



Example Application

Below is an application guide to explain how to fill out the Samsung Solve for Tomorrow application. Included is an example from a past winning project idea. Your answers do not need to be as in depth or thorough as these are, this is just to serve as an example of the best of the best. Focus on answering the question to the best of your ability and look at the guidance provided under each question.

Any persisting questions, please email solvefortomorrow@sea.samsung.com

Tell us about a problem or issue in your community (local or national) that your students would work to solve using Science, Technology, Engineering, and Math (STEM). (200 words)

Guidance: This is where you create a clear and strong problem statement to grab the judge's attention. What is the problem you and your students are trying to solve? Feel free to use (accurate) statistics.

Ex: Wisconsin and many other parts of the country have a large population that enjoys recreation on the ice. Fishing, 4-Wheeling, Snowmobiling, etc. Specifically addressing alerts of thin ice and breakthroughs were mentioned by the students. There are close to half a dozen deaths in Wisconsin and 25+ in other cold areas per year, and many more ice breakthroughs that result in injury and property damage as well. Solving these unnecessary deaths and injury could be done by using technology.

How will your students apply STEM to create a solution addressing this problem or issue? (200 words)

Guidance: We understand you will likely not have a full solution right now or that your students may come up with a new solution later. We are looking for your overall project vision at this point. What is your proposed solution for the problem stated above and how does it involve STEM?

Ex: A combination of programming, engineering, physics, math, art, and design will be applied to this problem. Students want to develop a portable solution and app that will allow users to identify unsafe areas on the ice so they can be avoided, as well as an alert capability for an accidental breakthrough. They will use principles of design and engineering to complete their projects and learn about programming. To create a portable system for an ice traveling vehicle with a smartphone app.

Describe in detail the objective of your project (how will the solution work) and the activities your students will participate in to achieve your anticipated goals. (200 words)

Guidance: What is the goal of your solution and how will you get there? How does your proposed solution work and what are the activities your students will perform to get to this goal?

Ex: A series of activities centered around understanding density of ice is going to be crucial for the success of the design. Water is unique in this sense because its solid form is actually less dense than its liquid form. The objective of our project is to build a sensor that will be able to determine ice thickness in real-time and relay that information to users via smartphone so that they can make educated decisions about going out on the ice. Initial brainstorm designs will be constructed in CAD software to help pick most feasible options. Students will explore Arduino, thermistors, and ground penetrating radar to determine ice thickness.



How will this solution improve the community? What assessments will you put in place to measure the impact of your solution (pre, during and post project) that can be presented virtually by Spring 2020? (200 words)

Guidance: This question is designed for you to evaluate impact. Explain how you plan to evaluate that impact and your solution throughout the design lifespan. Regardless of whether or not you move forward in the Solve for Tomorrow competition, how would you plan to move forward with your solution?

Ex: This project is designed to help save lives and reduce property loss in the local community and nationwide. It can be used as an early warning system to alert ice users. The overarching goal is to create an automated, low cost, easy to use prototype, so they can be placed on as many bodies of water as possible. Students will complete the entire engineering design process. Initial discussions with students will set a baseline for their understanding. Small check-ins will be administered to gauge student understanding of the topics, and they may be asked to complete a small project, reflection, or discussion.

How do you plan on making your solution sustainable over time? (200 words)

Guidance: This question is to see how you will make your solution something that will be used for generations to come. How do you plan to maintain this solution so its impact will be upheld?

Ex: Our hope is that this product will be used in regions where bodies of water freeze throughout the country and eventually the world. Once we have a viable product we will create awareness around the problem and show that this is the best solution on the market. We will eventually lower the cost and adapt to the current market as fit to make this available where it is needed.

Please assign up to 3 student leads for this project. Please provide the first and last name of the students, identify their grade level, and describe their role in the project. (100 words)

Guidance: This question is so we know there are students involved in this project. You can have an unlimited number of students involved, we just ask for three names and the roles they have assigned themselves. If you need to change these team member in the future, that is fine.

Is there anything you would like to share with us about what school looks like for you this year? (100 words)

Guidance: This is your chance to tell the judges what teaching in 2020 has been like for you. What are you, as a teacher, experiencing and what are your students experiencing?