

August 2006

## Database Handbook 2006-2007

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# **Database Handbook**

**2006-2007**

**PROJECT FULCRUM IS SUPPORTED BY THE NATIONAL SCIENCE FOUNDATION AND THE  
UNIVERSITY OF NEBRASKA**

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# **1. Introduction**

The on-line database provides us with data necessary for our grant via a web-based interface. It is critical that you learn to log onto the database and use it as soon as possible, and to contact us immediately with any problems you may have. Some general notes:

- The screen you see may be different from the screens shown here because the website is in constant flux.
- Not all options are available to all participants. Options that are not available to you will turn grey when you position the mouse over them.
- We are continually revising the database. There may be changes in format from what you see. A current copy of the handbook will be posted on the website.

NOTE: RSEM = Resident Scientist, Engineer or Mathematician – it's too long to write out each time.

**IMPORTANT:** If you find an error in the database and get an error message, copy the error message **in its entirety** and forward it to diandra2@unl.edu. If you get an error that doesn't generate an error message, log off the database, close the browser, re-open the browser, and try again.

You should see a very, very tiny white square in the upper left-hand corner of the screen that has an access ID of the form S-xx-2005, where xx is your personal ID number. If any of these values are missing, STOP. Log off the database, close the browser, re-open the browser, and try again.

## **2. Main Website Overview**

The main PF website is located at <http://www.physics.unl.edu/~fulcrum/index.php>. The main part of the website is open to anyone and contains a variety of information and resources you may find helpful.

### **2.1. About PF**

About PF contains information about PF Goals, publications and presentations made by PF and associated personnel, media coverage, and contact information for the project. It also contains year-by-year information about the project and its participants.

### **2.2. PF Participants**

This section takes you to the database. It is password protected and open only to RSEMs, Lead Teachers, and project management

### **2.3. For Teachers**

Under development

### **2.4. For K-12 Students**

Under development

## **3. Logging In**

### **3.1. Usernames and Passwords**

You have a username and password. The username and password are set to the first initial of your first name followed by your entire last name. You should change your password when you log on for the first time. Usernames and passwords are case sensitive. We use all lowercase letters for usernames and passwords. If you use uppercase letters when you change your password, you *must* enter them as uppercase letters every time.

If you lose your password or username, contact the Project Coordinator by e-mail ([fulcrum2@unl.edu](mailto:fulcrum2@unl.edu)). The Project Coordinator can tell you your username, and reset your password. You should change the password after you log in. Passwords are encrypted in the database. We cannot look up your password – we can only re-set it.

### **3.2. To Log in:**

- Open your favorite web browser (We recommend Firefox. We try hard to be compatible with Safari and we're waiting to see how IE7 handles css compliance before we try to fix the IE problems.)
- Go to the PF Main Webpage and choose PF Participants from the main menu. You also can go directly to

<http://www.physics.unl.edu/~fulcrum/gkLoginShow.php>

- Figure 3.1 shows the login screen you will see. Type your username and password *exactly* as given to you. Your password will not be visible, so you have to make sure that you type the password correctly

A successful login produces Figure 3.2. After you hit 'continue', you will be directed to the main screen, as shown in Figure 3.3. Some important points about this screen:

- There will be a small white rectangle in the upper left-hand corner of the screen (very small in the figure). It should be in the form F-xx-200x. The first letter denotes your role with the project. RSEMs should be F, teachers should be T and guests are G. Your ID number is the second component – this number will be the same every time you log in. The last four digits are the year. If any of these elements are missing, there is a problem with your login. Close the browser, re-open it and try again.
- News appears on the first page. Log into the database daily and check for new information. You also can post news here by clicking on the 'Submit News' button.

**Login**

---

If you are not a Project Fulcrum participant, but would like to visit our webpages, please log on using username = "guest" and password = "guest"

---

Username:	<input type="text"/>
Password:	<input type="password"/>

**Figure 3.1: The log-in screen.**

**Login**

---

**Figure 3.2: The screen you get if your login is successful. Press the continue button to move to the next screen.**

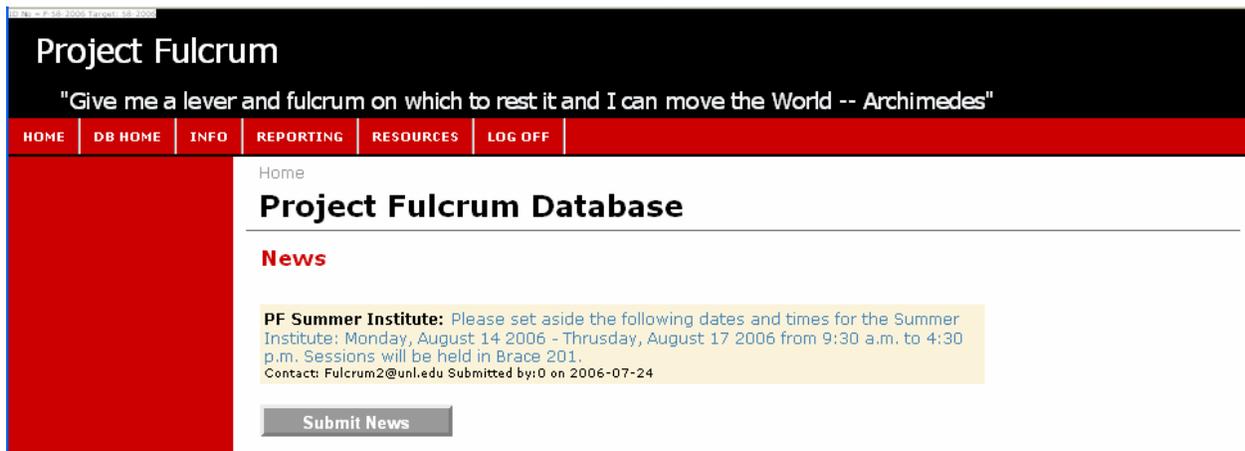


Figure 3.3: The main screen. See the text for the comments about what should or should not be shown on the screen..

The remainder of this manual goes through the elements of the main menu in order.

### **3.3. Troubleshooting**

If you cannot log in, do the following steps *in order*:

- Check to make sure you are using upper and lower case characters correctly in your username and your password
- Close your browser and re-open it, then try again.
- Ask someone else working with the project – sometimes you forget something and leave it out. A colleague may jog your memory.
- Contact the Project Fulcrum office.

## **4. Info**

You can click on the Info section of the main menu, or use the pull-down menu. Clicking on Info gets you to the screen shown in Figure 4.1. Gradient buttons always will indicate interactive pages and the information in white boxes with red borders are pages you can print or view, but generally don't allow you to change information.

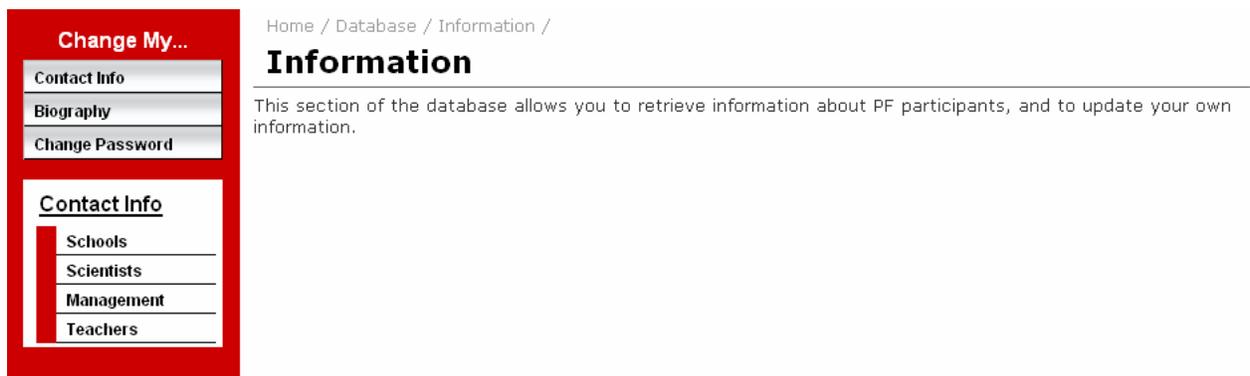


Figure 4.1: The first screen for the Info option

This section of the website is not accessible to anyone except Resident Scientists/Engineers/ Mathematicians, Lead Teachers, and administrative staff. The information is private. Do not disseminate it outside the program without the person's permission.

#### 4.1. Change My...

##### 4.1.1. Contact Info

This section allows you to update your contact information: address, e-mail, phone numbers, etc. You need to update this information immediately if it changes. These screens include the demographics NSF requires us to provide for paid participants. Screens are shown for teachers (Figure 4.2) and RSEMs (Figure 4.3). **Demographic information is not available to anyone but project management.** Demographic information is used only for end-of-year reports to the National Science Foundation.

It is critical that we be able to reach you. Please keep this information up-to-date. It is your responsibility to change the information. Do not call the office and ask them to do it for you.

- For teachers:
  - The school and the type of teacher (cooperating or lead) must be changed by the Project Coordinator.
  - The school phone cannot be changed: it is part of the school record and not your individual record. If you have an extension in your room, please input the extension number in the 'notes' section.

### Teacher Information

Teacher Information			
First Name	<input type="text" value="Test"/>	Home Address	<input type="text" value="yyyy"/>
Last Name	<input type="text" value="Teacher"/>	City, State, Zip	<input type="text" value="test"/> - <input type="text" value="NE"/> <input type="text" value="68516"/>
e-mail	<input type="text" value="test@ps.org"/>	Other Phone	<input type="text" value="402"/> - <input type="text" value="472"/> - <input type="text" value="9999"/>
Date of Birth (00-00-0000)	<input type="text" value="99"/> - <input type="text" value="99"/> - <input type="text" value="9999"/>	Home Phone	<input type="text" value="402"/> - <input type="text" value="472"/> - <input type="text" value="9999"/>
		School Phone	<input type="text"/>
<input type="button" value="Update"/>			
School	<input type="text"/>		Type
<input type="button" value="Update"/>			
Demographic Information			
The National Science Foundation requests that we provide this information so that they can track what type of people are being impacted by the program. This information is provided only as aggregate statistics -- it is not provided in association with your name, only as part of the entire group of cooperating teachers. Providing this information is voluntary, but we do appreciate it. All information is confidential.			
Years Experience	<input type="text" value="12"/>	Highest Degree	<input type="text" value="MS/MEd/MAT"/>
College Major	<input type="text" value="Physics"/>	College Minor	<input type="text" value="Chemistry"/>
Disability	<input type="text" value="Not_Reported"/>	Race	<input type="text" value="White"/>
Ethnicity	<input type="text" value="Not Reported"/>	<input type="button" value="Update"/>	
NOTES:			
This is the test teacher profile. Do not include in any reports			
<input type="button" value="Update"/>			

Figure 4.2: The screen for teacher information

- If you have a cell phone, please put it under ‘other phone’. This number will be used only in an emergency, but it is helpful to have it.
- If you have additional credits towards a degree above the highest you hold, please indicate that under ‘Notes’. The purpose of collecting this information is to determine whether Project Fulcrum is more useful to teachers at particular stages of their careers.

## Scientist Information

Personal Info		Campus Address	
First Name	<input type="text" value="Test"/>	Room/Bldg	<input type="text" value="Fer"/>
Last Name	<input type="text" value="Scientist"/>	Dept	<input type="text" value="PHY"/>
e-mail	<input type="text" value="mbaquerizo@unl.edu"/>	Campus	<input type="text" value="CC - City Campus"/> Zip <input type="text" value="68858-9999"/>
Date of Birth	<input type="text" value="7"/> - <input type="text" value="28"/> - <input type="text" value="20"/>	Note: Use just the last four digits in your UNL zip. I.E. 68588-0111 would be 0111	
School Assignment	<input type="text" value="Other Activity"/>	Home Address	
<input type="button" value="Save"/>		Home Address	<input type="text" value="casa"/>
Scientist Demographic Information		City, State, Zip	<input type="text" value="Lincoln"/> , <input type="text" value="NE"/> <input type="text" value="68506"/>
Discipline	<input type="text" value="Geosciences"/>	Phone Numbers	
Academic Level	<input type="text" value="Doctorate 4th Year"/>	Campus	<input type="text" value="402"/> - <input type="text" value="472"/> - <input type="text" value="3333"/>
Disability	<input type="text" value="Visual_Impairment"/>	Other	<input type="text" value="402"/> - <input type="text" value="111"/> - <input type="text" value="1111"/>
Ethnicity	<input type="text" value="Hispanic or Latino"/>	Home	<input type="text" value="402"/> - <input type="text" value="222"/> - <input type="text" value="2222"/>
Race	<input type="text" value="Black or African American"/>	<input type="button" value="Save"/>	
Two to three sentences describing your research.		<input type="text" value="test"/>	
NOTES:		<input type="text" value="adgarefwr"/>	

Figure 4.3: The screen for RSEM information

- For RSEMs
  - The campus zip code is just the last four numbers. All UNL zip codes are 68588-xxxx. Just the ‘xxxx’ goes in the form.
  - If you have a cell phone, please put it under ‘other phone’. This number will be used only in an emergency, but it is helpful to have it.
  - The school name cannot be changed in this form.
  - We ask for a very brief paragraph about your research. This is something NSF asks us to provide and is independent of your biography.

- For both:
  - Pull-down boxes ask for information about race, ethnicity, gender, etc. NSF requires us to ask you to provide this information so that they can determine whether we are reaching a diverse group of people.
  - The date of birth is encrypted in the computer and accessible only to project management (not to other RSEMs or teachers).

#### 4.1.2. Biography

The main webpage has a biography of each participant. The input form is shown in Figure 4.4. This information is accessible to the public, so keep that in mind when you are filling out this form.

### Scientist, Mathematician or Engineer Biography

The following questions will be used on the main webpage.

Name	Test Scientist				
Bachelor's degree and year	B.S. <input type="button" value="v"/>	Major	<input type="text" value="test"/>	Institution Graduated From	<input type="text" value="test"/>
	<input type="text" value="2004"/>		<input type="text"/>		<input type="text"/>
Master's degree and year (if applicable)	None <input type="button" value="v"/>	Major	<input type="text"/>	Institution Graduated From	<input type="text"/>
	<input type="text"/>		<input type="text"/>		<input type="text"/>
Ph.D. degree and year (if applicable)	None <input type="button" value="v"/>	Major	<input type="text"/>	Institution Graduated From	<input type="text"/>
	<input type="text"/>		<input type="text"/>		<input type="text"/>
What degree are you pursuing in what department? How far along are you in your graduate studies?	<input type="text" value="test1"/>				
What made you interested in participating in Project Fulcrum?	<input type="text" value="test2"/>				
What are you researching? (Please write a short description in everyday terms that non-scientists can understand.)	<input type="text" value="test3"/>				
What made you interested in becoming a scientist, engineer or mathematician?	<input type="text" value="test4"/>				
What do you hope to gain (personally and/or professionally) from working with PF this year?	<input type="text" value="test5"/>				
What hobbies or other interests do you have?	<input type="text" value="test6"/>				

Figure 4.4: Biographical information for resident scientists, mathematicians and engineers.

# Teacher Biography

Your answers will appear on your Project Fulcrum page

<b>Name</b>	Test Teacher	<b>School</b>	
<b>How long have you been teaching and at what schools?</b>	<input type="text" value="t"/>		
<b>What made you interested in a career in teaching?</b>	<input type="text" value="4t"/>		
<b>What subject(s) and grade(s) are you teaching this year?</b>	<input type="text" value="4t"/>		
<b>What do you hope to get out of working with PF this year?</b>	<input type="text" value="4t"/>		
<b>What hobbies and other interests do you have?</b>	<input type="text" value="4t"/>		

Figure 4.5: Biographical information for lead teachers.

### 4.1.3. Password

You may change your password at any time using this option.

**Passwords are case sensitive.** If you choose “FULCRUM” for your password, “fulcrum” will not work. We suggest a password that is: not an everyday word, is at least eight characters long, and includes at least one number and one non-alphanumeric symbol.

If you lose your password, we have to reset it. Passwords are encrypted in the database, so we cannot tell you what your password is.

### 4.2 Reports

This section allows you to access contact information for all RSEMs and teachers, plus the administrative staff and contact information for the schools with whom we work. Select one of the options to generate the appropriate list. If you do not have access to the internet at home, you may want to print out the lists and store them in your handbook; however, make sure that you check periodically to make sure that information has not changed.

Home / Database / Information /

### Change Password

<b>Name:</b>	Test Scientist
<b>User name:</b>	tscientist
<b>Password:</b>	<input type="text"/>
<b>Type Password Again:</b>	<input type="text"/>
<input type="button" value="Change"/>	

Figure 4.6: The screen for changing your password

## **5. Reporting**

### **5.1. Journals**

#### *5.1.1. Purpose*

Journals have many purposes and are one of the main requirements for your participation. One of the most important purposes is documenting the growth and experiences of program participants. The second most important purpose is helping project management keep track of issues and concerns, which allows us to plan upcoming meetings.

#### *5.1.2. Guidelines*

A journal is required from RSEMs the first week of the program and each week they are in schools. Lead Teachers are required to complete journals weekly, with the exception of holidays. A few reminders:

- **Journals must be completed by Sunday midnight:** the journal program automatically advances to the next week at midnight on Sunday. If it is not in by Sunday midnight, it is late.
- You can access the current week's journals anytime during the week. You can revise your journal as much and whenever you want as long as it is before Sunday midnight.
- You can submit parts of the journal and then return to enter more. We recommend that you fill out a few entries, submit the journal, then go back and do the next few. This avoids your filling out the entire journal and then finding out there is a problem.
- After you submit your journal, go back to the journal entry and make sure it is there. You also can check the journal status page.

NOTE: If you are not good at spelling, please write your answers in a word processing program first, spell-check them, and then cut-and-paste them into the journal.

#### *5.1.3. Accessing the Journals*

To get to the journal, either click on Reporting on the main menu and choose 'journals' under weekly logs, or click on journals on the pull-down menu under reporting.

### 5.1.4. RSEM Journals

#### Journal Entry for Test Scientist -- Week Starting Monday Jul 31, 2006

You MUST use the 'submit' button to submit your journal. Any other action will not submit your journal.

NOTES: Please use this space to explain any usual situations such as absences, comps, etc.

Activities	
Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.	
Pick one activity from the last week that was not as effective as you hoped. Describe the activity and what you might change to increase its effectiveness.	
Did any situations arise that allowed you to share information about yourself or your research with students or teachers? Briefly describe the situation.	

Figure 5.1: Top part of journal

Figure 5.1 shows the top part of the journal. The emphasis as you fill out the journal should be: “*what did you do, what effect did it have on the students and on you, and what is your evidence?*” Do not leave any section blank because then we do not know if you meant to put something in and it was lost, or if you just didn’t have anything to say on the issue that week. Do not say ‘see above’ because we may retrieve questions independently and there is no ‘above’.

- **Pick one activity from the last week that you feel was effective...** This may be something you did with the students, with the teachers, or with your fellow RSEMs. Briefly describe the activity and why you think it was effective.
- **Pick one activity from the last week that you feel was not effective...** This may be something you did with the students, with the teachers, or with your fellow RSEMs. Briefly describe the activity and why you think it was not effective. If you have ideas for fixing it, suggest them.
- **Situations that allow you to share information...** Were there any occasions when you were able to discuss your role as a scientist, engineer or mathematician.

Figure 5.2 shows the middle part of the journal, where we ask you to rate yourself on your skills in specific areas. You are rating yourself on your own scale – we are looking for changes as a function of time, not rating participants relative to each other. These rating often fluctuate, especially for RSEMs, as some weeks have more successes than other weeks.

Please rate yourself in the following areas:			
Comfort level teaching science or math	Superior	Knowledge about teaching science or math	Superior
Knowledge about teaching using inquiry	Superior	Skills for teaching using inquiry	Superior
Your overall confidence in being able to help students learn science or math	Superior	Your overall confidence	Superior

Open-Ended Questions	
What did you learn about K-12 students this week?	
What did you learn about teaching in general this week? Did you learn anything you might be able to use in college-level teaching?	

**Figure 5.2: Middle part of journal**

The second part of Figure 5.2 shows the beginning of the open-ended questions. Answer the questions to the best of your ability.

- **What did you learn about K-12 students this week?** Tell us about something you learned in your interactions with students this week. If you have no student interactions, write ‘no student interactions this week’.
- **What did you learn about teaching in general this week?** What did you learn about teaching in general? Did you learn a new technique that might be applicable to your college-level teaching? Did a teacher show you a new way of explaining something that was particularly useful?

The last part of the journal is shown in Figure 5.3. These open-ended questions help us understand how you perceive your efforts. The only people who have access to your journal are the program management and we consider this a confidential communication. You do not have to worry that we are going to tell your teacher or RSEM what you said.

<p><b>What did you learn about K-8 teachers and schools this week?</b></p>	
<p><b>Do you think you are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</b></p>	
<p><b>Do you think your efforts increased the participation and/or interest level of students (especially minorities and/or females)? What evidence do you have?</b></p>	
<p><b>How did your work with Project Fulcrum affect your confidence, desire or interest in your research or coursework this week?</b></p>	
<p><b>What questions or topics would you like to address at this week's group meeting?</b></p>	
<p><b>What other questions or comments do you have this week?</b></p>	

Send a copy of my journal to me

**Submit**

**Figure 5.3: Bottom part of journal**

- **What did you learn about K-8 teachers and schools this week?** This question is analogous to the one about students, but asks you to consider the K-12 structure, including the schools and the teachers.
- **Do you think you are making a difference in the classroom? What kind and how do you know?** The second question is the most important. Most participants will answer ‘yes’ to this question most of the time, but the important thing is what you perceive to be the impact of Project Fulcrum. This may be something like noting that you learned at a teacher’s meeting about a new way to teach fractions and it worked (and explain why you think it worked), or that a child came up to you and told you he wanted to be a scientist when he grows up.
- **Do you think your activities increased participation and/or interest levels of students, especially minority and female students?** Some activities stimulate particular students more than others. This could be a child who normally hates science being fascinated by an experiment designing roller coasters because he is very interested in amusement parks. It might be because you are discussing a female Hispanic astronaut and a Latina child in the classroom is engaged because she sees this woman as a role model.
- **How did your work in the classroom affect your confidence, desire, or interest in your coursework and/or research?** This question asks you to reflect on how participation in Project Fulcrum impacts other parts of your life. It doesn’t matter whether your response is

positive (for example, having a hard time finding time to study for tests) or negative (e.g. talking to students reminds you why you went into science in the first place).

- **What questions or topics would you like to discuss at this week’s group meeting?** The agenda for group meetings focuses on participant concerns. This is where you shape the nature of these meetings. We do not always have time to address all of the questions each week, but we try to find a way to focus on all of the concerns. You must fill out this box. If you can’t think of a question to ask, you aren’t doing your job. We plan the weekly meetings around these questions (plus other administrative or topical concerns), so this is your opportunity to determine how we spend at least some of that time.
- **What other questions do you have?** This is your opportunity to communicate anything else you would like project management to know, suggestions, praise, etc.

**NOTE:** Journals are a useful way to communicate with participants about things they might be uneasy discussing in person, or that should not be shared with the other participants. Please state at the beginning of such comments that they are confidential.

Figure 5.3 shows a very important feature. There is a ‘submit’ button at the bottom of the page. **If you do not press this button when you are done, you will lose everything you entered.** You can hit submit at any time and whatever you have done so far will be saved. You can use the submit button as much as you want. There are multiple submit buttons on the form – any of them can be used.

When you are done with the journal, check the box to send copies to yourself and the assessment team. You will receive an e-mail containing the information you sent. You should keep a copy of all your journals to make sure that you have proof that they were submitted in case there is a problem later. Please do not check the boxes until you are finished with the journal because otherwise we get 5-6 emails per person.

### 5.1.5. Example Journals

Although some questions from this example journal are slightly different than they are this year, these journals give you an idea of what we expect in terms of volume and degree of completeness.

Activities	
<p><b>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</b></p>	<p>Last week I attended [REDACTED]. I feel that attending this meeting was very effective because it allowed me to form contacts throughout the country with other people that were interested in similar aspects of public education. We were able to talk about issues facing the public school systems while forming relationships and contacts that will hopefully continue to grow as the time passes. By being able to spend time learning about other types of GK-12's that are out there it allowed me to see ways of incorporating different ideas and topics into the GK-12 that I am currently involved in. However the greatest part of attending the meeting was being able to just have time away from science to discuss activities and education as a whole with other people that are working to make similar improvements that I am striving to accomplish. It was really nice to be able to get away from science and truly get back to looking at issues of education as a whole.</p>
<p><b>Pick one activity from the last week that was not as effective as you hoped. Describe the activity and what you might change to increase its effectiveness.</b></p>	<p>Having the students work with CBL's to collect data while I was not there was not as effective as I had hoped. As with most things in science research, they never go as planned or as expected. However the CBL's seem to be very limited in their functional capacity. The students worked very hard and have become frustrated with the project because the data collection is not going to work as we all had hoped. I tried to relate my own experiences as a researcher to the problems we were facing and was able to successfully troubleshoot the problems, however the end result is that the students will need to determine a new approach at going about their investigation because they are just not able to answer the questions they had originally proposed due to the capabilities of the CBL's and calculators.</p>
<p><b>Did any situations arise that allowed you to share information about yourself or your research with students or teachers? Briefly describe the situation.</b></p>	<p>Throughout the trouble shooting I was able to explain that this is how research goes. In other words you come up with a plan attempt to collect the data and then solve the problems that arise along the way. While I believe that I have not turned any of the students off of science through this experiment it has taught me a valuable lesson of really trying things myself before allowing them to answer the questions that they had posed. While the questions that were posed are truly good ones the way in which the data would need to be collected is not possible due to the calculators shutting themselves off. However the students have truly been exposed to what real research is like and that is an invaluable experience at such a young age.</p>

Activities	
<p><b>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</b></p>	<p>In the 8th grade classes we started an activity to model the solar system. I talked to the kids about the size of our solar system and we then talked about the size of the planets. Then I had them use the information in the book and the scale of 39,420,000 km per yard to model the distance with relation to the sun. This put Pluto 150 yards away from the sun. Then we had them calculate how big the planets would be using the scale of 394,000 km per yard so that the planets were at least visible on the paper. Even this scale only made Pluto out to be approximately .4 inches in diameter. We then had each group start to draw up posters for each planet that had the planet drawn to scale, its actual diameter, and its distance from the sun. On Wednesday we are going to go outside and have the groups stand at the correct distances from the sun to create the model.</p>
<p><b>Pick one activity from the last week that was not as effective as you hoped. Describe the activity and what you might change to increase its effectiveness.</b></p>	<p>The only activity that I really saw this week was the solar system modeling, and I think that it turned out to be pretty effective. The only thing I questioned afterwards was if we should have done a review of scaling before beginning the activity. I thought that might have helped, but maybe going table to table worked better anyway. ██████ said that he and ██████ were going to try doing a review at the beginning of the last 8th grade class to see if that helped at all. Other than that I thought the activity went pretty well.</p>
<p><b>Did any situations arise that allowed you to share information about yourself or your research with students or teachers? Briefly describe the situation.</b></p>	<p>I had a lot of students ask me questions about space that I could only answer very superficially. I had to tell them that I knew a good deal about space, but I didn't know everything and that astronomers and physicists were the that could answer the really hard questions.</p>

Open-Ended Questions	
<p><b>What did you learn about K-12 students this week?</b></p>	<p>The students in K-12 face several issues and while at the GK-12 meeting I attended a session on Urban issues and it really drove home a few points about student lives and how that affects their education. While these were not points that were new to me such as students having to deal with many problems outside of school before they can begin to think about learning it was very apparent in the students as today was the first time I had seen them since spring break. Many of the students that were benefiting from my interactions with them had obviously had a rough week at home without school. They were showing several signs that the previous week was not a good week for them and it was obviously affecting their attitudes and their ability to learn and participate at school. It will be very interesting to see if I can reestablish the relationship I had with these students and see if there is improvement in them as the weeks go on.</p>
<p><b>What did you learn about teaching in general this week? Did you learn anything you might be able to use in college-level teaching?</b></p>	<p>Again this week my role as a teacher was more in terms of an advisor rather than a teacher. I was helping the students work on their research projects for the statistics competition and was placed in the role of advisor. It reminded me of the fact that even though I have much more experience than the students at working through problems of research that research is truly not something that always has definite solutions to problems. It is frustrating being in this role because you want to keep the moral of the students high so that they stay focused and interested so you are always trying to put a positive spin on things while at the same time trying to solve problems that are new to myself as well as the students and as we all know the answers are usually more questions that need to be address rather than solutions. So it was another week of some frustration because I want the project to work but at the same time see the benefit that the students will gain from this experience. It is hard to try and keep them happy while essentially posing several more unanswered questions to them at the same time.</p>
<p><b>Do you think you are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</b></p>	<p>I would have to say yes I am making a difference because of one particular student and her attitude and actions today. When I arrived there were several students that have made leaps and bounds of progress since I have been in the classroom that appeared to have taken a huge swing in the wrong direction. One in particular was essentially very frustrated with the reading that they were doing and wasn't able to find an answer to a question. It was made apparent to me at lunch by Sue that several of the students had been having problems this week. I feel very strongly that it has to do with the fact that they didn't have school last week but that will be hard to prove. However the girl that was struggling during reading was being very moody and had some obvious outside of school issues and wouldn't even cheer up when I was joking with her and we had had a very good connection before spring break. Eventually after several attempts at trying to help her without giving the answer, I finally had an aha moment. I remembered what my mom did when I use to tell her I couldn't find an answer and that was to find the page or section and then ask several leading questions to get me to find the answer on my own. I then used this technique with her and she finally got the answer. However she still wasn't happy. However, finally when I was leaving two hours later she finally smiled and said good bye. That made the whole frustrating day worth every moment. Just to see her smile caused me to have the feeling that everything was going to get better and that it will improve.</p>

<p><b>What did you learn about K-8 teachers and schools this week?</b></p>	<p>I made more of an impact on [redacted] middle school last year than I had realized. I visited there this past week to visit with [redacted] about an activity that she and I had used to explore the idea of carrying capacity and limiting factors. In my visit, several kids I had worked with last year beamed when I walked into the class. So much so, that [redacted] realized I had walked into the classroom. [redacted] also was excited to see me and discuss how things were going. I then on my way out was stopped by the principal and had he asked what I was up to this year and commented that I should always feel free to come back to Irving. What I learned is that he is a principal who stands behind those who are challenging and 'growing' up kids who know how to think. How can we get more caring and concerned individuals involved in curriculum development?</p>
<p><b>Do you think you are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</b></p>	<p>Yes, in [redacted]'s classroom, I have noticed that she is more calm about not knowing an answer. She and I have discussed my feelings on the matter--I feel that we can make more of an impact on a child if we disclose that we do not have all the answers. It makes the child more responsible and if nurtured, the child develops the skills needed to find their own answers to questions. This transition was somewhat unexpected. In [redacted] class, he commented that he has not ever really taken the time to develop the last quarter material. So, he had only been doing one hands-on project and in the past had used field trips to supplement the curriculum. This year, however, he is not allowed to take those field trips and he was struggling coming up with any ideas. So, we sat down and discussed the impact and desired outcomes. We rearranged some of the ideas or projects that I had brought to the table, and I think that he was pleased with the outcome. [redacted]</p>
<p><b>Do you think your efforts increased the participation and/or interest level of students (especially minorities and/or females)? What evidence do you have?</b></p>	<p>It was interesting, this past week one of the quieter girls in the diff class was the first to approach me with questions. She has not ever asked me a question without a group. Her questions were related to topics the class had been introduced to the past week and she wanted to know more details. We talked and I hope that she continues to think critically about what she is learning.</p>
<p><b>How did your work with Project Fulcrum affect your confidence, desire or interest in your research or coursework this week?</b></p>	<p>My work with Project Fulcrum this week made me realize that I really want to be done with graduate school. I need more time to do experiments and all, but ultimately I desire to keep making an impact on kids and education as a whole. I also really desire to help in developing curriculum that will help improve education in the area of science. I think that we, as scientists, need to also be involved in the math curriculum. If more science is used in math problems, and vice versa, kids might become more comfortable in both areas.</p>
<p><b>What questions or topics would you like to address at this week's group meeting?</b></p>	<p>The concept of respect shown to teachers and educators. This is a concept we have not focussed on in our past discussions. I however see that many good teachers are chased out of the schools due to the lack of respect that parents and kids and administrators show to them. Growing up with an educator as a parent, I have a built in respect for teachers who know what they are doing and prove competent. How (or even what) can we do to successfully show teachers (and even administrators) deserved recognition for their hard work? If more teachers are given respect in their positions, will this also build up a more qualified group of educators? I do not think money alone, will do the job of bringing in top educators. There are already good educators in the schools, great resources, and yet they go unnoticed and are given very little respect by the community.</p>
<p><b>What other questions or comments do you have this week?</b></p>	<p>Write-ups: Should we do a full write up on activities we used from the text books if we are adding to the lessons to make them better? How should we decide if a project is worth writing up? I know I have asked this in the past, but I also know what activities have worked in my classes have not worked in others, etc.</p>
<p><b>What questions or topics would you like to address at this week's group meeting?</b></p>	<p>In 8th grade, we are using surfing calendars to show science applied about tides and wind factors they are learning. Any ideas about how to make a hands-on project that would show the moon-tide concept? I had thought about the idea of using magnets, but it would require a magnetic liquid. So, does that bring anything to mind? Also, in 7th grade the kids learn about food webs and all. I have an effective exercise that uses Nebraska's species within a food web. Let me know if you would like me to visit your classrooms with this exercise.</p>

## 5.1.6. Teacher Journals

### Journal Entry for Test Teacher -- Week Starting Monday Jul 31, 2006

You MUST use the 'submit' button to submit your journal. Any other action will not submit your journal.

NOTES: Please use this space to explain any usual situations such as absences, comps, etc.

Activities	
Did you have any problems or issues relating to your participation in Project Fulcrum this week? If so, please describe.	<div style="border: 1px solid black; height: 40px;"></div>
Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.	<div style="border: 1px solid black; height: 40px;"></div>
Pick one activity from the last week that was not as effective as you hoped. Describe the activity and what you might change to increase its effectiveness.	<div style="border: 1px solid black; height: 40px;"></div>

Figure 5.4: Top part of journal

Figure 5.4 shows the top part of the journal. The emphasis as you fill out the journal should be: “*what did you do, what effect did it have on the students and on you, and what is your evidence?*” Do not leave any section blank because then we do not know if you meant to put something in and it was lost, or if you just didn’t have anything to say on the issue that week.

- **Did you have any problems...?** If you are having *any* problems with your participation in Project Fulcrum, let us know. If the problems require immediate attention (RSEM not showing up on time, not communicating with you, etc.), please phone us at 472-8685 right away – don’t wait to submit the journal. (If you do phone, please also put it in your journal so that we have documentation.)
- **Pick one activity from the last week that you feel was effective...** This may be something you did with the students, with the teachers, or with your fellow RSEMs. Briefly describe the activity and why you think it was effective.
- **Pick one activity from the last week that you feel was not effective...** This may be something you did with the students, with the teachers, or with your fellow RSEMs. Briefly describe the activity and why you think it was not effective. If you have ideas for fixing it, suggest them.
- **Situations that allow you to share information...** asks you whether anything happened during which you were able to discuss your role as a scientist, engineer or mathematician.

The last part of the journal is shown in Figure 5.5.

Open-Ended Questions	
What did you learn about scientists and/or mathematicians and/or engineers this week?	
What did you learn about science and/or math and/or engineering this week?	
What did you learn about teaching math and/or science and/or engineering this week?	
Do you think your scientist and/or mathematician and/or engineer is making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.	
Do you think your efforts working with a scientist and/or mathematician and/or engineer increased the participation and/or interest level of students (especially minorities and/or females)? What evidence do you have?	
How did your work with Project Fulcrum affect your confidence, desire or interest in teaching this week?	
What questions or comments do you have for Project Fulcrum management this week?	

Figure 5.5: Bottom part of journal

- **What did you learn about scientists, engineers, or mathematicians?** This question helps us understand the type of impact the RSEMs are having on you and your students.
- **What did you learn about science and/or math and/or engineering this week?** This question helps us understand whether having RSEMs in the classroom is affecting your knowledge about math and science. This isn't necessarily limited to what you're studying in the classroom – you may learn about your RSEM's research or a current event.
- **What did you learn about teaching science and/or math and/or engineering this week?** This question helps us understand whether having RSEMs in the classroom is affecting the way you teach math and science.
- **Making a difference in the classroom?** What kind and how do you know? Most participants will answer 'yes' to this question most of the time, but the important thing is what you perceive to be the impact of Project Fulcrum. This may be something like noting

that you learned at a teacher's meeting about a new way to teach fractions and it worked (and explain why you think it worked), or that a child came up to you and told you he wanted to be a scientist when he grows up.

- **Increasing participation and/or interest levels of students, especially minority and female students?** Some activities stimulate particular students more than others. This could be a child who normally hates science being fascinated by an experiment designing roller coasters because he is very interested in amusement parks. It might be because you are discussing a female Hispanic astronaut and a Latina child in the classroom is engaged because she sees this woman representing a possible role that she could play in the future.
- **How did your work in the classroom affect your confidence, desire, or interest in teaching this week?** This question asks you to reflect on how participation in Project Fulcrum impacts other parts of your life. It doesn't matter whether your response is positive or negative (e.g. The activity we did took a lot more of my time than I thought.)
- **Questions and Comments.** We will address your questions and comments at teacher meetings and all-hands meetings. This is your opportunity to shape these meetings. If you have anything requiring immediate attention, please phone the office.

**NOTE:** Journals are a useful way to communicate with participants about things that they might be uneasy discussing in person, or that are relevant to the PIs but should not be shared with the other participants. Please state at the beginning of such comments that these are to be confidential.

**If you do not press the Submit button when you are done, you will lose everything you entered.** You can hit submit at any time and whatever you have done so far will be saved. You can use the submit button as much as you want. There are multiple submit buttons on the form – any of them can be used.

When you are done with the journal, check the box to send copies to yourself and the assessment team. You will receive an e-mail containing the information you sent. You should keep a copy of all your journals to make sure that you have proof that they were submitted in case there is a problem later. Please do not check the boxes until you are finished with the journal because otherwise we get 5-6 emails per person.

### 5.1.7. Examples of Teacher Journal Entries

Activities	
<b>Did you have any problems or issues with your scientists/mathematicians this week? If so, please describe.</b>	No issues.
<b>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</b>	The most effective activity we did this week was our scale model of the solar system. We had the kids figure out the scaled distances from the sun to each planet as well as the scaled diameter of each planet compared to the sun. After that we went outside and set up our solar system using signs help by students for each planet. Seeing pluto 150 yards away really drives home the fact that it's a LONG ways away.
<b>Pick one activity from the last week that was not as effective as you hoped. Describe the activity and what you might change to increase its effectiveness.</b>	I guess it's not one activity, but rather that we are getting to the end of the year and the daily routine is really starting to get to kids. Because of that, standard classroom activities like reading and working on notes have become big struggles. I appreciate fulcrum for a lot of reasons but mainly because it helps to spice things up from the day-to-day routine of class.
<b>What did you learn about teaching math and/or science this week?</b>	I learned this week that young students can have strong opinions about issues. The debate really showed that some students are convicted about certain beliefs and that was fun to see.
<b>Do you think your scientist and/or mathematician is/are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</b>	Kevin and Kyle continue to make a difference in my room. Specific evidence is that kids are excited when I tell them they are coming. It seems students are always interested in what they are going to do and bring in.
<b>Do you think your efforts working with a scientist and/or mathematician increased the participation and/or interest level of students (especially minorities and/or females)? What evidence do you have?</b>	The scientists have without a doubt increased the participation level in my classroom. Throughout the year I've noticed certain students that seem to light up when Kevin and Kyle are here. Some students would constantly ask when are the scientist guys coming in?
<b>How did your work with Project Fulcrum affect your confidence, desire or</b>	Like every other week, my interest in teaching science was increased because of fulcrum. It is so great to have outside resources that I can draw upon and also just other science people to bounce ideas off of.

<p><b>What did you learn about science and/or math this week?</b></p>	<p>She taught me some new things about square roots that I had not thought about before. It was interesting and useful.</p>
<p><b>What did you learn about teaching math and/or science this week?</b></p>	<p>I learned to take risks and ask students to do things outside of mine and their comfort zone, because great learning can take place.</p>
<p><b>Do you think your scientist and/or mathematician is/are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</b></p>	<p>Yes. This week I noticed the connections more then ever. I asked ██████ to take more control over her own projects and run the entire activity without so much assistance from me. She did that and it was fantastic. Students were engaged and respectful. They listened and asked questions. She did a great job of guiding their learning and not just giving them the answers. She has great talents with these kids. They are really starting to connect and build relationships with her.</p>

## **5.2. Journal Status**

This report lets you see which journals were submitted. A sample is reproduced in Figure 5.6. The color key to the journals is: grey indicates no journal is required for that week. Blue means that the journal was submitted on time. Red indicates that the journal was submitted, but that it was late. Black shows that a journal has not been submitted. Note that the journals are listed by the week they cover. The journal covering the week of 8-22-05 is due on 8-29-05. A similar layout is used for teachers.

### **Scientist Journals - 2005**

Date	August	Berg	Besser	Desjar	DuClos	Ford	Halver	Karr	Kraeme	Milan	Scient	White	Whitti	Willia
08-22-05														
08-29-05														
09-05-05														
09-12-05														

Figure 5.6: Sample list of submitted journals. Weeks in which no journal is due are grey.

## **5.3. Questions Concerning Journals**

### *5.3.1. Important Hints for Journals*

- When you first start, type the answer to one question into a word file and then cut-and-paste the words into the webpage. Submit right away, then check and make sure your answer was saved.
- Click submit a lot – you never know when the server is going to go down or you’re going to lose your Internet connection.
- Type your responses in a word file then transfer them if you are worried about losing information.
- Don’t wait until the last minute to do your journals. You can log in at any time and as frequently as you want during the week. The server is more likely to have a hiccup late in the evening and early in the morning.

### *5.3.2. What do I do if my journal is late?*

We would rather have your journal late than not have it at all; however, a late journal delays all of the analysis for that week. Teachers will not receive stipends for late journals. RSEMs will earn the wrath of project management.

If your journal is late, go ahead and input the journal in the present week's journal. E-mail the Project Coordinator at fulcrum2@unl.edu. The Project Coordinator will move the journal and let you know when it has been moved. If you pull up this week's journal and there is an entry from last week, it means it has not yet been moved. **DO NOT ENTER THIS WEEK'S JOURNAL UNTIL THE OLD JOURNAL HAS BEEN MOVED.** If you do, you will lose everything from the previous journal.

### *5.3.3. What if the server goes down?*

The server on which our database resides sometimes crashes. If this happens:

- 1) Try back later. Outages usually are brief. Just because the server was down on Wednesday does not mean you are exempt from getting in your journal by Sunday.
- 2) If the database stops responding, log off, close your browser, re-open the browser and see if it works. Sometimes the program gets into a loop and doesn't respond.
- 3) If the server is down for an unreasonably long time or if there are problems with the program, you will get an e-mail on what to do.
- 4) The journal deadline is Sunday midnight, but this doesn't mean you have to wait until Sunday evening to fill out your journal. Starting earlier in the week prevents Sunday night panic.

### *5.3.4. How do I fill out the journal when my RSEM starts working with other people?*

It is helpful for us if you can include comments from the teachers who are working with your RSEM. If they comment to you that they are relieved that the RSEM isn't taking over their classroom, or they find that they are changing how they teach, let us know. Some of the questions (like teamwork) won't be as relevant. Some questions (such as an example of something that really worked) may seem unimportant if you don't have the RSEM right there; however, it tells us important information about how your view of what 'works' changes throughout the year and whether it is different if there is a RSEM in your classroom or not.

### *5.3.5. I am not in any school for an entire week due to a conference, comps or some other reason. Do I submit a journal?*

Yes. In the 'Notes' section, write down the situation (i.e. RSEM at conference, RSEM, etc.). In each of the open-ended questions, put an "X". If you are not at school for an entire week due to LPS holiday, you do not need to submit a journal. These weeks are indicated in grey on the journal status form. A journal is due every week except those that are greyed.

### *5.3.6. Do I submit a journal during the semester I am not working in the classroom?*

Part-time RSEMs do not have to submit journals during the semester in which they are not working in a school.

## **5.4. Activity Log**

The activity log is the document we keep to show the National Science Foundation that you are fulfilling the conditions of your appointment, which are determined by the conditions of our grant. It is critical that this information be kept accurately. Activity logs document how the

RSEMs time is divided. Activity logs covering the week starting Monday are due no later than midnight the Sunday that ends that week.

There are three sections in the activity log: one for time spent with students or students and parents, a second for time spent with teachers but no students, and a third for prep time. The top of the weekly activity log page is shown in Figure 5.7. At the very top is a box that allows you to add additional boxes for each of the three categories. This is a new feature – we suggest that you save your activity log before you add boxes. Click ‘Change’ to add the new boxes.

## Weekly Activity Log

### Activity Log for Test Scientist Week Starting Jul 31,2006

# entries Student Contact: <input type="text" value="3"/>	Number of entries in Teacher Contact: <input type="text" value="3"/>
Number of entries in Other: <input type="text" value="3"/>	<b>Change</b>

STUDENT AND/OR PARENT CONTACT						
#	Del	Date	Activity Type	Class	Total Time	Comments
0	<input type="checkbox"/>	Thu 08-03	Students	Clinton - Brown Science	20 min	test entry
1	<input checked="" type="checkbox"/>	Choose Date	Choose	Choose Class	0 min	
2	<input checked="" type="checkbox"/>	Choose Date	Choose	Choose Class	0 min	

**Save**

Figure 5.7: Front page of the activity log.

*5.4.1. Student and/or Parent Contact.* This section is for time you spend with teachers and students. Pick the date and then under ‘Activity Type’, choose between student contact and student/parent contact. Classes are listed in a drop-down box, so if you did not input the class, you cannot choose it. Since the time you spend in a class may vary, a drop-down box allows you to indicate how much time you spent on that particular day.

**IMPORTANT:** You have to unclick the ‘delete’ box in order to submit a new entry. I know it’s clunky, but I don’t have a good way around it at the moment.

The light grey regions indicate that this information has been submitted, while the dark grey regions are for new activities. Save information after every two-to-three entries instead of putting them all in and then hitting ‘save’.

### 5.4.2. Working with Teachers

WORKING WITH TEACHERS						
#	Del	Date	Activity Type	Time	Teachers	Comments
3	<input type="checkbox"/>	Fri 08-04	Lead Teacher	35 min	Gary Furse Select Teacher Select Teacher	planning
4	<input checked="" type="checkbox"/>	Mon 07-31	Choose	0 min	Select Teacher Select Teacher Select Teacher	
5	<input checked="" type="checkbox"/>	Mon 07-31	Choose	0 min	Select Teacher Select Teacher Select Teacher	

**Save**

Figure 5.8: Entering work with teachers in the activity log

Figure 5.8 shows the section for entering time spent working with teachers (but without students). Existing entries are in light grey and new ones in darker grey. Choose the type of activity (either lead teacher or other teacher), the time and the specific teachers. Under ‘notes’, explain what you were doing.

### 5.4.3. Other Activities

OTHER						
#	Del	Date	Activity Type	Time	Comments	
6	<input type="checkbox"/>	Fri 08-04	GK-12	60 min	Group meeting	
7	<input checked="" type="checkbox"/>	Mon 07-31	Choose	0 min		
8	<input checked="" type="checkbox"/>	Mon 07-31	Choose	0 min		

**Save**

Figure 5.9: Entering other work in the activity log

Figure 5.9 shows the input screen for other activities, including preparation time not spent with teachers filling out your journals and attending GK-12-related meetings.

### 5.4.4. Important Notes.

- **Make sure you uncheck the entries you want to be saved!** Use the ‘save’ button at the bottom of this very long page to save everything. If there is a problem (e.g. you’ve entered times that overlap), the program will tell you which entries are overlapping and you can use the ‘back’ button to make changes, then hit ‘save’ again.

- The ‘Save’ buttons save the entire activity log – you don’t have to save each section separately. Multiple buttons are there only for convenience in not having to scroll down the page to save.

## 5.5. Classes

We keep a list of the classes with whom you work so that we can report average demographic information. We are required by NSF to maintain demographic information on the classes with which the RSEM works. Keeping this information allows RSEMs to report their time by citing to the class, which eliminates repeated input of the same information. The first screen is shown in Figure 5.10.

**Classes**

---

Classes 2006

Add new classes button is at the end of this list. Check the list to make sure the class doesn't already exist

	School	Class	Grades	Teachers	Subject	#	Comments
<input type="button" value="Edit"/>	Clinton	Brown Science (1)	4	Anica Brown	Elementary_Science	10	
<input type="button" value="New"/>							

**List of Classes in Database**

All Classes

Figure 5.10: First screen for entering classes

### 5.5.1. List of Existing Classes.

The lower part of this screen (“List of Classes in Database”) allows you to generate a list of all the classes already are in the database. *Before entering a class, check and make sure that the class you are entering is not already in the database.* You can show all classes, or only classes for a particular school. This is particularly important where there are multiple RSEMs in a school, or when someone else was in the school the last semester.

The only time you should enter classes at a school other than your own is if you visit a class that the RSEM at that school has not worked with, or if you visit a school that PF has not worked with; otherwise, the RSEM at that school should already have entered the class. **Please do not enter duplicate classes!**

5.5.2. *Adding a Class.* To add a class, click on the ‘New’ button in the screen shown in Figure 5.10, which will lead you to the screen shown in Figure 5.11.

## Edit/Add a Class

Class ID		Class Information			
<input type="text"/>	Select School <input type="text"/>	Start Time Stop Time	12:00 pm <input type="text"/>	Grade Start Grade Stop	- <input type="text"/>
	Select Subject <input type="text"/>		12:30 pm <input type="text"/>		- <input type="text"/>
Input a descriptive phrase for Class ID that uniquely identifies the class. The school name is saved with the Class ID, so the Class ID should not contain the school name. Make sure the class is not already in the database. (See below.)					
Race			Teachers Involved		
Input number of students in each category. Double click in a box for U.S. Census definitions					
African-American	<input type="text"/>	Native American	<input type="text"/>	Only list teachers who are actively participating in the class WITH you. Teachers who turn over their class to you and another teacher should NOT be listed. If there are more than four teachers, put additional names in the comments box.	
Native Hawaiian or Pacific Islander	<input type="text"/>	White	<input type="text"/>		
Asian	<input type="text"/>	Other (including Unknown)	<input type="text"/>		
Ethnicity			Teacher #1 <input type="text"/>		
Input number of students in each category. Double click on the Hispanic or Latino box for the US Census definition					
Non-Hispanic/Non-Latino	<input type="text"/>	Hispanic or Latino	<input type="text"/>	Teacher #2 <input type="text"/>	
Sex			Teacher #3 <input type="text"/>		
Male	<input type="text"/>	Female	<input type="text"/>	Teacher #4 <input type="text"/>	
ELL/Low or Reduced Price Lunch			Comments		
Input number of students in each category: Please list first languages under 'Comments'					
ELL Students	<input type="text"/>	Free/Reduced Lunch	<input type="text"/>	<input type="text"/>	

Figure 5.11: Entering class information

- Class ID:** Use the following format: teacher-last-name period topic. For example, ‘Zabawa 3 Science’ (Mrs. Zabawa, third period, science class) or ‘Einstein 4 Math’ (Mr. Einstein, fourth period, math class) If you need to differentiate between two teachers with the same last name, put the first initial after the Last Name *with no space between them* (e.g. ZabawaA 3 Science).
  - Do not make the name any longer than you need to identify the class.
  - Do NOT put the school name or grade level in the Class ID.
  - Do not put ‘period’ or ‘th’ or ‘rd’ in the class name.
  - Do not use any punctuation in the class ID.
- Class Information:** Select the School and the Subject from the pull-down menus. NSF determines the classifications in the menu. If none of the subjects appropriately describe your class, pick the closest match, and explain in the Comments box.
  - Use the topic that describes the class, not the unit you are working on. For elementary and middle school, you probably will not use a specific discipline because classes are ‘science’ and ‘math’. Do not pick ‘Chemistry’ if you are working on a chemistry unit because the next quarter, that class will be working on a different topic.
  - The ‘School’ menu includes options for after-school activities and science fairs. If you don’t find what you need in this category, select ‘Other’ and notify the Program Manager.
  - The Subject usually will be general math or general science. Do not choose something more specific unless the class itself is specific. Sixth graders do not take biology – they have a biology component of their integrated science class. If you choose ‘other’, make sure you identify the class subject in the Comments box.

- Include the *start time*, *stop time*, and the *grades* covered. The times are very important because this is how your student contact time is calculated. If only one grade is covered, put the same number in both grade boxes.
- **Demographics:** The numbers of students in each demographic category will be an estimate; however, you have to have the same number of students in the class regardless of how you divide them. If you enter four whites and three African-Americans, and two males/six females, you need to check your math. Numbers are actual numbers of students, NOT percentages.
  - This is decidedly NOT rocket science – the number of students in the class will change over the semester: give us your best estimate. Ask the teacher for assistance if you are not sure about demographics.
  - If you need the definition of what constitutes each minority group, double click on the box in question and the US Census definition will appear for your reference.
  - These are estimates – do not stress over getting them 100% accurate.
- **Teachers:** Select the teachers involved from the pull-down boxes.
  - The primary teacher with whom you work in that class should be Teacher #1.
  - If there are more than four teachers, enter the additional names in the comments box.
- **Comments.** This is the place to put anything you think is important but was not asked for elsewhere.
  - Put any information not found in pull-down boxes here.
  - Do not fill this space with messages like ‘done’ or ‘waiting on demographics’ or the location of a classroom.
- Hit ‘SAVE’ when completed. IF the numbers do not add up, the program will tell you and ask you to go back and fix this. You will receive a success message if the class was entered correctly.

There is another opportunity on this screen for you to check that you are not entering a course that exists. The list opens in its own window. Close the window using the ‘Close’ button.

PLEASE AVOID DUPLICATING COURSES!!!

### 5.5.3. *Changing class information.*

Use the ‘Edit’ button to the left of the desired class on the screen shown in Figure 5.10 to change classes. Change any information and continue by using the ‘Save’ button. Only RSEMs can change courses, and only the person who input the course can change the course information. The default setting for the screen shown in Figure 5.10 is to show only classes you entered.

### 5.5.4. *Errors*

If you don’t enter the information correctly, the information is saved, but you will get an error message like that shown in Figure 5.12.

If you use the browser ‘back’, button, you won’t get the right page, so make sure you use the button labeled ‘Fix Errors’.

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## Weekly Logs

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<b>Error</b>	<b>Errors on Input:</b>
	There must be at least one teacher involved. A school must be identified. Please choose a subject. If none of the pre-defined subjects seems appropriate, choose 'Other' and explain in the comments box.
<b>Fix Errors</b>	

Figure 5.12: Error message showing that you entered information incorrectly.

### 5.6. Cooperating Teachers

#### 5.6.1. Definition:

- A cooperating teacher is a teacher with whom you plan and execute activities with students, and is NOT a lead teacher. A cooperating teacher must be materially involved in preparation and execution of projects with students.
- If a teacher brings his or her class into the Lead Teachers' room for science, but does not participate in planning or doing the activity, this teacher is NOT a cooperating teacher.
- 'Para's, student teachers, special ed teachers and others count as cooperating teachers only if they are substantially involved in planning and executing the activity.

When in doubt, ask the Program Coordinator

#### 5.6.2. Adding Cooperating Teachers.

We are required to collect demographic data on all teachers to document who we are reaching and when. The teacher's name needs to go in the database so that you can access it on your activity log. This is accomplished on the screen shown in Figure 5.13. This form will send a message to the Project Coordinator, who will enter the cooperating teacher into the database. Some teachers will already be in the database due to prior participation and the Project Coordinator will re-activate their record.

We will collect demographic information on new teachers. The Project Coordinator will generate a form for you to take to the teacher and ask him or her to fill out and return to you. Return the sheet as soon as possible to the Project Coordinator, who will input the data. A copy of the letter is shown in Figure 5.14.

At the end of the year, we will generate a letter to the principal listing each of the teachers who have participated and thanking them for their efforts.

#### **Add a Cooperating Teacher**

<b>Add New Teacher</b>	
First Name	<input type="text"/>
Last Name	<input type="text"/>
School	Select School <input type="button" value="v"/>
<input type="button" value="Submit Request"/>	

Figure 5.13: Requesting the addition of a cooperating teacher.

To Cooperating Teachers: Thank you for working with our Project Fulcrum Resident Scientist. The National Science Foundation, which funds this proposal, requires us to keep track of the demographics of the people affected by the program. These statistics are always reported in aggregate -- no individual is ever mentioned in any way by which they could be identified.

If you have any questions about the information requested and how it will be handled, please feel free to phone the Project Manager at 472-8685, or e-mail us at fulcrum2@unl.edu.

Teacher Information			
First Name	Teacher	Last Name	Test
e-mail			
School	Other Activity	School Phone	
Type	Lead		

Demographic Information			
The National Science Foundation requests that we provide this information so that they can track what type of people are being impacted by the program. Providing this information is voluntary, but we do appreciate it. All information is confidential.			
Years Teaching Experience		Highest Degree (Circle One) Please also note if you have additional credits toward a degree	BA BS MS MEd MAT Ph.D. Ed.D.
College Major Current selection:		College Minor Current selection:	
Disability (Please Circle One) Current selection: NR	Hearing Impairment Mobility/Orthopedic Impairment None Other Visual Impairment	Race (Please Circle One) Current selection: Not Reported	American Indian or Alaskan Native Asian Black or African American Native Hawaiian or Other Pacific Islander White
Ethnicity (Please Circle One) Current selection: Not Reported	Hispanic or Latino Not Hispanic or Latino		

**Thank you for your assistance!**

Close

Figure 5.14: Requesting the addition of a cooperating teacher

## 5.7. Nuggets

NSF calls brief summaries of work that they can flash on a screen for legislators and others ‘Nuggets’. You will learn how to write nuggets and will need to submit them and/or document them. To get to the nuggets page: Choose Reporting → Nuggets to get to the page shown in Figure 5.15.

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### Upload Nuggets

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**Kyle Berg**  
Pressing any 'submit' button submits all the nuggets

<b>Submit</b>		
<b>Current Nugget File:</b> GK12_AY05_Berg_Pound_q3.pdf <input type="text"/> <input type="button" value="Browse..."/> <input type="checkbox"/> Delete?		<b>Nugget Title - Limit to 25 Characters</b> <input type="text" value="Surgical Robots"/>
<b>Keywords</b> <input type="text" value="Mechanical engineering"/> <input type="text" value="robot"/> <input type="text" value="design"/> <input type="text" value="research"/>	<b>School Info</b> <input type="text" value="Charles Wesche"/> <input type="text" value="Teacher 2"/> <input type="text" value="Pound Middle School"/> <input type="text" value="Grade 99: People/Careers in Science"/>	<b>Nugget Description- Limit to 255 Characters</b> <input type="text" value="Students learned about graduate research in mechanical engineering. The students then discussed the surgical robots and their application."/>

Figure 5.15: Entering Nuggets.

### 5.7.1. Uploading Nuggets

To upload a nugget, choose Browse in a record. This will allow you to upload the nugget file from your computer. **Upload only .pdf files.** Do not upload PowerPoint files – they are too large and we will run out of space on the computer. If you don't have the ability to convert the file to a pdf, send the ppt file to the Project Coordinator and she will post it. You are still responsible for documenting the nugget.

All nugget information for the year appears on a page that looks like Figure 5.16. This page lets someone look over all the nuggets at one time. We will be making them searchable in the future by keyword and LPS topic.

## Nuggets

Grad Student	Nugget Title	School	Description
Kyle Berg	Surgical Robots	Pound	Students learned about graduate research in mechanical engineering. The students then discussed the surgical robots and their application.
Kyle Berg	Newspaper Bridge	Pound	Students built bridges out of newspaper for an end of the year project. The activity gave the students a chance to think critically and apply some of the concepts they learned.
Michael Bessert	Hands-On Classification	Goodrich	In this activity, students classify a group of preserved organisms based on structural characteristics. In the process, they learn to make detailed observations and begin to understand why this field is still very challenging for modern biologists.
Michael Bessert	How Many Licks...	Goodrich	In this activity, students estimate how many licks it takes to get to the center of a lollipop by first determining how much mass they remove per lick. In doing so, they practice long division and become familiar with small metric units (ex. milligrams).
Melissa Desjarlais	Greatest Possible Sum		
Melissa Desjarlais	A Two-Dice Game		
Laura Duclos	What is Research?	None Selected	As part of a week-long multicultural investigation of scientists, I presented some information about my research and why I enjoy doing research on parasites
Pari Ford	Fraction Flag Pull	Clinton	This activity was used in a 4th grade mathematics classroom. Using a random numerator and denominator, the students moved their flag that fraction of the distance to their side. The activity gave the students practice writing fractions, finding the fractions in simplified

Figure 5.16: Table of nuggets viewed by public.

### 5.7.2. Documenting Nuggets

- The **Nugget Title** appears on the button in the list of nuggets, so it has to be short and descriptive.
- **Keywords** are for the search feature of the database. If someone wanted to find information about your nugget, what are the most important words?
- It is important to credit the school and the **teacher(s)** who participated in the nugget. Also select the **LPS topic** that the nugget addresses. If the topic isn't listed, e-mail [diandra2@unl.edu](mailto:diandra2@unl.edu) and ask for the topic to be added, then come back and add it to your record.
- The **Nugget Description** is very important because this is what will tell people whether they want to look at your nugget or not. Explain what was done, why it was done and what the outcome was.

Pressing any of the submit buttons on the page submits all of the nugget information.

### 5.8. Activity Log Report

You may access a running log of your time by choosing the ‘Activity Log Report’ option, which produces the screen shown in Figure 5.17. The abbreviations for the categories are explained under the table. The averages for each category are shown at the bottom of the table.

Summary of Activity Log for Test Scientist (Printed 08-02-2006)								
Total Hours								
Week Starting	SC	SP	TL	TH	PT	M	GK12	O
Jul 31, 2006	0.00 h							
<b>Total</b>	<b>0.00 h</b>							

Key							
<b>SC</b>	Student Contact Time	<b>SP</b>	Student-Parent Contact Time	<b>TL</b>	Working with Lead Teachers	<b>TH</b>	Working with Other Teachers
<b>PT</b>	Preparation Time	<b>M</b>	Misc	<b>O</b>	Observation Time	<b>GK12</b>	Group Meetings, etc.

Figure 5.17: Sample Activity Log Report

### 5.9. Hours by Class

You also can view the amount of student hours (# students times the time you spent with each) you’ve worked. An example is shown in Figure 5.18.

Student Hours Report for Test Scientist					
Class No	School	Class Description	Total Hours	No Students	Total Student Hours
1	Clinton	Brown Science	1.00	10	10.00
<b>TOTALS</b>			<b>1.00</b>	<b>10</b>	<b>10.00</b>

Number of distinct classes = 1

Figure 5.18: Hours worked by class report showing total student hours.

### 5.10. Forms

You can download the nugget template form (.ppt) from this page. If you don’t have the Stylus BT font installed on your computer, you will need to install it. The font is found under ‘Forms’ on this page

### 5.11. Other Things

If special reporting is required (i.e. the pre-survey and the post-survey), they will be found under this heading.

## 6. Resources

The resources section of the database attempts to gather all of the myriad information into one place. Click on 'Resources' in the menu to switch to the resource page.

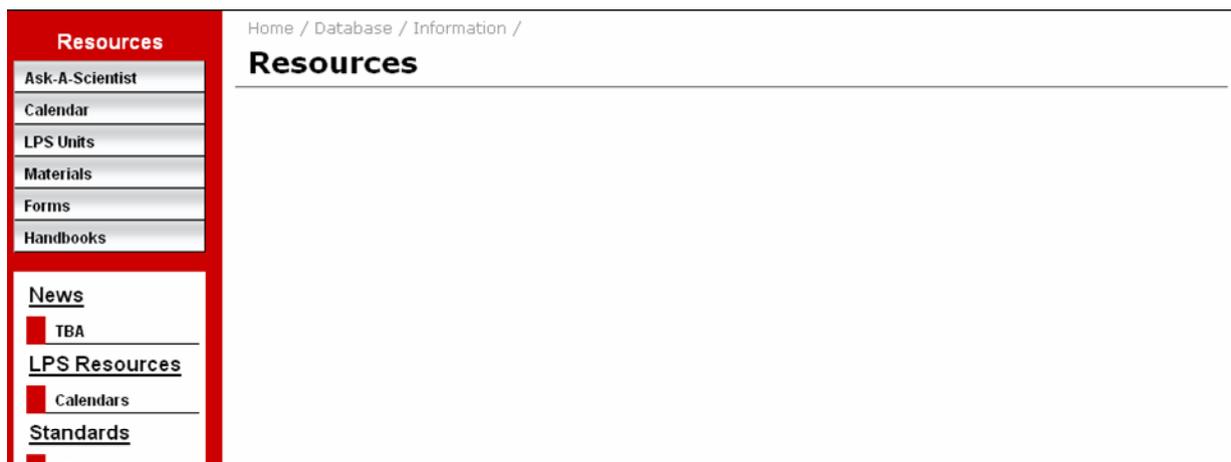


Figure 6.1: Resources main page.

### 6.1. Ask-A-Scientist, Engineer or Mathematician

#### 6.1.1. Ask a Question

This section of the website is used to submit questions for RSEMs to answer. Time spent answering questions can be counted toward student contact time. Anyone may ask a question and view the answers. Only RSEMs have access to the functions for answering the question. We ask for contact information only in case we need to clarify the question. The name of the person asking the question is not posted with the answer.

Only questions that have been assigned to you and are not finished are shown. To see a full list of questions, you have to click the 'View All Questions' box.

Click Answer to answer the question. Once you submit the answer, it will be reviewed, and then posted to the website.

Resources

### Ask-A-Scientist

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**Submit A Question**

Subject:	<input type="text" value="Choose Topic"/>
Question	<input type="text" value="Input your question here. Please be detailed."/>
e-mail:	<input type="text"/>
Your Name	<input type="text"/>
Phone	<input type="text" value="402-"/>

**Submit**

We ask for your name, e-mail and phone number only so that we can contact you if we have questions about your submission. Your contact information will not be posted with your question.

Figure 6.2: Ask-A-Scientist, Engineer or Mathematician page.

## Ask-A-Scientist

Answer	Question
Answer	i want to know what a fulcrum is.
View All Questions	

Figure 6.3: Questions database

### 6.2. Calendar

You should check the calendar daily to keep up with changes in the PF calendar. PF staff enter the LPS and UNL calendars on this page, as well as meetings and other events. Detailed information for an event can be found by clicking on the date (not the event, just the actual date in the box), giving you the screen shown in Figure 6.5

← 2005	2006 August					2007 →
← July						September →
Add Event						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1 Project Evaluator visit 9:30 AM - 4:00 PM	2	3	4	5
6	7	8	9	10	11	12
13	14 Summer Institute 9:30 AM - 4:00 PM	15 Summer Institute 9:30 AM - 4:00 PM	16 Summer Institute 9:30 AM - 4:00 PM	17 Summer Institute 9:30 AM - 4:00 PM	18	19
20	21 UNL classes begin 12:00 PM - 1:00 PM	22	23	24	25	26

Figure 6.4: Monthly Calendar view

← 8/13/2006	Aug 14, 2006 Monday		8/15/2006 →
Meetings			
Meeting Name	Time	Location	
Summer Institute	9:30 AM - 4:00 PM	Brace 201	

Figure 6.5: The day view of the calendar. If there are no announcements, for example, the announcements box doesn't appear.

6.2.1. *Submitting Events.* RSEMs and teachers can submit events to the Calendar by using the ‘Add Event’ button in the monthly calendar view (See Figure 6.4).

You must choose whether the event is a talk, announcement, meeting, or deadline. The primary difference is that the talk category displays an abstract. If you do not choose one of these, your event will not be displayed. Not all options will apply to every event – ignore any that do not apply. Include your contact information so people with questions know whom to ask. You will get a confirmation message if your submission is successful. Project Fulcrum reserves the right to remove events inappropriate for the calendar. A pop-up calendar is available by pressing the calendar button near the date boxes.

## Calendar Event

Please input the event details in the spaces provided. If a particular space doesn't pertain to your event, just leave it blank. Don't forget to hit 'Submit' when finished.

<b>Choose One:</b>	<input checked="" type="checkbox"/> Talk <input type="checkbox"/> Announcement <input type="checkbox"/> Meeting <input type="checkbox"/> Deadline		
Event Title	<input type="text"/>		
Talk Series	<input type="text"/>		
Speaker	<input type="text"/>		
Speaker Affiliation	<input type="text"/>		
Sponsored by:	<input type="text"/>		
Starting Date (mm/dd/yyyy)	<input type="text"/>	Ending Date (mm/dd/yyyy)	<input type="text"/>
	<input type="button" value="Calendar"/>		<input type="button" value="Calendar"/>
Starting Time:	12:00 pm <input type="button" value="v"/>	Ending Time:	01:00 pm <input type="button" value="v"/>
Location	<input type="text"/>		
Event Description or Abstract	<input type="text"/>		
Submitted By:	<input type="text" value="Test Scientist"/>	Contact e-mail:	<input type="text"/>
Contact Phone No	<input type="text"/>	Contact Person	<input type="text"/>
Web Address	<input type="text"/>	Notes	<input type="text"/>
<input type="button" value="Submit"/>			

Figure 6.6: Submitting events.

### 6.3. Materials

Project Fulcrum has (and has developed) many resources to use in the classroom. These range from games to hands-on activities to equipment. You are encouraged to make maximal use of these resources during your year as a RSEM. Choosing the ‘Materials’ option on the resources menu takes you to the screen shown in Figure 6.7.

The resource list can be sorted by topic, by location, or by title. No materials will show up until you select which types of materials you would like to view and click the ‘Sort List’ button. We have been having some problems with this page – sometimes you have to hit F5 (refresh) multiple times to get it to sort. We don’t know why this is happening, but are trying to get it fixed.

- **Sorting by Topic, Location, Title:** Change the button to the ‘By Topic’ to get only those entries relevant to a particular LPS topic. If you choose ‘By Topic’, you must choose from the pull-down box which topic you want to find.
- **Sorting by Type:** Check the boxes in front of the types of materials you want to find. You can check the ‘show all’ to show all of the types, however, you may have to click ‘Sort List’ again to generate the information.
- **Sort List Button:** The Sort List Button will change the display.
- **The List:** The list shows the type of material, the location, the title, and the standards it addresses, if these are known. To get more information on an individual material, click the button at the left of that row.

RSEMs will see an ‘Edit’ button in the leftmost column on this page, while others will see an ‘Info’ button. RSEMs are the only ones who can change information.

Printable Page

**Sort by**

Choose Topic

By Topic  
 By Location  
 By Title

**Include:**

Articles  
 Books  
 Electronic Equipment  
 Fun and Games  
 Hands-on Materials  
 Handouts and Worksheets  
 Instruction Manuals

Software  
 Supplies  
 Websites  
 Write-ups  
 Videotapes  
 Show All

Sort List

Resources

New

	Type	Title	Location	Standards
Edit	Book	150 Science Experiments	Bookshelf	
		8 animated units: Floating and Sinking; Shadows and Reflections; Machines and Movement; Sound and Music; Air and Flight; Color and Light; Growing Plants; and Batteries and Magnets		
Edit	Website	48 Optical Illusions & Visual Phenomena	Web Link & File Cabinet--Light Vocabulary and Websites	
		Optical Illusions regarding motion and time, luminance and contrast, color, geometric and angles, size contancy, cognitive- gestalt effects, and faces		
Edit	Write-	6th Grade Summer Academy June 2004	File Cabinet --Electricity/Magnetism	6.2 6.2.2
		Schedule and plans for the 6th Grade Sumer Academy used in June 2004.		
Edit	Book	A Sampler of National Science Education Standards	Bookshelf	
		Addresses organization and need for standards and standards for: science teaching, professional development, assessment, science content, science program, and science education system; also includes web links and info about National Science Teachers Association.		

Figure 6.7: Resources Main page

### 6.3.1. Resource Record

An example is shown in Figure 6.8.

Resource: Electromagnets					
Description of Resource					
Type	Write-Up			Title	Electromagnets
General Topic	Physics - Electricity & Magnetism		Description	Demonstrates how an electric current flowing through a wire wound around an iron nail can create a magnetic field around the nail, making the nail temporarily magnetic, thus, creating an electromagnet	
Keywords	electricity	magnets	magnetic field	charge	
Logistic Information					
Location	File Cabinet--Electricity and Magnetism & Web				
Website	http://www.physics.unl.edu/~diandra/PF_Database2/Resources/RS_ Follow link				
Topics Addressed					
Topics Addressed			Objectives Addressed		
1	Grade 6: Electricity and Magnetism		6.2.1		6.2.2
2	Choose Topic		1.2.2	1.2.3	1.2.6 1.2.7
3	Grade 4: Electricity		4.2.1	4.2.4	
4	Grade 6: Electricity and Magnetism				
Related Resources					
Choose Resource					
Choose Resource					
Choose Resource					
Choose Resource					
Choose Resource					
Authors (Last, First)					
1.	Boshoff-Mostert	Leonie	2.		
3.			4.		
5.					
Comments:					
Add Comment:					
Commenter Name					
Number of Items	0	Serial Number(s)			
<b>Submit</b>					

Figure 6.8: The resource record

Type. The classifications we use are detailed in Table 5.1. Use the closest type possible. If you have an item that does not fit into any of these categories, choose the closest and contact the Project Coordinator for more instructions.

<b>Articles</b>	Background materials – probably not to be used with students, but for teachers and RSEMss
<b>Books</b>	Books, Magazines
<b>Electronic Equipment</b>	Computers, computer probes, speakers, etc.
<b>Fun and Games</b>	Some neat, interesting things that may be used as rewards or outside of class activities.
<b>Hands-On</b>	All hands-on equipment available for check-out from 301 Ferguson
<b>Handouts and Worksheets</b>	Handout, worksheets and other things that are ready to be printed and used with students.
<b>Instruction Manuals</b>	Manuals that go with equipment we have.
<b>Software</b>	Computer programs on disk in the room
<b>Supplies</b>	Misc like glue for making rubber, straws, etc.
<b>Videotape</b>	Videotapes in 301 Ferguson
<b>Website</b>	A resource that is on the web; could be an applet or information site
<b>Worksheet/Handout</b>	Anything created by us that can be used in class: a worksheet, jeopardy games, bingo, handouts to explain a concept, etc.
<b>Write-Up</b>	Written modules developed by people associated with the program. These modules often relate to equipment we have.
<b>Table 6.1: Descriptions of the different types of resources</b>	

- Title: For commercial materials, make sure that the title is input exactly.
- General Topic: The pull-down box lists LPS topics. There are many more science categories than math because the math scope and sequence is more complicated. If the topic you need is not listed in the pull-down box, e-mail the Project Coordinator and suggest a new category.
- Description: Be as specific as possible in this part. This is the information that will help someone else figure out whether to spend time looking for the material and figuring out how to use it. Use as much space as you need.
- Keywords: Pick three to four keywords that will allow someone to find your entry.
- Location: The location tells you where in Ferg 301 you will find the item. You do not have to write 'Ferg 301' here – it is assumed that is the location unless specified otherwise. Be as specific as possible to cut down time spent looking for materials. If the material is a worksheet/handout, a write-up or a website, leave this blank.
- Worksheet/Handout or Write-up: All of the materials we develop will be available electronically through this website. Anything taken from a commercially published book should be listed under 'book'. You can upload your materials to the site using the 'Upload File' option.

- Upload File: This allows you to upload files to the PF website.
- Website: If the resource is a website, input the *entire* URL here, *including the http:// part*. This entry is converted into a link automatically so that the next time you access the record, you can just click on it to be sent to the website. After you finish and save the record, return to the record and check the link to make sure that it is correct. If it is not correct, re-enter it until it works, or contact the Project Coordinator and explain the situation. Leave this section blank for all non-web-related resources. We are having problems with some links due to people who didn't follow instructions when entering their resources – if you need a resource and the link doesn't work, contact the Project Coordinator.
- Topics Addressed: Identify up to four LPS units that the materials could be used to teach. The units are identified under “Choose Topic” and the specific LPS objectives are identified under “Objectives Addressed”. You should be able to identify at least the grade and the general topic. Some items will fit more than one area. Please check the other areas to see whether you think it might fit in another area. For example, chemistry appears in various places in the scope and sequence. For math objectives, look in the materials in the SI Handbook to get the numbers.
- Related Resources: This section displays five pull-down boxes that list all the other entries in the database. If you enter, for example, a module that uses specific equipment, that equipment should be referenced in this section. An instruction manual should ALWAYS be referenced to the equipment to which it refers and vice-versa.
- Author Name: Input all author names in Last name, First name format. If this is your material, make sure you put down your name and the names of anyone who collaborated on it with you. If you run out of room for names, put the additional names under ‘comments’. **By entering something under your name, you are affirming that this material is your original work and was not taken from a commercial source subject to copyright.**
- Comments: Let's say you use the ‘buoyancy’ module and you take Play-Dough. While using it, you find that play-dough dissolves in water and that you have to use polymer clay. Go to the record in the database and add this comment so that the next person does not have the same problem. Similarly, if you find that something works for a diff class, but not for a regular class, put an entry here. Comments are collected for potential users to review.
- Commenter Name: If you input a comment, please put your name there so that if someone has a question, he or she knows whom to try to contact.
- Number of items: If there is more than one set-up of a type of equipment, note it here so that the potential user knows whether it can be used for a demo or for small group work.
- Serial Numbers: If the item is something that might be attractive to thieves (digital cameras, computer peripherals, etc.), input the serial number here.
- Submit button: Click when you are done.
- Scope and Sequence: This links you to all the LPS science objectives in case you're not sure what to write under ‘objectives addressed’.

The clearer you are and the more information you provide, the more use the database will be to everyone.

## 6.4. Forms and Letters

This is where you can download reference information. Specific information available changes with time, but usually includes things like the letters you can give teachers to let them know about the program, nugget template and the handbooks.

Home / Resources /

## Forms and Letters

### Letters and Templates

- [Letter for Cooperating Teachers about Working with Project Fulcrum Scientists and Mathematicians \(.pdf\)](#)
- [Letter for Lead Teachers about Inputting Journals \(.pdf\)](#)
- [Nugget Template \(.ppt\)](#)
- [Resident Scientist Activity Template \(.doc\)](#)
- [Stylus BT Font \(stylu.ttf\)](#)

### Handbooks

- [PF Handbook for AY06 \(.pdf\)](#)

Figure 6.9: Forms and Letters

## 6.5. Other Info → News

This is an alternative link to get you to the news page.

## 6.6. LPS Resources

[Calendar](#) is a link to the LPS web calendars for students and teachers.

## 6.7. Standards → LPS Objectives

### 6.7.1. LPS Objectives

This section takes you to the scope and sequence chart for LPS science units. There are links to the objectives for each unit.

LPS Science Scope and Sequence 2006-2007				
Grade	Life Science	Physical Science	Space/Earth	Technology & Society
K	Plants	Senses	Seasons	Toys and how they work
1	Habitats	Magnets	Soil	Animals and Habitats
2	Life Cycles	Matter	Weather	Recycling
3	<a href="#">Embryology</a>	<a href="#">Energy</a>	<a href="#">Dinosaurs and Fossils</a>	<a href="#">Simple Machines</a>
4	<a href="#">Prairie</a>	<a href="#">Electricity</a>	<a href="#">Space</a>	<a href="#">Ecosystems</a>
5	<a href="#">Water and Wetlands</a>	<a href="#">Chemistry</a>	<a href="#">Rocks and Minerals</a>	<a href="#">Scientific Investigations</a>
6	<a href="#">Human Biology</a>	<a href="#">Electricity and Magnetism</a>	<a href="#">Earth's Changing Surface</a>	<a href="#">Weather and Climate</a>
7	<a href="#">Living Organisms</a>	<a href="#">Chemical Building Blocks</a>	<a href="#">Inside Earth</a>	<a href="#">Environmental Science</a>
8	<a href="#">Cells &amp; Heredity</a>	<a href="#">Chemical Interactions Motion and Forces</a>	<a href="#">Astronomy</a>	<a href="#">Light</a>

### Additional Resources:

- [Women in Science Profiles](#)
- [9th Grade Physical Sciences Workshop](#)

Figure 6.10: LPS Units with links to objectives.

### *6.7.2. National Standards*

This provides a list of links to National Math and Science Education Standards, as well as the 2061 Benchmarks and other sites of interest.