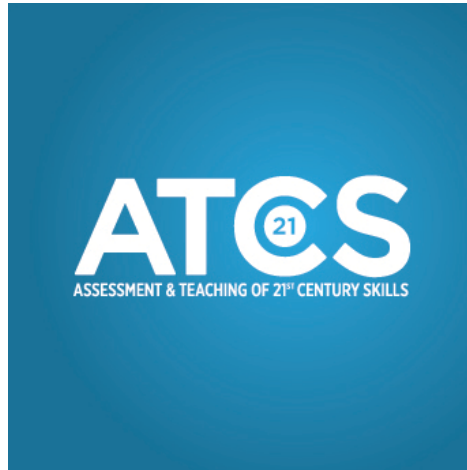# Appendix A

Administration Manuals for Field Trials:

- **ICT** (Information, Communication and Technology literacy) **Teacher Administration Guide**

- **CPS** (Collaborative Problem-Solving) **Teacher Administration Guide, Teacher Practice Task Guide, Technical Specifications**

ATC21S Information, Communication, and Technology (ICT) Literacy Administration Guide

This document prepared by Berkeley Evaluation and Assessment Research Center at the University of California, Berkeley

is for teachers and school technical staff who will be administering the
"Learning in Digital Networks" Assessment.

Sections included:

Section 1:   Introduction

The ATC21S project is developing new forms of assessment and teaching approaches to meet the demands of the 21st century. One of the areas of interest is the assessment and teaching of "Learning in Digital Networks" which combine skills in information, communication, and technology

(ICT) literacy. The goal is to deliver assessments that can alert teachers to appropriate learning interventions and give instant feedback to students in order to improve digital literacy skills.

For the field trial, the ICT tasks to be assessed are organized in two scenarios:
1. Global Human Legacy Task 2011 (Poetry)
2. Global Collaboration Contest (Arctic Trek)

Section 2: Planning

2.1 Roles

References in this guide to "Test Administrator", "Project Manager," and "Technical Assistant" pertain to:
- Test Administrator – You, the teacher participating in the field trial
- Project Manager – National Project Manager whose contact information is listed at the end of this guide.   Her administrative assistant is also available to answer questions.
- Technical Assistance - assistance with access to assessment site, offered by Berkeley Evaluation and Assessment Research at UC Berkeley. Not to be confused with your school's technical assistance or network administrators.

2.2   Checklist for Field Test Administration
Note: This checklist is provided as a summary only. It is essential that you read this entire guide in order to ensure the proper administration of the test.

Guidelines for a Suitable Testing Environment
✓ Read the Test Administrator Guide in its entirety.
✓ The testing room should be appropriately heated or cooled, adequately ventilated, and free from distractions.
✓ Lighting and screen brightness should enable all examinees to read the computer screen in comfort. It should not produce shadows or glare on the computer screen or writing surface.
✓ The testing room should comfortably accommodate the number of testing stations placed in it.
✓ Position the computer monitor, keyboard, and mouse properly for ease of use without strain.
✓ Testing room must be quiet throughout all test administrations. When testing is scheduled, or is in progress, other activities that would disrupt the testing environment should not be conducted.
✓ Depending on the regulation of the state and country of the testing, the building, testing rooms, and restrooms should be accessible to people with disabilities, including wheelchair access.
✓ Cell phones that might distract students from the test should be turned off.

❖ **Before the testing**
✓ Read the Test Administrator Guide in its entirety.
✓ Print this guide if you are reading electronic copy of the guide and think you might need a paper copy during the administration of the test.
✓ Communicate with the Project Manager (Project Administrator) of your country to review the testing schedule and to arrange for the students who require accommodations. Also review procedures in the Test Administrator Guide.
✓ Check if technology requirements are met on your student computers (see *Technical Requirements* section).
✓ Receive your student logins and passwords, and online access to instructor preview scenarios (contact Project Manager for student logins and passwords).

✓ Access online preview scenarios to become familiar with them.
✓ Decide if Kodu to be installed or not (optional but engaging for students).
✓ Ensure that students are provided with the necessary student ID and passwords. If you are planning to distribute login and password forms, make sure that you have forms available printed in advance.
✓ Have a timer available.
✓ Ensure administrator knows how to correctly answer all parts of the scenario.
✓ Ensure administrator has access to a computer workstation for every student.
✓ Ensure computers meet requirements and have access to Internet, tasks and links (see *Technical Requirements* section).

❖ **During the testing**
✓ Post a "Testing—Please Do Not Disturb" sign on the room where testing is conducted.
✓ Ensure all students have comfortable and adequate workspaces, and that students on same team should be seated at least two to three workstations apart, to effectively encourage interactions to be online.
✓ Monitor students to ensure they are working in the correct sections of the test.
✓ Monitor students' handling of computer hardware to keep it in proper condition.
✓ If you are administering accommodations, make sure that the accommodations are provided as were determined prior to testing and according to the regulations of the region in which the test is being administered.
✓ Take notes during the test of any testing irregularities and notify the Project Manager of your country after the testing. Be as specific as possible. If you notice any technical issues or issues with the computer testing system, please record the issue in the Teach Aid text box for the computer on which the problem was found.

❖ **After the testing**
✓ Verify that all login and password forms have been collected.
✓ Verify that all computer hardware used by students during testing is left in proper condition.
✓ Verify that any testing irregularities and feedback are reported to the Project Manager.

2.3 Technical Requirements

• devices supported - PC or Mac
• headphones for students and color monitor required
• browsers - PC: IE 7.0+, FireFox 3.0+; Mac: Safari 4.0+, FireFox 3.0+
• browser settings - javascript and pop-up windows must be enabled
• plugin - Adobe Flash 10.3+
• internet connectivity - broadband suggested (1.5Mbit/s or higher)
• screen size/resolution - 1024x768 or higher recommended, works at less
• access to external websites in the tasks
• microphone may be required for some scenarios
• permissions to download files from a browser.
• empty browser caches prior to test administration
• test audio for playing podcasts in advance
• ensure no auto-update software will launch to impede the use of the computer in a timely manner
• ensure that the network performance is adequate:

    1. Direct your browser to "http://www.speakeasy.net/speedtest/"
    2. Click on the closest "City, State" to your location
    3. Note the Download Speed and Upload Speed. Speed below 1.0Mbs or 0.7Mbs indicates inadequate performance.

Technical Assistance

BEFORE ADMINISTERING, you MUST verify the technical requirements at http://bearcenter.berkeley.edu/test/test.html for **each** of the student computers. To do this, login to the link from the student computers and answer all the questions. The answers will be specific to each computer, so if you do not have a standard computer setup, each computer will need to be checked.

For ATC21S technical assistance, contact **bearit@berkeley.edu**. Note that technical assistance will be provided within two business days, with business days/times 10 am-5 pm Monday-Friday U.S. Pacific Standard Time.

Section 3:   Logins for Access to Assessment Website

The assessment for Learning in Digital Networks is in http://bearcenter.berkeley.edu/atc21s-americas/. Your National Project Manager will give you logins and passwords for each student participating in the field trial. Once logged in, select the desired assessment from the list. Note that ATC21S passwords are preset to access only one scenario each, and are coded for each grade level.

You may request demo accounts to preview the tasks, but make sure you request the right age/grade level demo accounts.

Section 4:   Administration of Tasks

Before administering the tasks, please tell students the following:

They will not receive a grade for taking the computer-based assessment tasks. The tasks are being field tested to see how well they work. The performance of the student is not being evaluated. Student names will not be associated with the assessments' results. No identifying information will be recorded, and information will be stored securely. All information may only be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose.

Participation in the field trials is voluntary. If students do not wish to participate, they will be given another assignment.

Note: This guide assumes 50 minutes scheduled for administering EACH scenario. This will consist of a 5-minute instruction period, and a 45-minute test period.

Test Administration Instructions

In about 5 MINUTES, give students "ASK THREE THEN ME" directions. Every student is expected to explore three sources of information before asking instructor or test administrator help. These three are: (1) task directions and resources on each screen, (2) questions online of team members to get and give help, and (3) access internet for information PRIOR to requesting help. Instructor help is to be RARELY given (see below for instructions on how), and students are to explore and do their best with the information and team members available. Instruct students that collaborating and using the Internet is expected and is NOT cheating for this assessment.

SAY: *"I will provide you with ASK THREE THEN ME directions. Every student is expected to use three sources of information before asking for help. First, you are expected to use task directions and resources on each screen. Second, work with your team members to get and give help. Third, use the internet for information. PLEASE KEEP IN MIND THAT THIS IS NOT CHEATING. Otherwise, you should explore the tasks and do the best you can with the information and team members provided. You are being assessed on YOUR ABILITY to work with tools and people online."*

Provide each student with their correct login and password for FADS (the delivery system).
Write down http://bearcenter.berkeley.edu/atc21s-americas/on the board or provide on the paper.

SAY: *"In the paper handed to you, you will find the login ID and password you need in order to login to the system from the website written on the board (or provided on the paper)* (Give students the name of the practice test to which they are assigned, see the sampling matrix provided by your country representative).

"Now you will login to the system. You will select the task and start the test. (Give students the name of the instrument being delivered. Tell them to select this name on the screen). If you have a SERIOUS technical problem with either the test or the computer, please raise your hand and I will help you. You have 45 minutes. Please pace your time appropriately and do not spend too much time on a particular task."

If students are taking Global Human Legacy Task 2011 (Webspiration poetry), say:

SAY: *"Average time you have for each screen is about 5 minutes. Note that once in Webspiration (Global Human Legacy Task 2011,poetry), you should try to leave the document by selecting Document>Sign Out". Otherwise next time the orange box with the link to your document might not appear. Then you will need to find your document under the Recently Opened menu that you will see. If you encounter this problem, ask me for help."*

SET TIME FOR 45 MINUTES.   Starting time: _____ Ending time: _____

(Write the "Starting time" and "Ending time" on the board if necessary.)

Note: In RARE cases, if student needs help and CANNOT PROCEED AT ALL during the assessment, administrator may provide assistance. To do so, FIRST record information in TeachAid screen available by clicking *"T"* icon in lower right of student screen, THEN provide help to student face-to-face. This is primarily for special needs students or to record unusual technical problems that do not occur for most students so that they can be addressed in future versions.
When 45-minute testing period complete:

SAY: "*Please stop working, logout from the system and turn off computers.*"

Note: Collect all login and password forms distributed to students earlier. Make sure that all computer hardware used by students during testing is left in proper condition. Do not forget to report any technical issues and testing irregularities to the testing coordinator of your country.

Section 5: Contact Information

Your main contact will be your country National Project Manager (NPM). She has been involved in the project for many months and will able to answer any questions that are not in this guide.

United States NPM:
Kathleen Comfort
WestEd
730 Harrison Street,
San Francisco, CA 94107-1242
Ph: 707-217-7454
Email: kcomfor@wested.org

Administrative Assistant:
Anna Araneta
WestEd
300 Lakeside Drive, 25th Floor
Oakland, CA
Ph: 510-302-4261
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This document is the administration guide for Collaborative Problem Solving Assessment Tasks for use by teachers in Trials in 2011. Please read through this manual prior to the Trial session to ensure that the tasks can be administered successfully and consistently for all students.

Sections:

Section 1:   Introduction

The ATC21S project is developing new forms of assessment and teaching approaches to meet the demands of the 21st century. One of the areas of interest is the assessment and teaching of collaborative problem solving. The goal is to deliver assessments that can alert teachers to appropriate learning interventions and give instant feedback to students in order to improve their collaborative problem solving skills.

The tasks are still in development and currently do not provide instant feedback. The purpose of the Trials will be to finalise scoring rubrics, so that the Project can establish empirically based scales that have the capacity to indicate students' location on the developmental progressions associated with each of the skill sets. Student reports will be available from the assessments *after* the Trials. This information will allow teachers to assess their students' collaborative problem solving capabilities. The Project will then work with teachers to develop teaching interventions for students operating at different skill levels.

Please note that access to the tasks is limited to participating countries under the management of the National Project Managers. Login and password access should not be made public nor beyond those involved in the formal research aspect of the ATC21S project. Any schools, teachers, and students participating are to be given access only for the purpose of data collection.

1.1 About Collaborative Problem Solving

Collaborative problem solving (CPS) is conceptualised as being composed of social skills and cognitive skills, consisting of broad strands including participation, perspective taking, negotiating, learning and knowledge building. This broad structure has several elements, which underpin the development of the assessment tasks.

1.2 About the tasks

The practice task
The practice task is Light Box. This will help teachers learn the key features of the collaborative problem solving assessment tasks and should be used with students <u>before</u> other tasks to help them understand what they are expected to do. Please refer to the "Practice Task Guide for Teachers" for more information about the Light Box.

The assessment tasks
Currently there are eleven assessment tasks; four categorised under "Puzzles and Experiments" and seven categorised under "Mathematical and Scientific".

These tasks are designed to elicit collaborative problem solving behaviours. Students work in pairs on the tasks. In all tasks communication between partners is through on screen chat messaging. The tasks are different from any other tasks your students are likely to have used. To be successful students <u>must</u> work together. The tasks <u>require</u> collaboration. The tasks are not timed and students are not rewarded for finishing quickly. It is the quality of the student interactions that is important.

Early work has shown that students find the concept of assessing collaboration difficult to understand as most assessments they have previously used have required them to work on their own. Many students perceive it as 'cheating' to ask their partner for help, or to discuss possible solutions with their partner. With these tasks it is precisely students' ability to work <u>together</u> to solve a problem that is being assessed.

Success in these tasks is achieved through active participation, working out what the problem requires and identifying the information each partner holds, organising to work together, reading others' views and suggestions and discussing possible approaches through text chat, as well as of course finding a solution to the problem and learning from the experience.

Students can take notes for themselves if they want to, on paper. However all communication with their partner <u>*must*</u> be through the text boxes in each task. It is important that students are not close enough to talk to each other as this verbal communication will not be captured for analysis.

Student survey
In this project background information about the students undertaking the assessment tasks will be collected. These details will include student age, country, first language, and gender. Students will also be asked to evaluate their performance and their partner's performance. This information will be collected using online surveys presented to each student upon completion of the tasks.

Section 2: Planning

- Please read through this manual to ensure that the tasks can be administered successfully and consistently for all students
- Print this manual if you are reading an electronic copy as you will need a paper copy during the administration of the test
- Check if technology requirements are met on your student computers (refer to document "Technical Specifications and Setup Guide")
- Receive your student logins and teacher login (contact your National Project Manager [NPM] if you have not received these – contact details page 8)
- Using the teacher login provided to you by your NPM, familiarise yourself with the login area and the practice task, as students may request assistance to help them initially with the online environment.

During the testing

- Ensure all students have a computer and access to the internet.
- Ensure pencil and paper is available for students to take notes
- Ensure all students have comfortable and adequate workspaces
- Lighting and screen brightness should enable all students to read the computer screen in comfort. There should not be shadows or glare on the computer screen or writing surface
- The testing room should comfortably accommodate the number of testing stations placed in it
- Testing room must be quiet throughout all test administrations. When testing is in progress, other activities that would disrupt the testing environment should not be conducted

Section 3: Student Details and Registering for CPS tasks

Before beginning, each student will need to be assigned a unique login. Please refer to the accompanying login spreadsheet. There are two pages: "teacher copy" and "student copy" (see Figure 2).

1) In the teacher copy, assign logins to students by writing student names in the "student names" column.
2) Cut the student copy sheet into strips containing individual logins and distribute to students based on their assigned login recorded in the teacher copy.
3) Do not intentionally sit students with the same team codes together.

Section 4: Administration of Tasks

Before administering the tasks, please tell students the following:

They will not receive a grade for taking the computer-based assessment tasks. The tasks are being field tested to see how well they work. The performance of the student is not being evaluated. Student names will not be associated with the assessments' results. No identifying information will be recorded, and information will be stored securely. All information may only be used for statistical purposes and may not be disclosed, or used, in identifiable form for any other purpose.

Participation in the field trials is voluntary. If students do not wish to participate, they will be given another assignment.

Currently there are eleven tasks; one Practice Task, four categorised under "Puzzles and Experiments", seven categorised under "Mathematical and Scientific".

Practice task	Puzzles and Experiments	Mathematical and Scientific	
Light Box	Olive Oil Hot Chocolate Laughing Clown Shared Garden	Balance Small Pyramids Game of 20 Warehouse	Hexagons Sunflower Plant Growth

Each task is part of a bundle with other tasks. Students complete specific bundles of tasks, not all the tasks. The tasks listed against a login in the login spreadsheet define the bundle of tasks relevant to a student. There is no expectation that all students will complete all their assigned tasks. Students have been oversupplied with tasks to cater for those who complete tasks faster than others.

During administration: 11-step guide for administration

This guide assumes:

- Up to TWO class periods will be available per bundle of tasks (it is assumed that a class period is 50-60 mins). Periods can run consecutively or with a break in the middle (e.g. morning tea or lunch break).
- Paired students will undertake tasks simultaneously. Please ensure those in a pair are seated far enough away from each other to obstruct oral (voiced) communication.
- Pencil and paper may be made available to students.
- To ensure session runs smoothly and efficiently, where possible, have all computers switched on and ready to go with internet **before** students are seated for the session.

Step 1	Write website on the board: http://www.arc-alp.com/c21 Hand out paper student login strips. Ensure students enter their login and password as it appears on their login strips.
Step 2	You may like to brief students about the ATC21S research project and why your school is taking part or examining 21st century skills such as 'collaborative problem solving'. Read out the instructions to students given below: *"You are about to take part in a trial of some new assessment materials. The tasks will assess how well you can solve problems working with a partner. It is more important that you work together than it is that you solve the problems on your own.* *Sometimes you and your partner will see different objects and instructions so it is very important you communicate with your partner using the on-screen chat messaging.* *Never share your thoughts with your partner by talking out loud to them.* *If you get stuck, ask your partner if they have information that may help, and try and find solutions together.* *You will now have 10 minutes to do a practice task."* Ask students to click: "Practice Task"
Step 3	Ensure students select Player A or Player B, depending on what is on their login strip.
Step 4	Ask students to begin task, advancing through until the pair has finished all sections. If students need task assistance, teachers should prompt students to ask their partner. If students need further assistance, teachers may provide group guidance to the whole class during the Practice Task ONLY.
Step 5	When 10 minute practice session is up, say to students: "Click browser 'back' button until you exit out of the practice task. We will now get ready to do the assessment tasks listed on your login sheet. Listen carefully to my instructions"
Step 6	[Teacher: point to relevant sections on login strip] *"You will start with the first task listed on your login strip, advancing through until you have finished all sections. After that, do the next task on your login strip. Make sure you read __all__ instructions. Select Player A or Player B, depending on what is on your strip.Do not rush. __Doing the tasks well with your partner is more important than doing lots of tasks.__ You can take notes on paper if you wish. Do you understand what I want you to do? Are there any questions? You will have two periods to finish all the activities. You may start now".*
Step 7	If students need task assistance, teachers should prompt students to ask their partner. If students require I.T. assistance, please help students accordingly.
Step 8	If there is a break between period 1 and 2, at the end of period 1 ask students to log out by

Step 8	If there is a break between period 1 and 2, at the end of period 1 ask students to log out by clicking 'Finish' (where available) or closing browser if no 'Finish' button is available.
Step 9	At the start of period 2 ask students to log back in and continue where they left off.
Step 10	When there is <mark>15 minutes</mark> left in period 2, ask students to click "Finish" or browser "Back" button to return to main menu. Then say: *"Now please click on 'Survey'. You will be given two short on- screen questionnaires about the task and how you got on. We want you to answer these questions ON YOUR OWN. Please start now."*
Step 11	At the end of the period: *"Thank you very much for taking part in this project. The way you answer the tasks will be used to make the tasks better for teachers and students all over the world. Please hand in your paper notes to me"*
	Keep a look out for students who have been waiting a long time to connect or re-connect with their partner. When both students get disconnected, they may both get message "Waiting for your partner to join" or similar, and may end up waiting indefinitely! Ask these students to re-enter the original URL and log back in again.

Please note any irregularities and difficulties you experience (such as technical issues, issues with this manual or tasks etc.). Please forward this feedback to the National Project Manager.

Section 5: Troubleshooting Guide

PROBLEM	POSSIBLE SOLUTION
Both students from a pair waiting a long time to connect to their partner, with message "Waiting for partner to join" or similar.	Both students need to log out then back in, by re-entering original URL.
Student experiences connection issue that prevents them from continuing with a task or entering a task.	Log out and back in, by re-entering original URL.
Student's chat box stops updating their chat.	Log out and back in, by re-entering original URL.
Text is too big for the screen or is obscured by a graphic in the task.	Re-size the screen. To make the screen smaller click on the screen then hold down CTRL key while pressing – key as many times as required . To make the screen larger, hold down CTRL key while pressing + key as many times as required.
Chat box is not visible.	Click around the area where chat box should be and it will appear.
Students need to log out mid-way through a task.	Click "Finish" and close browser. If no "Finish" button is available, just close browser.
Students need to navigate to main menu mid-way through a task.	Click "Finish" where available, or browser "Back" button.
Students encounter "Page cannot be found" message or similar.	Use browser "Back" button to return to Main Menu.
Both students from a pair get stuck on a task and cannot proceed further with the task.	Ask students if they have tried seeking information and help from their partner. If so, they can move on to next page. If on last page of task, they can move to next task.

Section 6: Contact Information

Your main contact will be your country National Project Manager. They have been involved in the project for many months and will able to answer any questions that are not in this document.

Contact details for your NPM are: **NPM to enter their details here.**

student001	exam001	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
		A	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth
student002	exam001	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
		B	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth
student003	exam002	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
		A	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth
student004	exam002	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
		B	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth
student005	exam003	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
		A	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth
student006	exam003	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6
		B	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth

Figure 1. An example of part of a login spreadsheet showing the "teacher copy" page. Teachers should have received their own version from their NPM.

ATC21S CPS TRIALS
Teacher Copy

Date:				Start time:		End time:			
School:				Class:		Age Group:			

Student ID	Team Code	Player	Task 1	Task 2	Task 3	Task 4	Task 5	Task 6	Student Name
student001	exam001	A	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth	
student002	exam001	B	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth	
student003	exam002	A	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth	
student004	exam002	B	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth	
student005	exam003	A	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth	
student006	exam003	B	Math & Science Game of 20	Math & Science Balance	Puzzle & Experiment Laughing Clowns	Math & Science Small Pyramids	Math & Science Hexagons	Math & Science Plant Growth	
student007	exam004	A	Math & Science	Math & Science	Puzzle & Experiment	Math & Science	Math & Science	Math & Science	

Figure 2. An example of part of a login spreadsheet showing the "student copy" page. Teachers should have received their own version from their NPM.