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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 is posted on the website.

**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.

2. Main Website Overview

The main PF website is located at [http://www.physics.unl.edu/~fulcrum](http://www.physics.unl.edu/~fulcrum). 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 Scientists, Lead Teachers, and project management.

2.3. For Teachers

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 Foxfire).
- 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:

- 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.

![Figure 3.1: The log-in screen.](image1)

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.

![Figure 3.3: The main screen.](image2)
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.

This section of the website is not accessible to anyone except Scientists, Lead Teachers, and administrative staff. The information is private. Do not disseminate it outside the program without 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 Scientists (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.
  - 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.

Figure 4.2: The screen for teacher information
• For Scientists
  • 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 Scientists 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.

---

Figure 4.3: The screen for Scientist information

<table>
<thead>
<tr>
<th>Personal Info</th>
<th>Campus Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name</td>
<td>Room/Bldg: Fer</td>
</tr>
<tr>
<td>Last Name</td>
<td>Dept: PHY</td>
</tr>
<tr>
<td>e-mail</td>
<td>Campus: CC-City Campus, zip 68588-9999</td>
</tr>
<tr>
<td>Date of Birth</td>
<td>Note: Use just the last four digits in your UNL zip, i.e. 68588-0111 would be 0111</td>
</tr>
<tr>
<td>School Assignment</td>
<td>Home Address: 6300</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Scientist Demographic Information</th>
<th>Home Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discipline: Geosciences</td>
<td>City, State, Zip: Lincoln, NE 65505</td>
</tr>
<tr>
<td>Academic Level: Doctorate 4th Year</td>
<td>Phone Numbers</td>
</tr>
<tr>
<td>Disability: Visual Impairment</td>
<td>Campus: 402 - 742 - 3333</td>
</tr>
<tr>
<td>Ethnicity: Hispanic of Latino</td>
<td>Other: 402 - 111 - 1111</td>
</tr>
<tr>
<td>Race: Black or African American</td>
<td>Home: 402 - 222 - 2222</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Two to three sentences describing your research.</th>
<th>NOTES:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>Notes:</td>
</tr>
</tbody>
</table>

Figure 4.4: The input form for Scientist information
### Scientist, Mathematician or Engineer Biography

The following questions will be used on the main webpage.

<table>
<thead>
<tr>
<th>Name</th>
<th>Test Scientist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bachelor's degree and year</td>
<td>B.S. 2004</td>
</tr>
<tr>
<td>Major</td>
<td>Text</td>
</tr>
<tr>
<td>Institution Graduated From</td>
<td>Text</td>
</tr>
<tr>
<td>Master's degree and year (if applicable)</td>
<td>None</td>
</tr>
<tr>
<td>Major</td>
<td>Text</td>
</tr>
<tr>
<td>Institution Graduated From</td>
<td>Text</td>
</tr>
<tr>
<td>Ph.D. degree and year (if applicable)</td>
<td>None</td>
</tr>
<tr>
<td>Major</td>
<td>Text</td>
</tr>
<tr>
<td>Institution Graduated From</td>
<td>Text</td>
</tr>
</tbody>
</table>

**What degree are you pursuing in what department? How far along are you in your graduate studies?**

**What made you interested in participating in Project Fulcrum?**

**What are you researching? (Please write a short description in everyday terms that non-scientists can understand.)**

**What made you interested in becoming a scientist, engineer or mathematician?**

**What do you hope to gain (personally and/or professionally) from working with PF this year?**

**What hobbies or other interests do you have?**

---

**Figure 4.4:** Biographical information for resident scientists, mathematicians and engineers.
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 has contact information for all scientists 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.
5. Reporting

5.1. Journals

5.1.1. Purpose

Journals have many purposes and are one of the main requirements for your participation. 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 Scientists 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. Scientist 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 unusual situations such as absences, camps, etc.

<table>
<thead>
<tr>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</td>
</tr>
<tr>
<td>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.</td>
</tr>
<tr>
<td>Did any situations arise that allowed you to share information about yourself or your research with students or teachers? Briefly describe the situation.</td>
</tr>
</tbody>
</table>

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 Scientists. 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 Scientists. 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.

The second part of Figure 5.2 shows 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 second part of the journal is shown in Figure 5.2. 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 Scientist what you said.

<table>
<thead>
<tr>
<th>Open-Ended Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did you learn about K-12 students this week?</td>
</tr>
<tr>
<td>What did you learn about teaching in general this week? Did you learn anything you might be able to use in college-level teaching?</td>
</tr>
<tr>
<td>What did you learn about K-8 teachers and schools this week?</td>
</tr>
<tr>
<td>Do you think you are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</td>
</tr>
<tr>
<td>Do you think your efforts increased the participation and/or interest level of students (especially minorities and/or females)? What evidence do you have?</td>
</tr>
<tr>
<td>How did your work with Project Fulcrum affect your confidence, desire or interest in your research or coursework this week?</td>
</tr>
<tr>
<td>What questions or topics would you like to address at this week’s group meeting?</td>
</tr>
<tr>
<td>What other questions or comments do you have this week?</td>
</tr>
</tbody>
</table>

Send a copy of my journal to me

Submit

Figure 5.2: 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 concerns 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 5.2 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.

<table>
<thead>
<tr>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Activities</strong></td>
</tr>
<tr>
<td><strong>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</strong></td>
</tr>
<tr>
<td>Last week I attended the OK-12 national meeting. 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 OK-12's that are out there it allowed me to see ways of incorporating different ideas and topics into the OK-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 trying to accomplish. It was really nice to be able to get away from science and help get back to looking at issues of education as a whole.</td>
</tr>
<tr>
<td><strong>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.</strong></td>
</tr>
<tr>
<td>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 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 had to rely on my own experiences as a researcher to the problems we were facing and was able to successfully troubleshoot the problems, however, and results in 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.</td>
</tr>
<tr>
<td><strong>Did any situations arise that allowed you to share information about yourself or your research with students or teachers? Briefly describe the situation.</strong></td>
</tr>
<tr>
<td>Throughout the trouble shooting I was able to explain what 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 I have taught a valuable lesson of really thing 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 young age.</td>
</tr>
<tr>
<td><strong>Activities</strong></td>
</tr>
<tr>
<td><strong>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</strong></td>
</tr>
<tr>
<td>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 internet in the book and the scale of 39,420,000 km per day to model the distance with relations to the sun. This put Pluto 159 yards away from the sun. Then we had them calculate how big the planets would be using the scale of 29,400 km per year so that the planets are all 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.</td>
</tr>
<tr>
<td><strong>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.</strong></td>
</tr>
<tr>
<td>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 over it to table worked better anyway. said that the one 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.</td>
</tr>
<tr>
<td><strong>Did any situations arise that allowed you to share information about yourself or your research with students or teachers? Briefly describe the situation.</strong></td>
</tr>
<tr>
<td>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.</td>
</tr>
</tbody>
</table>
### Open-Ended Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did you learn about K-12 students this week?</td>
<td>The students in K-12 face several issues and while at the OK-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. None of the students that were benefiting from my interactions with them had missed a day of work and they were still working hard every day. I saw several signs on the school's wall that were supporting the teachers and I was obviously affecting their attitudes and their ability to learn and participate in school. It will be very interesting to see if I can establish a relationship with these students and see if there is improvement in them as the weeks go on.</td>
</tr>
<tr>
<td>What did you learn about teaching in general this week? Did you learn anything you might be able to use in college-level teaching?</td>
<td>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 a lecturer. I remember one of the facts that even though I have much more experience than the students at working through problems of research that research is truly not something that we all have the gift of solutions to problems. It is frustrating being in this role because you want to keep the mind 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 being realistic that the problems that are new to me as well as the students and as we all know the answers are usually more questions that need to be addressed rather than solutions. 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.</td>
</tr>
<tr>
<td>Do you think you are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</td>
<td>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 extremely frustrated with the reading that they were doing and was not able to find an answer to a question. It was a great opportunity for me and everyone else 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 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 good connection before spring break. Eventually after several attempts at trying to help her without giving the answer, finally had an answer. I remember that the student did when I told her I couldn't find an answer and that was to feed the guinea pigs. I then asked 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 worthwhile. Just to see her smile and feel like I was doing something was going to get better and that it will improve.</td>
</tr>
<tr>
<td>What did you learn about K-8 teachers and schools this week?</td>
<td>I made more of an impact on middle school last year than I had realized. I visited there this past week to visit with about an activity that she had used to help students identify the key aspects and limiting factors. In my visit, several kids had worked with last year's teacher when I visited the school. So much so that, realized I had visited the classroom. 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 was up to this year and commented that I should always feel free to come back to visit. What he learned is that he is a principal who stands being those who are challenging and &quot;growing up&quot; kids who know how to think. How can we get more caring and concerned individuals involved in curriculum development?</td>
</tr>
<tr>
<td>Do you think you are making a difference in the classroom? Describe what kind of difference and give evidence supporting your answer.</td>
<td>Yes, in the 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 felt that we can make more of an impression on students if we have an answer than to not have an answer. It makes the child more responsible and it fosters the child to develop the skills needed to find their own answers to questions. This transition was somewhat unexpected. In the class, she commented that he has not yet really taken the time to develop the first quarter material. So, he had only been using 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 of projects that I had brought to the table, and I think that he was pleased with the outcome.</td>
</tr>
<tr>
<td>Do you think your efforts increased the participation end/or interest level of students (especially minorities and/or females)? What evidence do you have?</td>
<td>It was interesting, this past week one of the quieter girls in the 8th class was the first to approach me with questions. She had not even asked me a question without a group. Her questions were related to topics that had been introduced to the past and she wanted to know more details. We talked and hope that she continues to think critically about what she is learning.</td>
</tr>
<tr>
<td><strong>How did your work with Project Fulcrum affect your confidence, desire or interest in your research or coursework this week?</strong></td>
<td></td>
</tr>
<tr>
<td>---</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>What questions or topics would you like to address at this week’s group meeting?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>The concept of respect shown to teachers and educators. This is a concept we have not focused 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 those competent. How do we work 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 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 unappreciated and are given very little respect by the community.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>What other questions or comments do you have this week?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm-ups: Should we do a warm-up on activities we used from the last books? Are we adding to the lessons to make them better? How should we decide if a project is worth working on? 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.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>What questions or topics would you like to address at this week’s group meeting?</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>In 6th grade, we are using cutting calendars to show science-related ideas and facts they are learning. Any ideas about how to make a hands-on project that would show the moon/ide concept? I had thought about the idea of using magnets, but I would require a magnetic liquid. So, does this bring anything to mind? Also, in 7th grade, we 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 send your classroom with this exercise.</td>
</tr>
</tbody>
</table>
5.1.6. Teacher Journals

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

Figure 5.3: Top part of journal

Figure 5.3 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 (Scientist 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 Scientists. 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 Scientists. 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 5.4.
### Open-Ended Questions

<table>
<thead>
<tr>
<th>Question</th>
<th>Answer</th>
</tr>
</thead>
<tbody>
<tr>
<td>What did you learn about scientists and/or mathematicians and/or engineers this week?</td>
<td></td>
</tr>
<tr>
<td>What did you learn about science and/or math and/or engineering this week?</td>
<td></td>
</tr>
<tr>
<td>What did you learn about teaching math and/or science and/or engineering this week?</td>
<td></td>
</tr>
<tr>
<td>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.</td>
<td></td>
</tr>
<tr>
<td>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?</td>
<td></td>
</tr>
<tr>
<td>How did your work with Project Fulcrum affect your confidence, desire or interest in teaching this week?</td>
<td></td>
</tr>
<tr>
<td>What questions or comments do you have for Project Fulcrum management this week?</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.4: Bottom part of journal**

- **What did you learn about scientists, engineers, or mathematicians?** This question helps us understand the type of impact the Scientists 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 Scientists 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 Scientist’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 Scientists 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

<table>
<thead>
<tr>
<th>Activities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Did you have any problems or issues with your scientists/mathematicians this week? If so, please describe.</strong> No issues.</td>
</tr>
<tr>
<td><strong>Pick one activity from the last week that you feel was effective. Describe the activity and why you believe it was effective.</strong> 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! Having them 150 yards away really drove home the fact that it’s a LONG ways away.</td>
</tr>
<tr>
<td><strong>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.</strong> 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 dulling to get into. It is because of that, standard classroom activities like passing out 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.</td>
</tr>
</tbody>
</table>
5.2. Journal Status

This report lets you see which journals were submitted. A sample is reproduced in Figure 5.5. 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.
Figure 5.5: 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. Scientists 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 does not 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 does not 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 Scientist starts working with other people?

It is helpful for us if you can include comments from the teachers who are working with your Scientist. If they comment to you that they are relieved that the Scientist is not taking over their
classroom, or they find that they are changing how they teach, let us know. Some of the questions (like teamwork) will not be as relevant. Some questions (such as an example of something that really worked) may seem unimportant if you don’t have the Scientist 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 Scientist 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 or my Scientist isn’t in school for an entire week. Do I submit a journal?

Yes. There is a box at the top of each journal that allows you to check if you were not in the classroom. If you check this box, you MUST explain why in the NOTES section (i.e. Scientist at conference, Scientist, etc.).

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.

5.4. 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 Scientists 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 5.6. 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**

<table>
<thead>
<tr>
<th># entries Student Contact:</th>
<th>Number of entries in Teacher Contact:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**STUDENT AND/OR PARENT CONTACT**

<table>
<thead>
<tr>
<th>#</th>
<th>Del</th>
<th>Date</th>
<th>Activity Type</th>
<th>Class</th>
<th>Total Time</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>Thu 08-03</td>
<td>Students</td>
<td>Clinton - Brown Science</td>
<td>20 min</td>
<td>test entry</td>
</tr>
<tr>
<td>1</td>
<td>✔</td>
<td>Choose Date</td>
<td>Choose</td>
<td>Choose Class</td>
<td>0 min</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>✔</td>
<td>Choose Date</td>
<td>Choose</td>
<td>Choose Class</td>
<td>0 min</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 5.6:** 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 is clunky, but I do not 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**

Figure 5.7: Entering work with teachers in the activity log

Figure 5.7 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**

Figure 5.8: Entering other work in the activity log
Figure 5.8 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 do not 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 Scientist works. Keeping this information allows Scientists to report their time by citing to the class, which eliminates repeated input of the same information. The first screen is shown in Figure 5.9.

### 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.

<table>
<thead>
<tr>
<th>School</th>
<th>Class</th>
<th>Grades</th>
<th>Teachers</th>
<th>Subject</th>
<th>#</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinton</td>
<td>Brown Science (1)</td>
<td>4</td>
<td>Anna Brown</td>
<td>Elementary_Science</td>
<td>10</td>
<td></td>
</tr>
</tbody>
</table>

**List of Classes in Database**

All Classes  Get Classes

**Figure 5.9: 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 Scientists 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 Scientist at that school has not worked with, or if you visit a school that PF has not worked with; otherwise, the Scientist 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 5.9, which will lead you to the screen shown in Figure 5.10.
Figure 5.10: 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 do not 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!!!
5.6. 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 5.12. 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 5.13.

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.
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.

Figure 5.13: Requesting the addition of a cooperating teacher
5.7. Highlights

NSF calls brief summaries of work that they can flash on a screen for legislators and others ‘Highlights’. (They used to call them nuggets and we’re still changing over the website.) You will learn how to write highlights and will need to submit them and/or document them. To get to the highlights page: Choose Reporting → Highlights to get to the page shown in Figure 5.14.

5.7.1. Uploading Highlights

To upload a highlight, choose Browse in a record. This will allow you to upload the highlights 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 do not 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 highlight.

All highlight information for the year appears on a page that looks like Figure 5.15. 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.
5.7.2. Documenting Highlights

- The Highlight Title appears on the button in the list of highlights, 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 highlights, what are the most important words?
- It is important to credit the school and the teacher(s) who participated in the highlight. Also, select the LPS topic that the highlight addresses. If the topic is not listed, e-mail diandra2@unl.edu and ask for the topic to be added, then come back and add it to your record.
- The Highlights Description is very important because this is what will tell people whether they want to look at your highlight 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 highlight 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 5.16. 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)

<table>
<thead>
<tr>
<th>Total Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week Starting</td>
</tr>
<tr>
<td>Jul 31, 2006</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Key</th>
</tr>
</thead>
<tbody>
<tr>
<td>SC</td>
</tr>
<tr>
<td>SP</td>
</tr>
<tr>
<td>TL</td>
</tr>
<tr>
<td>PT</td>
</tr>
<tr>
<td>M</td>
</tr>
<tr>
<td>O</td>
</tr>
<tr>
<td>GK12</td>
</tr>
</tbody>
</table>

Figure 5.16: 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 have worked. An example is shown in Figure 5.17.

### Student Hours Report for Test Scientist

<table>
<thead>
<tr>
<th>Class No</th>
<th>School</th>
<th>Class Description</th>
<th>Total Hours</th>
<th>No Students</th>
<th>Total Student Hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clinton</td>
<td>Green Science</td>
<td>1.00</td>
<td>19</td>
<td>19.00</td>
</tr>
<tr>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td><strong>1.00</strong></td>
<td><strong>19</strong></td>
<td><strong>19.00</strong></td>
</tr>
</tbody>
</table>

Number of distinct classes = 1

Figure 5.17: 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 do not 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. 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 6.3

---

Figure 6.2: Monthly Calendar view
6.1.1. Submitting Events. Scientists and teachers can submit events to the Calendar by using the ‘Add Event’ button in the monthly calendar view (See Figure 6.2).

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.
6.2. 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 Scientist. Choosing the ‘Materials’ option on the resources menu takes you to the screen shown in Figure 6.5.

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 do not know why this is happening, but are trying to get it fixed.

- **Sorting by Topic, Location, and 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.

Scientists will see an ‘Edit’ button in the leftmost column on this page, while others will see an ‘Info’ button. Scientists are the only ones who can change information.
Figure 6.5: Resources Main page

### 6.2.1. Resource Record

An example is shown in Figure 6.6.

**Resource: Electromagnets**

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Write-Up</td>
<td>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 a temporary magnet, thus, creating an electromagnet</td>
</tr>
</tbody>
</table>

**General Topic**

- Physics - Electricity & Magnetism

**Keywords**

- electricity
- magnets
- magnetic field
- charge

**Logistic Information**

- Location: File Cabinet - Electricity and Magnetism & Web
- Website: [http://www.physics.ufl.edu/~dianda/FF_Database2/Resources/RS](http://www.physics.ufl.edu/~dianda/FF_Database2/Resources/RS) [Follow link]

### Topics Addressed

<table>
<thead>
<tr>
<th>Grade  &amp; Topic</th>
<th>Grade 6: Electricity and Magnetism</th>
<th>Grade 7: Electricity and Magnetism</th>
<th>Grade 8: Electricity and Magnetism</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.2.1</td>
<td>6.2.2</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1.2.3</td>
<td>1.2.3</td>
<td>1.2.8</td>
</tr>
<tr>
<td>3</td>
<td>4.2.1</td>
<td>4.2.4</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>6.2.1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Figure 6.6: 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.

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

Table 6.1: Descriptions of the different types of resources
• **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 did not follow instructions when entering their resources – if you need a resource and the link does not 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 addition 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.

### 6.3. 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.

### Forms and Letters

<table>
<thead>
<tr>
<th>Letters and Templates</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter for Cooperating Teachers about Working with Project Fulcrum Scientists and Mathematicians (.pdf)</td>
</tr>
<tr>
<td>Letter for Lead Teachers about Inputting Journals (.pdf)</td>
</tr>
<tr>
<td>Nugget Template (.ppt)</td>
</tr>
<tr>
<td>Resident Scientist Activity Template (.doc)</td>
</tr>
<tr>
<td>Stylus BT Font (.ttf)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Handbooks</th>
</tr>
</thead>
<tbody>
<tr>
<td>PF Handbook for AY06 (.pdf)</td>
</tr>
</tbody>
</table>

![Figure 6.7: Forms and Letters](image)

### 6.4. Other Info → News

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

### 6.5. LPS Resources

- **Calendar** is a link to the LPS web calendars for students and teachers.

### 6.6. Standards → LPS Objectives

#### 6.6.1. 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.
6.6.2. 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.