FUSE + ISTE Standards

The ISTE standards (https://www.iste.org/standards/for-students) are a widely recognized and used body of learning standards for technology education. These standards are well aligned with FUSE as they focus on the underlying processes students use and the skills they build while engaging with technology. Below are a list of common student behaviors or actions that a FUSE facilitator might notice over the course of a student's time in FUSE and how these behaviors and actions align with individual ISTE standards.

Common student behaviors and actions in a standard FUSE implementation

Student behavior/action	ISTE Standard
Chooses to work on a challenge based on their interests and goals.	1a
Uses technology, either hardware or software, to achieve learning goals.	1a
Iterates on their design/solution to reach desired outcome.	1a
Chooses to engage with help content on level pages (videos and instructions).	1b
Changes where they are working, who they are working with, or arrangement of space in the process of working on a challenge.	1b
Uploads an artifact that demonstrates that they achieved their goal.	1c
Requests feedback via the FUSE Feedback tool on fusestudio.net	1c
Takes an active role in troubleshooting software and technology in FUSE.	1d
Develops proficiency in applications beyond FUSE instructions	1d
Becomes proficient in the use of an application or tool.	1d
Uses tools and technology to create appropriate artifacts and contribute appropriate content.	2b

Demonstrates repeated process of testing a design or solution, evaluating results, iterating on it, and retesting.	4a, 4c
Works through problems in their design or solution, does not give up.	4d
Shows willingness to create artifacts that differ from exactly what is shown in the FUSE instructions.	4d
Records design choices or makes plans in a note taking environment.	4b
Creates unique artifacts using the technology and applications in FUSE	6b
Works collaboratively using the FUSE website.	7a
Works effectively as part of a team on FUSE challenges.	7c
Assumes various roles when working on challenges with a group.	7c

Common behaviors and actions *when combined with an extension design project*

In an extension design project, students are asked to apply what they have learned through one or more FUSE challenges to solve a real world problem. These projects often involve conducting research on a real world problem, following the engineering design process to come up with a solution, and high quality presentation of the work. Extension design projects are most appropriate for students who have had 50+ hours in FUSE.

Student behavior/action	ISTE Standard
Conduct thorough research using multiple high quality sources.	3a, 3b
Authentically engage with and thoroughly explore a real world problem.	3d, 7d
Intentionally collect data related to their selected problem and analyze it inform their design.	5b
Analyze and dissect their selected problems to understand various components.	5c
Chooses a format for their presentation that is appropriate to their content.	6a
Composes a high quality presentation describing their project and work that include multimedia artifacts	6c