NSF/IERI SCIENCE IDEAS PROJECT START-UP PLAN AND IMPLEMENTATION GUIDELINES FOR NEW SCHOOLS

1. Establish a Vision for Science IDEAS

    a. Steps in Developing a Vision

        i. Needs Assessment and Reflection
            1. What should quality science look like at my school?
            2. What are the characteristics of a quality science program?
            3. What helpful hints do the National Science Standards offer about establishing a quality elementary science program for all students?
            4. What are the current barriers that need to be addressed in order to establish a quality science program for all students?
            5. What steps can be taken to establish a quality science program?
            6. What factors do we need to address to develop the capacity of our school to sustain a quality science program?

        ii. Communicate the Vision: What does it mean to be a Science IDEAS' School?
            1. Displaying the Science IDEAS's Banner
            2. Creating a Science IDEAS' Scrapbook or Portfolio (Archiving our story in pictures, words, and evidence of student and teacher accomplishments)
            3. Displaying evidence of meaningful science learning (e.g., student work samples) on walls, in hallways and in central office
            4. Creating a "Science IDEAS" feature column in your weekly newsletter home to parents
            5. Planning for community involvement including science-related governmental agencies, other schools, business partners
            6. Hosting a Science IDEAS parent night early in the school year and at least one other time
            7. Including teacher and student accomplishments in Science IDEAS as part of each faculty meeting or SAC meeting
            8. Making science benchmarks, science teaching and most importantly student learning in science the focus of discussion for Learning Team meetings (LTM's)

2. Plans for Implementation

   a. Scheduling
      i. Begin by scheduling daily Science IDEAS instructional blocks (for in-depth science learning that will include hands-on science, content area reading comprehension, writing and journaling. For grades 3-5, from one and one-half to two-hours per day should be scheduled. For grades K-2, 45 minutes per day should be scheduled.
      ii. Strive to maintain a schedule with no-pull outs. That is, try to refrain from pulling out ESE students during science instruction as they benefit from a coherent and content-rich program of study – (the thing that is missing from most struggling learners)
      iii. Schedule common time for specific grade-level planning
      iv. Schedule the other school instructional areas and "specials" after Science IDEAS schedules have been completed. Since in grades 3-5, Science IDEAS replaces reading/language arts, the school schedule should include one-half hour per day for literature.
      v. Coordinate with Science IDEAS' staff for on-going professional development days during the school year
      vi. Schedule Science IDEAS' Parent Night (minimum: one time annually)
      vii. Schedule time each quarter for principal, assistant principal, etc., to join in and actively participate in a full day of grade-level planning

   b. Resources
      i. Determine if you need to conduct an inventory of your science equipment and related hands-on resources
      ii. Consider centralizing science resources and small equipment along with a system for checking out and returning materials
      iii. Determine other resources that will be needed (in the form of science equipment) and see if other members of your "I" team (feeder-pattern schools) can make a contribution to your school?
      iv. Obtain and keep handy science catalogues, or send away for them as appropriate
      v. Continually monitor the status of your science equipment, science trade books, "post it" notes, and any related multi-media units
      vi. Determine if the Media Specialist can be involved in a much more comprehensive way

   c. Setting Up Classrooms
      i. Determine, with Science IDEAS' staff, the recommended units of study for each grade level
      ii. Develop class libraries of reading materials relevant to the science concepts being learned (Send home recommended reading for parents to do.)
      iii. Identify evidence of student work and plan to display the same throughout the classroom and hallways

d. Using Curriculum Units
    i. Use both grade level planning and benchmarks resources from Science IDEAS as well as the District resources to plan specific science units for each grade level
    ii. Ensure that science units have been integrated with mathematics, reading and writing, as appropriate
    iii. Encourage teachers to collaborate in the development of science assessments for use with each science unit
    iv. Align specific reading and writing benchmarks (literacy connection) with each science unit

3. Investing in Professional Development

a. Level I Professional Development
    i. Teachers are required to participate in the initial Summer Science Institute which is usually two-weeks in length
    ii. Depending upon the availability, of funds, participating teachers may be eligible for a stipend
    iii. Depending upon the availability of grant funds, teachers will receive instructional resources and will be bagging activities for use in the classroom
    iv. Topic focus: meaningful science leaning, hands-on activities, concept mapping routine, reading comprehension routine, prior knowledge routine, journaling

b. Level II Professional Development
    i. Summer Institute – one week's duration
    ii. In-depth understanding of science and reading comprehension, nature of science, other topics and elements associated with phase two of the project

    iii. During the school year follow up professional development
c. Level III Professional development
    i. Summer Institute – three days
    ii. Focus: Advanced IDEAS components and leadership enhancement and mentoring
    iii. During school year follow-up professional development

d. Grade Level Planning
    i. At least once every nine weeks; principal meets with grade level teams for full day of curriculum planning including concept mapping, resource identification and assessment

4. School Level Project Management

a. Include Science IDEAS in the School Improvement Plan
b. Develop a plan for monitoring fidelity of implementation
c. Establish an organizational infrastructure for sustainability
    i. School-based Teacher Leadership Cadre
    ii. Project-based Teacher Leadership Cadre