new knowledge by creating artifacts using media of their choice.
6.b. Create original works or responsibly repurpose or remix digital resources into new creations.	Learners create original works, in a variety of formats, to apply and practice a variety of presentation approaches.
6.c. Communicate complex ideas clearly and effectively by creating or using a variety of digital objects such as visualizations, models or simulations.	Learners explore the use of media to reinforce their message and add interest to their presentation.

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6.d. Publish or present content that customizes the message and medium for their intended audiences.	Learners create their presentation for an authentic audience by sharing their presentation with their peers.
7. Global Collaborator	
7.a. Use digital tools to connect with learners from a variety of backgrounds and cultures, engaging with them in ways that broaden mutual understanding and learning.	The connection between cloud storage and sharing is demonstrated to highlight the collaboration potential in working in the cloud.
7.b. Use collaborative technologies to work with others, including peers, experts or community members, to examine issues and problems from multiple viewpoints.	Learners have options to collaborate on projects
7.c. Contribute constructively to project teams, assuming various roles and responsibilities to work effectively toward a common goal.	Collaborative learning concepts are addressed to guide students in creating their group presentation.
7.d. Explore local and global issues and use collaborative technologies to work with others to investigate solutions.	The use of local, relevant, familiar locations and interests grounds the quests in an authentic context for rich collaboration and perspective.

CONCLUSION

Reviewers concluded that collectively, the 21things4students resource is an impressive resource that provides a comprehensive ladder of skills critical for students to be successful in the digital learning landscape. Students who complete the 21Things curriculum will be in an excellent position to further develop their skills and grow their effective use of technology as a tool for learning.