

School is out, but learning continues!



GRADE 10

ACADEMIC ENRICHMENT - DECEMBER 2016

Clayton County Public Schools



Clayton County Public Schools

Chief Academic Office

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Dear Parents:

The Georgia Milestone Assessment System (GMAS) is a more demanding assessment system. The assessment system measures student performance on more rigorous curriculum based on the Georgia Standards of Excellence. The Division of Teaching and Learning is providing academic enrichment tasks for students to complete during winter break in order to support their learning, and to ensure that they continue to reinforce their learning. The assignments focus on writing because constructed response and extended response questions create a more rigorous assessment of student writing ability in all grade levels. This more rigorous application of writing in all content areas is a part of Georgia Milestones.

The assignments will include grades 1-8, and high school EOC tested courses, and will be provided in all tested areas, English language arts, math, science, and social studies. Students are encouraged to read the assignments, complete the assessments and return to school in January with their finished work for teachers to review and support them in areas of need. Parents are encouraged to assist students with the completion of tasks if needed. Enrichment packets can be found on the Clayton County Public Schools website (www.clayton.k12.ga.us) and through the CCPS mobile app.

We encourage you to visit the GADOE website where you can find information on Georgia Milestones, including a helpful video that explains the purpose for the testing system. Also, you will find additional resources on the Clayton County Public Schools website, including a Parent's Guide to the Georgia Milestones, translated in Vietnamese, Spanish and English.

Thank you for your attention to this matter, and best wishes for the success of our children.

Regards.

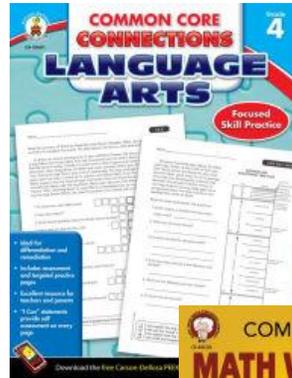
Folasade Oladele, Ed.D.

Academic Support Resources for Parents

- There are **Common Core** workbooks for Mathematics and Language Arts that can be purchased from Carson-Dellosa Publishing.
- Workbooks are provided for Grades 3-8 at a cost of \$9.99 each.
- Workbooks can be purchased directly from the publisher's website or from Barnes and Noble.

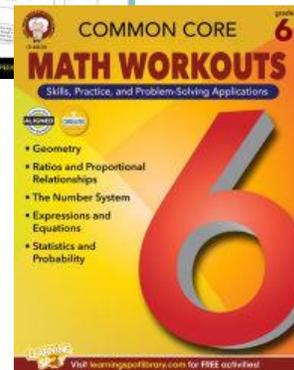
- Carson-Dellosa Publishing website

- Grades K-5
 - [Math Workbook](#)
 - [ELA Workbook](#)
- Grades 6-8
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Physical Science: High School

Standard

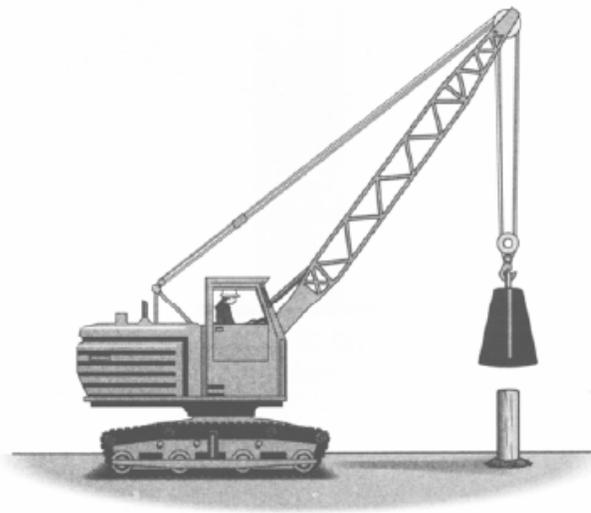
SPS7-Students will relate transformations and flow of energy within a system.

a. Identify energy transformations within a system.

Task Description: Pile Driver

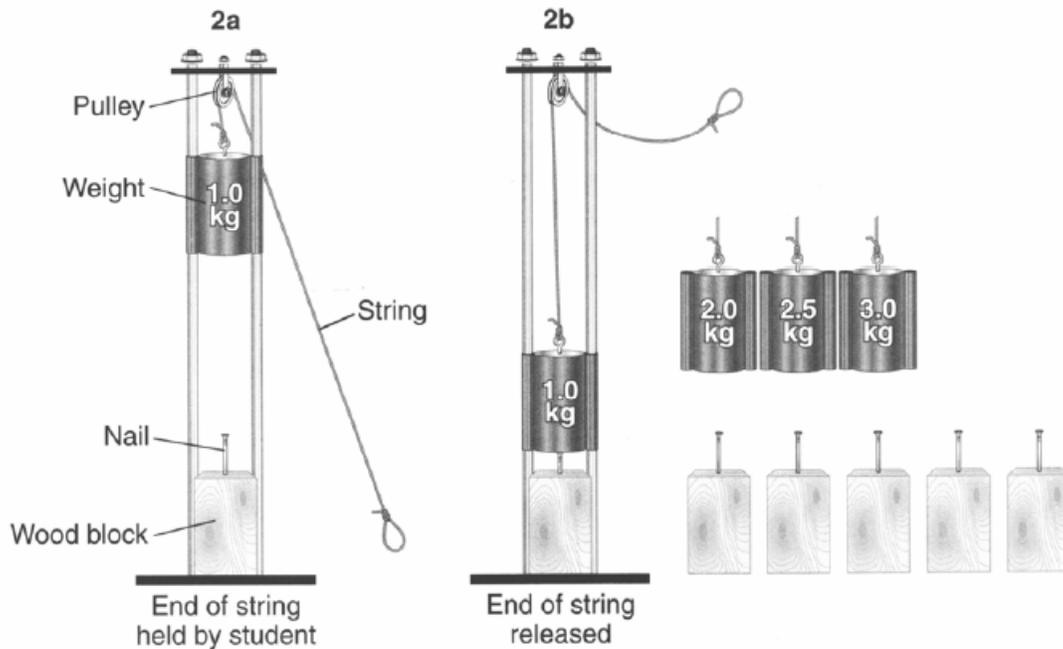
At a construction site near their school, some students observe a crane lifting a weight. The weight drops and hits a long post, pushing the post into the ground. The students watch as the machine lifts and drops the weight several more times. Each time the post moves farther into the ground. This kind of machine is called a pile driver because it pushes the post (a pile) into the ground.

Diagram 1: Pile Driver



The students want to investigate how a pile driver works. They decide to simulate a pile driver's action in their science classroom by making a model. They build a structure to suspend a metallic weight above the floor. The weight is lifted toward the top of the structure by a pulley and string system (see diagram 2a). When the string is released, the weight moves downward (see diagram 2b).

Diagram 2: Pile Driver Model



The students have 6 rectangular blocks of wood. They drill a small hole into each block. They put a nail in each hole so that the nail is straight up and down. Then they place one block at the bottom of the pile driver model. When the weight drops, it hits the nail and pushes the nail farther into the wood.

They repeat this procedure 5 more times. For trials 1 through 4, they change the mass of the weight. For trials 4 through 6, they change the distance the weight falls. They measure and record how deeply the nail is driven into the wood for each trial. Their results are given in the table on the next page.

Results from Pile Driver Model			
Trial	Mass of the Weight (kg)	Distance the Weight Falls (cm)	Distance Nail is Pushed into the Wood (cm)
1	1.0	20	1.2
2	2.0	20	2.4
3	2.5	20	3.0
4	3.0	20	3.6
5	3.0	30	5.4
6	3.0	40	7.1

This investigation involves various kinds of energy. Identify **four** kinds of energy involved in the investigation and describe specifically at which point each kind of energy was involved in the investigation.

- 1.
- 2.
- 3.
- 4.

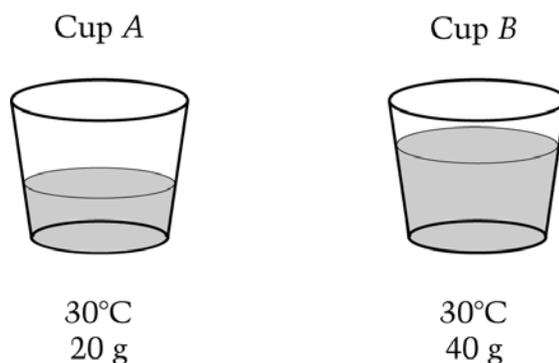
Physical Science: High School

Standard

SPS7-Students will relate transformations and flow of energy within a system.

a. Identify energy transformations within a system.

Two identical cups contain water at 30°C . Cup A contains 20 grams (g) of water, and Cup B contains 40 grams of water, as shown in the diagram below.



Which cup of water will release more thermal energy when it is allowed to reach the room temperature of 25°C ?

- A. Cup A
- B. Cup B
- C. Both cups will release the same amount of thermal energy.

Explain your reasoning
