

Name: _____

_____ Date: _____

MCAS Checklist- Answering an Open Response Question

Directions: Read the following check list before starting to answer your open response question, check off each step while going through your open response question. DO NOT go on to the next step without checking off each step.

- Read the question
- Draw a diagram at the top in the box provided for you
- In the first box labeled Knowns, list the numerical values for each part of the question: a, b, c, & d.
- In the second box labeled Givens, list your general knowledge of physics (this is the information about the problem that you have learned this year, that is not listed in the questions but you can assume about this problem) list this for each part of the question: a, b, c, & d.
**Ex., pull out the formula sheet and list possible formulas you may use for this problem.
- In the third box labeled Unknowns, list what the question is asking you to answer. List this for each part of the question: a, b, c, & d.
- Solve each part at the bottom of the page. List this for each part of the question: a, b, c, & d.

Put something on your paper for each part of the question, if you have no idea how to answer the question at least rephrase the question in your own words.

MCAS Question Response Sheet

Knowns:

A.

B.

C.

D.

Diagram:

Solve:

A.

Given:

A.

B.

C.

D.

B.

Unknown:

A.

B.

C.

D.

C.

D.

MCAS Question

I. Content Standards

2. Conservation of Energy and Momentum

Central Concept: The laws of conservation of energy and momentum provide alternate approaches to predict and describe the movement of objects.

2.5 Provide and interpret examples showing that linear momentum is the product of mass and velocity, and is always conserved (law of conservation of momentum). Calculate the momentum of an object.

On a smooth, level surface, a red marble of mass 0.02 kg moving at 2.0 m/s collides with a stationary yellow marble of equal mass. After the collision, the red marble stops completely, and the yellow marble moves in the direction the red marble was moving.

- Calculate the momentum of both marbles before the collision. Show your calculations and include units in your answer.
- Calculate the momentum of both marbles after the collision. Show your calculations and include units in your answer.
- If the velocity of the red marble doubles, how will the velocity of the yellow marble change after the collision?
- If the red marble had more mass than the yellow marble, how would the momentum of the yellow marble change after the collision?

Student Evaluation of Answer Sheets

Directions: Answer the questions below to evaluate the scoring method used by the Department of education. Use the answer sheets provided by your teacher to do this.

Score of 4:

1. What did the student do to answer the question in each of the parts of the question (a, b, c, & d)? Be specific.

Score of 3:

1. What did the student do to answer the question in each of the parts of the question (a, b, c, & d)?

2. Why do you suppose the student lost a point for their response?

Score of 2:

1. What did the student do to answer the question in each of the parts of the question (a, b, c, & d)?

2. What do you suppose the student did to lose two points for their response?

Score of 1:

1. What did the student do to answer the question in each of the parts of the question (a, b, c, & d)?

2. What do you suppose the student did to lose three points for their response?