

## THE 21<sup>st</sup> CENTURY CENTER FOR RESEARCH AND DEVELOPMENT IN COGNITION AND SCIENCE INSTRUCTION

### Philadelphia Science Teachers' Consent Form

The 21<sup>st</sup> Century Center for Research and Development in Cognition and Science Instruction has been awarded a large grant from the U.S. Department of Education to provide two types of professional enrichment to middle school science teachers and to study the resultant impact on student achievement (see [www.cogscied.org](http://www.cogscied.org)).

. This national project involves multiple school systems. The School District of Philadelphia's School Reform Commission (SRC) and administrative leadership has agreed to be one of a limited number of project sites in the country.

In order to proceed with the project, we are asking for your consent to participate. We need at least one 7<sup>th</sup> and one 8<sup>th</sup> grade teacher per school, or one teacher who teaches both 7<sup>th</sup> and 8<sup>th</sup> grade per school. Teachers are paid a stipend to participate that ranges from \$300 to \$2,800 depending upon the group to which they are assigned.

The project can accommodate 280 teachers and 130 schools. Once schools are qualified with consenting teachers, the schools will be randomly divided into three groups: 1) Content, 2) Pedagogy and 3) Control.

**For each 7<sup>th</sup> grade science teacher in the Content or Pedagogy group**, the project will pay a stipend of up to \$1,100 to participants. Participation includes:

- 3 days of either science content or science pedagogy enrichment in August 2009 on the Holt Cells and Heredity Unit (18 hrs) (date, time, and locations to be announced)
- 4 , 2-hour after-school professional learning community sessions in the Cells unit (8 hrs) once every 2-3 weeks.
- completion of a Survey of Enacted Curriculum (SEC) (1 hr)
- administration of a short 30-minute multiple choice end-of-unit test to at least one of your 7<sup>th</sup> grade classes
- making a good faith effort to attend all the sessions and use what you have learned in your classroom practice when you teach the Cells and Heredity unit.

**For each 8<sup>th</sup> grade science teacher in the Content or Pedagogy group**, the project will pay a stipend of up to \$2,050 to participants. Participation includes:

- 6 days of either science content or science pedagogy enrichment in August 2010 on the Holt Restless Earth and Introduction to Matter units (36 hrs) (time, date, and location to be announced)
- 8 , 2-hour after-school professional learning community sessions in the Restless Earth and Intro to Matter units (16 hrs, once every 2-3 weeks)
- completion of a Survey of Enacted Curriculum (SEC) (1 hr)

- administration of a short 30-minute multiple choice end-of-unit test to at least one of your 8<sup>th</sup> grade classes
- making a good faith effort to attend all the sessions and use what you have learned in your classroom practice when you teach the Restless Earth and Introduction to Matter units

**For teachers who teach both 7<sup>th</sup> and 8<sup>th</sup> grade science in the Content or Pedagogy group,** the project will pay a stipend of up to \$3,150.

**For the Control schools,** each participating teacher will receive a stipend of \$300 per year to:

- complete a Survey of Enacted Curriculum (SEC) (1 hr)
- administer a short 30-minute multiple choice end-of-unit test to at least one of your grade level classes

Beginning in the summer of 2012, science teachers in all Control schools will be eligible to receive additional stipends and professional enrichment based on whichever type (Content or Pedagogy) proved to have the greater impact on student achievement.

***Other Benefits for Teachers:***

- meet with colleagues who use the same materials to share experiences and develop pedagogical content knowledge
- learn about cognitive principles which can be applied to teaching other units
- get paid for their time and given continuous support
- Act 48 credit

**Center’s Research Agenda:** The key research question of the Center is:

*Can teacher implementation of cognitive science principles help increase student learning and raise student performance on high stakes tests?*

The nature of the pedagogy professional enrichment describes how findings from cognitive science can be used to modify the three Holt science units so as to make it easier for students to grasp the material. We focus on three **Cognitive Principles:**

- Assessing prior knowledge – discovering knowledge frameworks and uncovering misconceptions –basis for constructivism and formative assessment
- Analogical Reasoning – transfer between contexts
- Diagrammatical Reasoning – decoding of graphical representations

**Project Goals:**

- To develop and test the application of theoretically driven cognitive science principles to middle school science curricula
- To increase student learning of science through careful modification based on cognitive science principles of the details of existing middle school science curricula
- To increase student performance on high stakes state science tests



**THE 21<sup>st</sup> CENTURY CENTER FOR RESEARCH AND DEVELOPMENT  
IN COGNITION AND SCIENCE INSTRUCTION**

**Statement of Consent:**

I have read the above information and have sufficient information to make a decision about participating in this study. I have been informed that my participation in the study is voluntary, and I am agreeing to participate for the full term of the project (June 2009 – June 2012).

My receipt of a full stipend is contingent upon my completing all data collection activities (administering end of unit tests, completion of SEC) and attending the Professional Development activities during non-instructional time (summer and after school).

**I consent to participate in the study.**

\_\_\_\_\_  
Name (please print clearly)

\_\_\_\_\_  
School

Home Address \_\_\_\_\_  
\_\_\_\_\_

Email Addresses: \_\_\_\_\_  
\_\_\_\_\_

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

Please mail, fax or hand-deliver to:  
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