New Hampshire NCLB Title II-D
Regular Funds for Round 9
Competitive Grants – February 2011

Step 2: Application Narrative for Classroom Mini-Grants Program

(Please be sure to complete Step 1 online at: www.nheon.org/oet/nclb)

District:	Derry Cooperative School District SAU10	Date:	2/23/11
Project Manager:	Fran Leach		
Position Title:	Science Teacher-6th grade		
Mailing Address:	Gilbert H Hood Middle School, 5 hood rd, derry, NH 03038		
Email Address:	fleach@derry.k12.nh.us		
Phone:	603-432-1224 x331		

BE SURE TO READ ALL OF THE FOLLOWING STATEMENTS.

ASSURANCES

I hereby certify that:

1. To the best of my knowledge, the information contained in this application is correct, and the school board of the district named above has authorized me as its representative to submit this application.
2. The District has submitted to the New Hampshire Department of Education (NHDOE) a General Assurances signature page for the current year.
3. The District has consulted with the appropriate non-public schools during the design and development of this Ed Tech project prior to all decisions that affect the opportunities of private school children to participate in the program.
4. All funding for this project will be obligated and reported no later than the quarterly report ending **6/30/2012** and expended and reported no later than quarterly report ending **9/30/2012.**
5. The grant funds expended will supplement, not supplant, funds from non-federal sources.
6. The District will keep records and provide information to the NHDOE as may be required for program evaluation, consistent with responsibilities under NCLB Title II-D as outlined within the Grant Application Guidance (e.g., annual tech survey, case study report).
7. The schools to be funded by this program are compliant with the Children's Internet Protection Act (CIPA) because the district employs a filtering mechanism for student access or because Ed Tech funds referenced in this application will NOT be used to purchase computers used to access the Internet or pay for direct costs associated with accessing the Internet.

Superintendents: When you submit your final grant application in the online grants management system, you will be certifying the above assurances.

Criteria	*Applicants: Criteria used to review each grant application are listed in the left column. Please do not delete the criteria column. By using this right column to describe how your project proposes to meet the criteria, you can increase the likelihood that you won't leave out important information. There is no page limit, but please be as clear and concise as possible.* **Title: Weather Trackers** **by GHHMS 6th Grade Science teachers** **Project Manager: Fran Leach**
Project Abstract (10 points) A clear and concise abstract (**100-150 word limit**) outlines the mini grant project and overall goals, along with the process for implementing it in the classroom.	
1. Describes the project, including grade level(s) and content area(s), indicates how this project fits into school/district curriculum, indicates process for implementation and assessment, as well as how it would advance the achievement of students.	Weather Trackers is a 6th grade science inquiry based project connecting district Earth and Physical science curriculum as well as integrating Math, LA, and Social Studies. Students analyze pollution, track global weather movement and determine local impacts from acid rain. Assessment data from student response systems will guide the pace and direction of the project while Netbooks help improve communication and writing skills on a wiki.
Abstract includes an essential question, connected to the state frameworks, which probes for deeper meaning and broader understanding of the framework content addressed by this project, fostering the development of higher order thinking and problem solving.	"Why should we worry about pollution in California?" Answering this essential question requires students to identify pollutants, understand weather formation, track global particle movement, and make connections about the quality of our water and soil as impacted by these components. This project brings a greater understanding of how Earth works as a system where all components impact each other and are necessary to function properly as a whole. Students gain personal awareness of global impacts by comparing their local area with neighboring towns.
Project Description (50 points) Describes project in general terms and indicates whether it is a replicated project or an original project. Projects which can directly impact	This is an original project designed to engage the students in understanding the weather that impacts them daily. Our 6th grade science curriculum has a large component about weather. We currently study the layers of the atmosphere, the water cycle, heat transfer and clouds connecting them to understand how they affect the weather. Students are naturally curious about the weather since it can impact them on a daily basis. The opportunity to relate

more than one classroom are preferred. If project is replicated, proposal describes the intended changes to the project idea and how they will improve the project in order to be appropriate for the situation. Includes specific goals and objectives that relate to the essential question, and explains how those goals will be achieved by the project. Include a rationale for any changes made to the original project. If your project is original, proposal describes how the project is appropriate for current situation. Includes specific goals and objectives that relate to the essential question, and explain how those goals will be achieved by the project.	textbook information to what is happening outside our window allows students to be engaged on a higher level. We have discovered that the simple addition to the classroom of a weather station has created daily questions about the weather. Students check the numbers as they enter the room of their own accord. This has led to an intense curiosity and drive to get more information. We believe that students should direct the learning not just be supplied information by the teachers. They can expand this quest for knowledge by comparing atmospheric changes (weather); measuring impact on different town water samples (chemistry); recording soil changes (Earth) using handheld data collectors (math/technology) with assorted sensors, tracking weather patterns on the Internet (Google Earth, USGS, NOAA, NASA, Weather channels), analyzing acid rain maps of the US or testing water samples. Middle school students do not see the impact they can have on our Earth. Often they look at our different units of study and do not make connections. This project will combine weather, chemistry and Earth units and demonstrate the resulting influences on our world. Acid rain on the west coast eventually appears in our water supply and soils. How do we know this? What can we do about it? Encouraging students along the STEM (science, technology, engineering, and mathematics) pathway will also benefit student test scores and open greater possibilities for future exploration. Sixth graders are very visual and seeing results instantly will engage their natural sense of curiosity. Vernier LabQuest handheld units with specific sensors provide visual real-time results. Sensors will be used to record weather changes in humidity and pressure. Rainfall and soil will be measured and tested for temperature and PH from various pond locations around Derry. Soil samples around the school, fields, our other middle school and homes around town will be compared before and after weather precipitation. Findings will be posted on the Wiki and compared with findings posted by other schools
1. Proposal generally discusses how implementing this project will improve technology integration within classrooms and in the core content areas. Indicates the need for technology integration in school or district. Describes the determination of need for	With the continued focus on formative and summative assessment, the student response systems (SRS) will have a series of questions that each student can respond to before we get into our discussions about our results. The SRS will help to identify students who might be struggling with analyzing the lab or concepts. Teachers can then direct classroom discussions to focus on the weak areas or create small focus groups for further investigation. The anonymity of the SRS the student the freedom to give answers without the intimidation of what others think of them and prevents

this project and includes one or more examples of data that support the rationale of need for the project, such as NECAP assessment or other data. This explains to the reviewer why the project is worthy of funding as it relates to student achievement	students from waiting for others to supply the answers. NECAP science testing results show the interpretation of inquiry data as a weakness for our district. As more inquiry activities are included, the SRS will allow the formative assessment of information interpretation in a timely manner using the format of student choice, technology. As the students become successful in the classroom, we believe it will carry over into the NECAP test. We also anticipate daily review of concepts. While our school has a computer room dedicated for project use and 2 NetBook carts, we also have 9 teams competing to use them and they cannot be reserved on a daily basis. The Netbook stations will allow groups of students to complete research in the classroom as well as work on scripts, reports and wiki postings. They will have time to edit their work until it is top quality. The intrinsic value of their work will increase as they progress through the stages of improving their entries.
2. Project is focused on one or more content areas, with the proposal indicating which content area and associated standards are the main focus. Proposal indicates how the project will address ICT literacy skills without focusing solely on the acquisition of ICT literacy skills devoid of core content learning.	Project-based learning improves inquiry skills, an area where our students scored low in the Science NECAP test. It also can be incorporated in several content areas. While this project is framed in the science classroom, each of the content areas will have components to enhance the student investigation. In Math class the students will interpret the data they have collected as bar, line and circle graphs. One outstanding feature that increases student connections is the ability to use technology to switch between the different types of graphs. Students suddenly understand how the different shaped graphs represent the same data. Often students learn to read graphs but it is just numbers, when LabQuests are used, the student makes a change and then instantly sees how the graph changes. This brings a greater understanding of what a graph represents. Social Studies will cover latitude/longitude, geographic locales and how population might contribute to levels of pollution. One focus will be to study where our own pollution travels using Google Earth, recording weather movement maps to determine the transport of particles and where they might settle geographically. In Language Arts, students will create public service announcements and weather reports enhancing research and script writing. Technology is the medium of choice with most students and they will work in collaborative groups producing effective communication products, which will create a digital artifact for their portfolios. Creating qualifying submissions to be posted on

	the wiki or submitted to the Jason Project will provide an incentive to edit and rewrite their work. The Netbooks will enhance participation in the Jason Project (a project we are already involved as part of an MSP with Kearsage) with interactive journaling, participating in discussions with real scientists to address the essential question "Should we be concerned about pollution in California?" This project enables student directed learning as the student collects and processes information about Earth's weather system. The use of technology will enhance the learning. Currently, we use the whole class method, projecting "Jason Project" images but the journaling and questioning of scientists is not individual due to the lack of Netbooks in the classrooms. The students will be able to create a question or comment on concepts, and then submit to the teacher for posting. In order to qualify as an acceptable submission, it must be grammatically correct and content related. Students will edit their entries until it meets the standards for posting. This creates pride and ownership in their work by proving that their submission is "good enough" for a posting. This would address the tendency to want to write in a "text" method just because it is technology and would reinforce the technology standards on literacy. **<u>Content area Standards:</u>** ICT Standards: Ed 306.42 (2) Become proficient in the use of 21st century tools to access, manage, integrate, evaluate, and create information within the context of the core subjects of: b. Mathematics; d. Science; (3) Use 21st century tools to develop cognitive proficiency in: b. Numeracy; c. Problem solving; d. Decision making; and e. Spatial / visual literacy Science: SPS1– Scientific Inquiry and Critical Thinking Skills (INQ S:SPS1:6:1.1 Make observations and record measurements using a variety of tools and instruments. S:SPS1:6:1.2 Plan observations based on a given purpose. S:SPS1:6:1.3 Identify and investigate similarities and differences among observations and sets of observations. S:SPS1:6:1.4 Use appropriate units and precision of metric measurement when recording data. S:SPS1:6:1.8 Ask questions about relationships between and among observations. S:SPS1:6:2.2 Identify and utilize appropriate tools/technology for

	collecting data in designing investigations. S:SPS1:6:2.3 Incorporate components of good experimental design, such as controls and multiple trials, into investigations S:SPS1:6:4.1 Use appropriate tools to organize, represent, analyze and explain data. S:SPS1:6:4.2 Make and record observations using a pre-determined format. S:SPS1:6:4.3 Compare and display data in a variety of student or computer generated formats (such as diagrams, flow charts, tables, bar graphs, line graphs, scatter plots, and histograms). S:SPS1:6:4.4 Identify patterns and relationships in data and formulate basic explanations. S:SPS1:6:5.1 Determine if the results of an experiment support or fail to support the scientific idea tested. SPS2– Unifying Concepts of Science S:SPS2:6:1.2 Describe how results of similar and repeated investigations may vary and suggest possible explanations for variations. S:SPS2:6:1.3 Explain that sometimes similar investigations get different results because of unexpected differences in the things being investigated, the methods used, or the circumstances in which the investigation is carried out, and sometimes just because of uncertainties of observations. S:SPS2:6:1.4 Realize that if more than one variable changes at the same time in an experiment, the outcome of the experiment may not be clearly attributable to any one of the variables SPS3– Personal, Social, and Technological Perspectives S:SPS3:6:1.1 Work effectively within a cooperative group setting, accepting and executing assigned roles and responsibilities. S:SPS3:6:1.2 Work collectively within a group toward a common goal. S:SPS3:6:1.3 Demonstrate respect of one another's abilities and contributions to the group. SPS4– Science Skills for Information, Communication and Media Literacy S:SPS4:8:2.1 Use a wide range of tools and a variety of oral, written, and graphic formats to share information and results from observations and investigations. S:SPS4:8:3.1 Execute steps of scientific inquiry to engage in the problem-solving and decision making processes. S:SPS4:8:6.1 Work in diverse pairs/teams to answer questions, solve problems and make decisions. S:SPS4:8:6.2 Plan and develop team science projects.

	Physical Science- S:PS1:6:2.2 Identify substances by their physical and chemical properties, such as magnetism, conductivity, density, solubility, boiling and melting points. S:PS2:6:3.4 Explain that heat energy moves from warmer materials or regions to cooler ones through conduction, convection, and radiation. Earth Science S:ESS1:6:1.1 Describe and make predictions about local and regional weather conditions using observation and data collection methods. S:ESS1:6:1.2 Identify weather patterns by tracking weather related events, such as hurricanes. S:ESS1:6:1.4 Describe weather in terms of temperature, wind speed and direction, precipitation, and cloud cover. S:ESS1:6:1.5 Describe how clouds affect weather and climate, including precipitation, reflecting light from the sun, and retaining heat energy emitted from the Earth's surface. S:ESS1:6:4.2 Explain that satellites can be used to view and track storms and Earth events, such as hurricanes and wild fires. Math M.04.DSP.07.01 ~ Interprets a given representation (circle graphs, scatter plots that represent discrete linear relationships, or histograms) to analyze the data to formulate or justify conclusions, to make predictions, or to solve problems. M.04.DSP.07.02 ~ Analyzes patterns, trends, or distributions in data in a variety of contexts by solving problems using measures of central tendency (mean, median, or mode), dispersion (range or variation), or outliers to analyze situations to determine their effect on mean, median, or mode; and evaluates the sample from which the statistics were developed (bias). M.04.DSP.07.03 ~ Identifies or describes representations or elements of representations that best display a given set of data or situation, consistent with the representations required in M.DSP.07.01 M:CCR:8:3 Students will recognize, explore, and develop mathematical connections and be able to: Understand that many real-world applications require an understanding of mathematical concepts Language Arts: Writing W:IW:7:1.1: Using an organizational text structure appropriate to focus/controlling idea (State) EXAMPLES (of text structures): description, sequence, chronology, proposition/support,

	compare/contrast, problem/solution W:IW:7:3.2: Including sufficient details or facts for appropriate depth of information: naming, describing, explaining, comparing, using visual images (State) W:IW:7:3.4: Commenting on the significance of information, when appropriate
3. Proposal describes in detail the project based learning unit(s) that will encompass the project, and project features support acquisition of digital and media literacy skills. Project based learning (or problem based learning) with a constructivist approach and essential questions are the heart of these projects. Team projects must show evidence that these pedagogies are clearly understood and applied.	In the article Powerful Learning: Studies Show Deep Understanding Derives from Collaborative Methods (Brigid Barron & Linda Darling-Hammond) states "…inquiry-based teaching is not so much about seeking the right answer but about developing inquiring minds." This is reflected in our classrooms as we encourage students to explore and discover science concepts. Students are more engaged when they find their own answers rather than receive a lecture about the topic. Our goal is for students to develop a greater understanding of the impact that humans have on their world. They should understand that everyday actions that create pollution could be controlled with planning, even on small scale. They should grasp that their actions could have global impacts and are not just contained to their immediate locale. Google Earth enables them to track weather. Students will be able to predict how Earth's atmospheric changes can alter the levels of pollution and deposition locales, which they will measure with the LabQuests. Our students will collaborate and share their learning as the article stated "cooperative learning, in which small teams of students use a variety of activities to more deeply understand a subject. Each member is responsible not only for learning what is taught but also for helping his or her teammates learn, so the group become a supportive learning environment," creating a very rich experience. Finally, students will also communicate their findings to educate others, which can only happen when the concepts are truly mastered. Rich discussions on the Wiki and Jason Project will increase their communication skills and develop a communal citizenship with other geographic areas. Timeline: • Chemistry-introduce pH concepts, learn to use LabQests to measure ph and use assorted sensors, begin study of changes of states with focus on the water cycle • Local soil and water samples collected and tested from homes and other schools, results posted on Wiki from NetBook stations; Math class will analyze and interpret the

	data. • Weather- begin studying air pressure and heat transfer, how clouds form, weather patterns and predicting. Google Earth and Weather Channels will be used for daily recording of events. Jason Project site video clips and lab used to strengthen . Classpad will be used in conjunction with interactive websites like edheads to simulate weather forecasting. • Students will "adopt-a-city" to study weather patterns as compared to our local weather, Latitude and longitude will be discussed in Social Studies, Cities will be marked on the tracking map • Pollution and solutions- topics will be researched and students will post findings on the Wiki and have discussions with students from other schools involved. LA will oversee editing to create qualifying posts • More water/soil testing in the spring (frequency depends on access to soil), data recorded and posted on wiki • Final Project: student groups create a video of their discoveries to include weather forecasting, satellite images, documentary on pollution impacts around the world. Script writing and editing completed in LA class. Flip cameras and school TV studio will be used for creating and editing the videos. • Student Response Systems will be used at each stage on a daily basis to determine student grasp of concepts
4. Proposal identifies and explains at least three specific learning goals the team needs to address in its professional development activities and how the proposed professional development will address these.	Our professional development goals are: 1. Learn to use a green screen for weather forecasting. 2. Learn proper use of LabQuest and manipulating data. 3. Learn how to use and implement the student response system as well as develop formative assessments appropriate for the SDS. 4. Learn to use classpad effectively. One culminating activity will be for students to predict the weather like a meteorologist. As a real world application, we plan to use our school TV studio to create a weather report using a green screen. We hope to access our local LESCN center for instruction as well as our school's media specialist. Vernier has a 6 hour workshop in Boston for training on use of LabQuests as well as manipulating the data. One teacher has used LabQuests in the classroom from a former grant but would like to develop her skills on manipulating the data; one teacher has assisted on a project using LabQuests, and the other teacher need

	complete training. Student Response System training by company trainers plus online tutorial videos are needed by all the science teachers to be able to enter questions daily to assess students. This training will include Math teachers, LA and Social Studies Teachers since all will have access to the units
5. Proposal indicates that support has been obtained from the superintendent AND the principal, preferably by attaching letters of support within the grant application pages (not as separate files). Such support acknowledges that he/she has read the RFP, understands the requirements, and will allow the applying team to fulfill the requirements, if they are awarded the grant	The superintendent of Derry Cooperative School District and the principal of Gilbert H Hood Middle School have read the RFP and fully support this project as acknowledged in the attached supporting documents. (last pages of this document) Principal Superintendant
6. Proposal supports schools, teams, or districts that haven't participated in mini-grants previously or partners with such entities.	This project will create partnerships with several other towns in the area. Some are past grant winners and some are not. We can compare understanding of concepts, using the added technology resources, with our sister middle school, West Running Brook, as well as Hampstead, Merrimack and Kearsage. Hampstead and Merrimack (not a former grant winner) have confirmed that they would be willing to partner in our project by comparing assessment data before and after the units. Additionally we will compare water and soil changes at each location. Students from all schools will use a common wiki to post data on soil, water and weather for comparison purposes. Student led discussions on weather movement globally will create a deeper understanding of impacts in our world. Students can post qualifying statements and discuss their ideas about why this happens
7. Proposal indicates partnerships which involve NH teacher preparation program faculty.	While no partnership is confirmed involving NH Teacher Preparation Program Faculty, discussions with UNH have been initiated to involve students coming into the classroom.
8. Proposal indicates thoughtful inclusion of students with special needs and uses appropriate technology to	This project will be present some advantages for students with special needs. Often these students struggle with writing or might feel awkward about answering in class. The technology in this

assist those learners in order to promote the achievement of all students.	project will enhance their abilities as the Netbooks provide an easier medium to produce work and the SRS provide anonymity while allowing the teacher to discover how much they know. Past use of Wikis has shown that the students gain confidence and are eager to create work to post.
9. Proposal indicates plans for dissemination of the project to other schools and districts throughout the state, including presentations at 2 or more venues.	This project will be presented at several venues. Possible sites where the team will share the project are to the district Technology Fair, Christa MacAuliffe Technology Conference or at the NH Science Teachers conference.
10. Proposal indicates specific plans for video production training as needed and an outline for the promotional video that describes the various stages of design and implementation of the project.	Project manager, Fran Leach, has experience creating promotional 3-minute videos for 2 prior mini-grants (Don't Drink the Water and Techno-Fitness). She has used both moviemaker and imovie showcasing implementation of those projects. Other teachers on the project will acquire video footage from students then work with Fran to develop the new video.
Capacity for Success (35 points) Describes the capacity of each team member to achieve meaningful success at achieving the goals of the Tech Mini-Grant Program in the school or district. Clearly articulates the program and policies in place that will support success in terms of professional development, technology leadership, and how this program would meet specific achievement needs of the students.	
1. Proposal demonstrates capacity for success by providing strong evidence that school/district and the individual team members are willing and able to conduct the scope of work involved in implementing this project.	Derry Cooperative School District is always supportive of advancing inquiry projects and technology. Within the district there are opportunities to win limited grants to add technology to the classroom through the 21st Century Technology Grant program. They have previously supported 2 original mini-grants, Don't Drink the Water and Techno-Fitness, as well as a replication of a former mini-grant, Robots in Motion, in my classroom. A District technology fair occurs in the spring allowing teachers to share their ideas and provide time for all teachers to review the

	exhibitions. The Technology Integration Specialists maintain page on the district website to address any issues or learning quests that teachers may have with using software programs or operating equipment. How to tutorials are abundant and Sakai is used to request individual needs. Additionally, our school has 4 computer labs (1 dedicated for projects) and 2 Netbook carts as well as a TV Studio with a student channel.
2. Proposal describes why participation in this effort is appropriate for district and the capacity the school or district has that will insure the success of the project.	Our district is currently developing into a Professional Learning Community (PLC). Training in collaboration on projects has been provided as well as time to collaborate weekly with grade level peers. This opportunity exemplifies Derry's commitment to enhancing learning for teachers and students. This past summer, most of the Gilbert H Hood Middle School's staff participated in an online OpenNH course designed to improve teaching strategies in the 21st century classroom. Project based learning, Understanding by Design, and collaboration were the prominent themes. The 3 sixth grade science teachers involved in this project participated as well as most of the 6th grade team teachers who will be involved in parts of the project.
3. Proposal describes any structures, policies, and/or procedures already in place in school or district that support the project and the project-based learning philosophy.	In the past, my school's technology staff has promptly helped address any issues I have with equipment or software programs. I am confident that my past success is due to the unique collaboration and support within the school and district. This will ensure a high capacity for success in future endeavors such as the Weather Trackers project.
4. Proposal discusses the abilities and expertise of the individual team members with respect to their ability to collaborate, organize, schedule, and deliver a successful project to their students.	Fran Leach has taught science for 6 bringing multiple inquiry activities into the classroom. Fran has obtained several grants across the years and they always involve technology. She has taken online courses through OPENNH that have enhanced her project creativity. Fran has successfully completed 2 Mini-grants ("Don't Drink the Water", "Techno-Fitness") in the past including collaborating with her team, organizing lessons and making a video in a timely fashion. Furthermore, once she is trained, Fran constantly exhibits a willingness to share her experiences and expertise with colleagues in our school and district. She uses the LabQuests for several projects each year. In 2010, after attending a workshop on Wikis, Fran created several Wikis on PBWorks for her classes as well as the grade level teacher resources, Lego team research/communication site, and grant collaboration. She has presented workshops on use of wikis in the classroom.

	Karen Tenhagen has worked several years in different grade levels and currently teaches 6th grade science. She has been trained on the mechanics of the LabQuest, provides input on the Wiki resources, and coaches Lego Team/club. Her involvement in school play productions will bring expertise to video production and script writing. She has assisted the Lego Team in developing green screen videos. She has a unique perspective that enhances our collaborations and she strives to make technology a daily part of her classroom. Karen has also been trained on use of Google Earth and will share her expertise with other members of the team. Cindy Oriani is a 6th grade science teacher with 0ver 10 years of creating innovative projects that engage the students. Her dedication to detail and willingness to learn new technology make her an asset to this team. Her collaboration on the wiki and Jason project ensures that her students will understand what is expected of them. She always brings a unique perspective by looking at lessons from the student's point of view and addressing how different types of learners will perceive the project.
5. Proposal indicates team member and district/administrative support with respect to: • implementing the project in classrooms, • supporting the professional development opportunities necessary to successfully participate in the Mini-Grant program, • participating in required mini-grant meetings, • producing the 3 minute documentary video for presentation, • preparing the lesson plans and materials necessary for sharing with other, • attending the Mini-Grant celebration day, • presenting the project within the district and at a regional or state venue, and participating in post-project evaluations for program improvement.	Discuss team member, and district/administrative support with respect to: • Fran Leach, Karen Tenhagen and Cindy Oriani will implement the project in their science classroom. Pre and Post assessments will be administered to show growth of understanding. LabQuests will be used to collect soil and water data (PH, soil moisture, length of daylight, temperature) in the fall to create a baseline from specific sites. Wiki pages will be developed and data posted. Initial journaling questions will be posted for students to respond . Across the winter months, students will investigate atmosphere, weather factors, clouds, wind, and pollution. In the spring, more data will collected from the same sites. • The district is supportive of this project by arranging substitute teachers allowing time off to attend conferences as needed. • All team members will participate in any face to face and online meetings that will be scheduled, • All team members will produce the 3 minute documentary video for presentation, headed up by Fran Leach with experience on previously creating a video for a mini-grant • Fran Leach, Karen Tenhagen and Cindy Oriani will collaboratively prepare the science lesson plans and materials necessary for sharing with others. • All team members will attend the Mini-Grant celebration day. • All team members will present the project at district at the district Technology Fair , at NHSTA conference or CMTC conference • All team members will participate in post-project evaluations for program improvement.

6. Proposal discusses the Extent of Impact within the School – indicates the anticipated number of staff that will be directly and indirectly impacted by the project, as well as the number of students that will be directly and indirectly impacted, along with supporting explanations for each.	240 Students in our 6th grade on 2 teams will be directly impacted by this project utilizing all components of the project. The 3 science teachers will head up the project but parts will be implemented by the other 8 team teachers in each content area (LA-PSA'a and script/wiki editing, SS- geographic locations, Math-graph interpretation). 60 Students and at least 2 teachers from the other schools will be indirectly impacted as we share data collected on the wiki.
7. Proposal discusses the Extent of Impact to Other Schools – Describes how the project will involve or include outreach to multiple schools, or multiple districts, in order to increase the impact of the project.	We can compare understanding of concepts, using the added technology resources, with our sister middle school. Hampstead and Merrimack have confirmed that they would be willing to participate in our project by comparing assessment data before and after the units. Additionally we will compare water and soil changes at each location. Students from both schools will use a common wiki to post data on soil, water and weather for comparison purposes. Additionally, comments on weather movement globally will create a deeper understanding of impacts in our world. Students can post qualifying statements and discuss their ideas about why this happens.
Budget (5 points) Budget contains a narrative and justification of expenses regarding equipment, supplies, travel, and professional development expenses appropriate to carry out the proposed project. The total for professional development is at least 25% of the total budget requested. Include $100 per team member for each teacher to attend the spring 2012 celebration event.	
Budget is formatted with the narrative in left column and total amounts in right column. Within the narrative, proposal describes a logical connection to district goals and shows how	

costs were calculated. Proposal includes $100 per teacher for attendance at celebration event.		
	Narrative	**Amount**
	Netbooks (1 station for 2 teams for research, posting on wikis, tracking weather, using Google Earth, script writing) number depends on cost (anticipate 8)	$2100
	2 external hard drive (backup so we do not need to buy extra for each netbook, 1 per team)	$160
	2 Student Response Systems class set (24) for assessment on a daily basis to guide learning, 1 set per team	$2400
	1 e-classpad to create interactivity for students with a projection screen using existing projectors (simulates smartboard activity); 1 team will use a unit from a prior grant	$300
	4 flip cameras plus batteries for creating PSA's and video for forecasting	$400
	4 LabQuests to collect data on water, soil, air pressure (will utilize other LabQuests from Techno-Fitness minigrant). Each team will have a LabQuest station; 2 charging stations one for each team for ease of rapid charging between classes (extra LabQuests already exist from a previous mini-grant)	$1400
	Assorted sensors (1 set per team) to collect data such as temperature, air pressure, soil moisture, humidity, pH in water/soil, light sensor (length of day)	$640
	Miscellaneous- water quality test kits for comparing water samples, global map poster for tracking	$100
	Professional Development: $100 each for 3 teachers and 2 administrators to attend required grant celebration	500
	Substitute teacher costs (3 teachers x 4 days each for conference, workshops, and celebration events @$65/day	$780
	Stipends: for project manager for completing paperwork and overseeing project 1 @$200 3 teachers @$150 for training and work session time related to grant project	$650
	Workshop training fees: LabQuest 6 hour training in Boston, cost plus travel for 3 teachers	$570
	Total	**$10,000**

Gilbert H. Hood Middle School
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February 25, 2011

Dr. Cathy Higgins
NCLB Title II-D Program Manager
Office of Educational Technology, Division of Instruction
New Hampshire Department of Education
101 Pleasant Street, Concord, NH 03301

Dear Dr. Higgins:

This is a letter of support for the Gilbert H. Hood Middle School, Grade Six Science, "Weather Trackers" project. The Project Manager, Fran Leach, asked me for a letter of support for this "Enhancing Education Through Technology" Grant that she is submitting on behalf of herself and her grade six Science colleagues, Karen Tenhagen and Cynthia Oriani.

I have read both the grant proposal and the RFP, and I understand the requirements. Also, I wholeheartedly support this project, and I will allow Fran and her colleagues to fulfill all of the requirements if they are awarded this grant.

If you have any questions, or need more information, please do not hesitate to contact me. Thank you.

Sincerely,

Austin E. Garofalo
Principal

MARY ELLEN HANNON
Superintendent of Schools
MARYANN CONNORS-KRIKORIAN
Assistant Superintendent
KATHERINE L. KENNEDY
Human Resource Director
JANE M. SIMARD
Business Administrator
MINDY SCHUMAN-VYE
Title I Coordinator

Derry Cooperative School District #1
NH School Administrative Unit #10

CHRISTOPHER K. KELLAN
Director, Student Services
JAYNE M. BOYLE
Assistant Director
JOAN M. CAMPO
Assistant Director
LINDA A. DIGNEY
Assistant Director
SERENA A. LEVINE
Director, Supplemental Services

February 25, 2011

Dr. Cathy Higgins
State Director of Technology Education
New Hampshire Department of Education
101 Pleasant Street
Concord, NH 03301-3860

Dear Dr. Higgins:

It is with great pleasure that I support the application for a technology grant from Mrs. Fran Leach, 7th grade science teacher, of Gilbert H. Hood Middle School in Derry, New Hampshire.

I have read the RFP, and I am fully aware of the requirements. If Mrs. Leach and her team are awarded the grant, they will be allowed to fulfill the requirements. The advantages for students to participate in this project are innumerable.

Thank you for your time and consideration.

Sincerely,

Mary Ellen Hannon

Mary Ellen Hannon
Superintendent

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