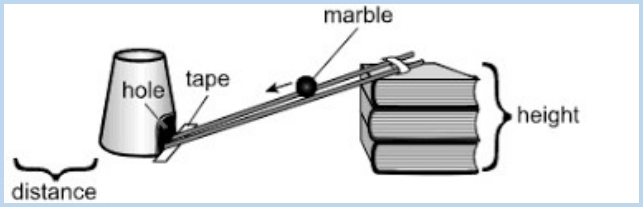
Monday

Marble Experiment

Savannah sets up an experiment with a marble, a foam cup, and a ramp. The cup has a hole on the side. The marble rolls down the ramp and pushes the cup. Savannah's experiment setup is shown in Figure 1.

Figure 1. Marble Experiment Setup



Savannah measures the distance that the cup moves when the marble pushes it. Next she changes the height of the ramp and repeats the experiment. She completes three trials. Her observations are shown in Table 1.

Table 1. Experimental Data

Experiment	Ramp Height (centimeters)	Time (seconds)	Distance the Cup Moves (centimeters)
1	10	1.8	2.5
2	20	1.5	3.0
3	30	1.3	5.0

Use the information in Table 1 to answer the question.

Savannah concludes that in each experiment, the marble hit the cup with a different amount of energy. Which evidence best supports her conclusion?

A. the height of the ramp in each experiment
B. the time the marble took to reach the cup in each experiment
C. the mass of the marble used in the experiments
D. the distance that the cup moved in each experiment

Tuesday

Experiment	Ramp Height (centimeters)	Time (seconds)	Distance the Cup Moves (centimeters)
1	10	1.8	2.5
2	20	1.5	3.0
3	30	1.3	5.0

Use the information in Table 1 to answer the question.

Which statement best explains why the marble had a different amount of energy in each experiment?

A. The marble started with different speeds.
B. The times it took for the marble to hit the cup were different.
C. The marble had a different speed each time it hit the cup.
D. The cup moved a different distance each time the marble hit it.

Wednesday

	Speed
Car A	58 MPH
Car B	64 MPH
Car C	60 MPH
Car D	63 MPH

Cars A, B, C, and D are traveling at different speeds in four different lanes on the highway.

Which list is in order from the car with the LEAST energy to the car with the MOST energy?

A) A, C, D, B
B) C, D, A, B
C) A, D, C, B
D) B, D, C, A

Thursday

Striking Flint

Ana and Jon struck different materials with a steel rod to see which materials would create a spark. The materials they used for striking are shown in Figure 1.

Figure 1. Materials Used for Striking

Ana and Jon recorded their observations in Table 1.

Table 1. Result after Striking with a Steel Rod

Material	Creates a Spark	Does Not Create a Spark
flint	X	
wood		X
charcoal		X
chalk		X

Ana strikes the flint hard with the steel rod.

1. Which claim is best supported by the observation that a spark is produced when the flint is struck hard?

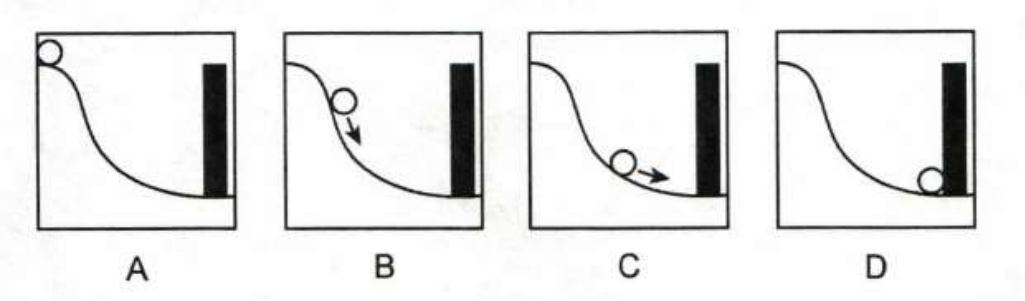
A. Energy is transferred to the flint.
B. Heat is transferred from the flint.
C. Matter is transferred to the flint.
D. Energy is transferred to Ana.

2. Which evidence best supports the answer to Question 11?

A. The flint gains mass.
B. Ana's hand develops a bruise.
C. Heat and light are created.
D. The flint is colder after it is struck.

Friday

Based on the diagram of a ball rolling down hill, what statement is true?



A. The ball in box C has less kinetic energy than ball in box B.
B. The ball in box A has less kinetic energy than the ball in box B.
C. The ball in box C has less kinetic energy than the ball in box D.
D. The ball in box A has equal amounts of potential and kinetic energy.