

## The Virtual Laboratory (V-Lab) Program

S2S, in partnership with Connectivity, Inc. has developed a fully interactive Web-based, hybrid, distance-based learning (HDBL) program to support elementary, middle, and high school science curricula. The V-Lab Program uses high speed video to enable students (grades 4 through 12) in their classrooms and the

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Technology Center in East Hanover to simultaneously conduct a series of supplemental, age-appropriate, hands-on science experiments. The V-Lab provides students with access to professionals and a technology environment that are generally unavailable to them. Students may ask the instructors questions in real time as the experiment is being conducted. Simultaneous, real-time interpretation in more than 150 languages is provided by Connectivity. This interactivity enhances student retention of, and comfort with, the subject matter.

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coordinates the scheduling of broadcasts, provides instructions for the teachers, trains mentors, and ships the [kits for each experiment](#) to each of the schools.

### ***Significant advantages are achieved with HDBL.***

Assists with the Shortage of Qualified Science Teachers. The technology facilitates the interaction of highly skilled

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instructors and STEM professionals with science teachers. Local STEM professionals volunteer to visit the classroom to support the teacher in instruction, and provide first-hand knowledge of the benefits of a STEM career.

Expands Access. The Web-based communications platform has the potential to serve the demand for education and training globally. Additionally, it offers the flexibility to accommodate the many time-constraints imposed by organizational schedules, requirements, and responsibilities.

Alleviates Capacity Constraints. Because it is conducted mostly or entirely off-site, the V-Lab Program alleviates the capacity, geographic, and language constraints of a physical location.

Additionally, the technology allows a single instructor to conduct experiments with multiple classrooms simultaneously in several different languages.

Provides Mentoring. Interactivity with STEM professionals increases student retention and comfort with the subject matter, and our program offers two options for this interaction. In Option 1, the school may choose to independently perform the experiments simultaneously with the instructor in the Students 2 Science Technology Center in the HDBL environment. In Option 2, the school may bring in a local STEM professional to serve as an in-class assistant and mentor. In the mentoring role, this professional provides the students with insights into the benefits of a career in STEM.

S2S provides the kits and recruits the local STEM professional by use of its network of supporting corporations. Examples of supporting corporations include The American Chemical Society (ACS), Bayer, Becton Dickinson, BioNJ, Bristol Meyers Squibb, Celgene, Daiichi Sankyo Pharmaceutical Corporation, Merck, Novartis, PerkinElmer, and others. S2S provides training and selection for these in-class mentors.

[Click here for V-Lab&nbsp;Kits and Experiments](#)

It is projected that \$18 billion will be spent on digital supplemental educational materials and improving technology in U.S. classrooms in 2014. Many people believe that what will be lacking is effective and appropriate content. Our professional staff has created content that simultaneously instructs, entertains, and engages the varied groups of students we host. We continually assess these materials with both students and teacher to gage their effectiveness.

Additionally, curriculum reform efforts stress the need for interaction with the private sector. S2S's V-Lab addresses

this concern as well.

The V-Lab program introduces a communication platform that will allow schools to interact with any subject matter expert in any language, since Connectivity has the ability to offer translation and interpretation services in more than 150 spoken languages. S2S plans to make the science kits available to students nationally, as well as internationally, at an average cost of \$2-\$5 per student per experiment.