

Momentum

Activity 1: What's Happening With Momentum?

Question Group 1:

Question 1:

A car is moving eastward and speeding up. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 2:

A car is moving westward and speeding up. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 3:

A car is moving northward and speeding up. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 4:

A car is moving southward and speeding up. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question Group 2:

Question 5:

A car is moving eastward and slowing down. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 6:

A car is moving westward and slowing down. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 7:

A car is moving northward and slowing down. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 8:

A car is moving southward and slowing down. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question Group 3:

Question 9:

A truck is moving eastward at a constant speed. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 10:

A truck is moving westward at a constant speed. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 11:

A truck is moving northward at a constant speed. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question 12:

A truck is moving southward at a constant speed. The momentum of the car is _____.

- a. increasing b. decreasing c. remaining constant

Question Group 4:**Question 13:**

If the speed of a constant-mass object is increasing, then the momentum of the object is _____.

- a. increasing b. decreasing c. remaining constant

Question 14:

If the speed of a constant-mass object is decreasing, then the momentum of the object is _____.

- a. increasing b. decreasing c. remaining constant

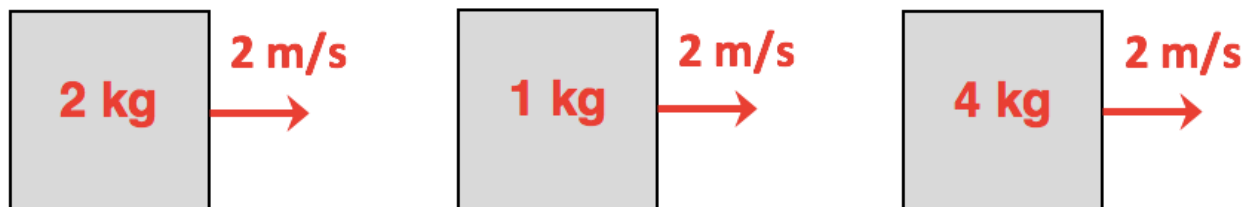
Question 15:

If the speed of a constant-mass object is remaining constant, then the momentum of the object is _____.

- a. increasing b. decreasing c. remaining constant

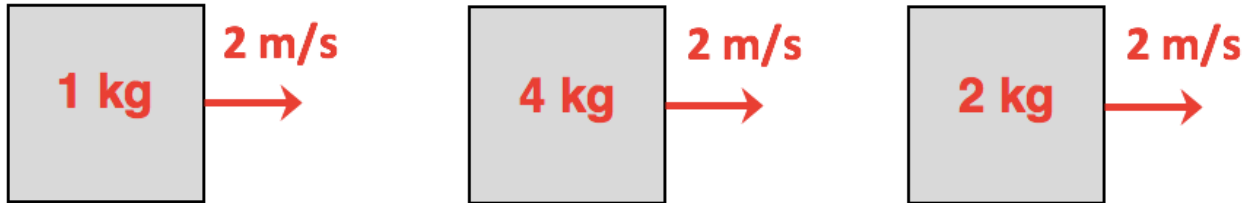
Activity 2: Momentum Ranking Tasks**Question Group 5:****Question 16:**

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.

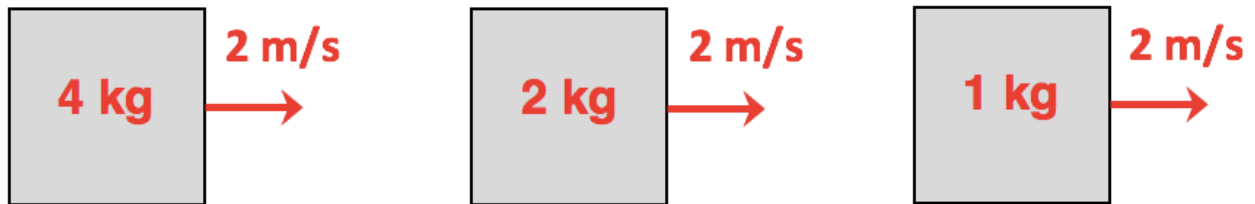


Question 17:

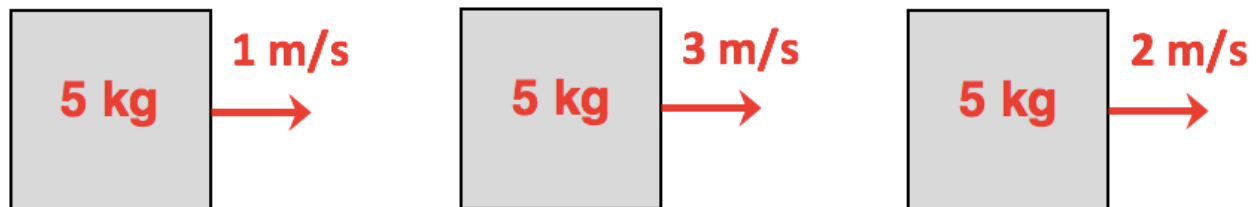
The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.

**Question 18:**

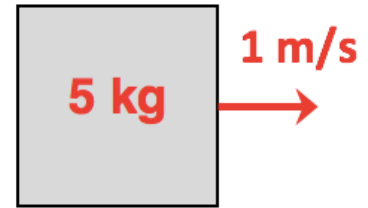
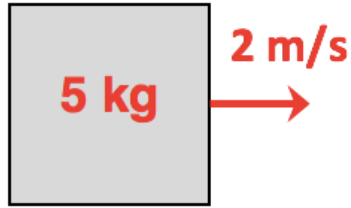
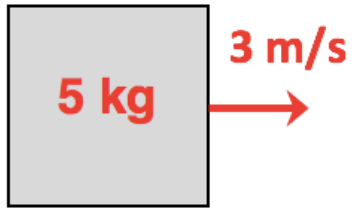
The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.

**Question Group 6:****Question 19:**

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.

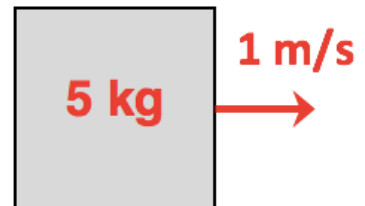
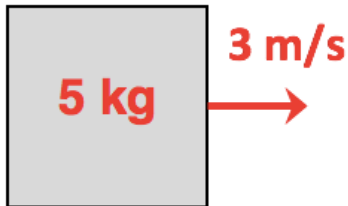
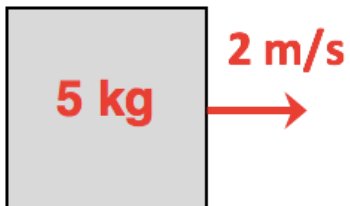
**Question 20:**

The mass and velocity of three objects are shown. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



Question 21:

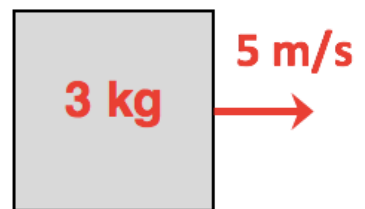
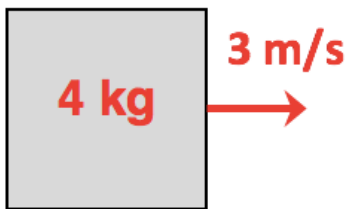
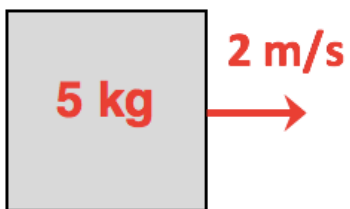
The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



Question Group 7:

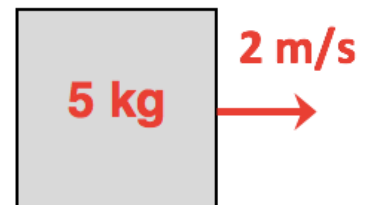
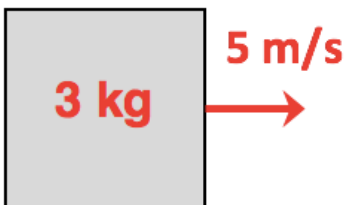
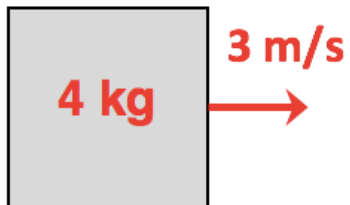
Question 22:

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



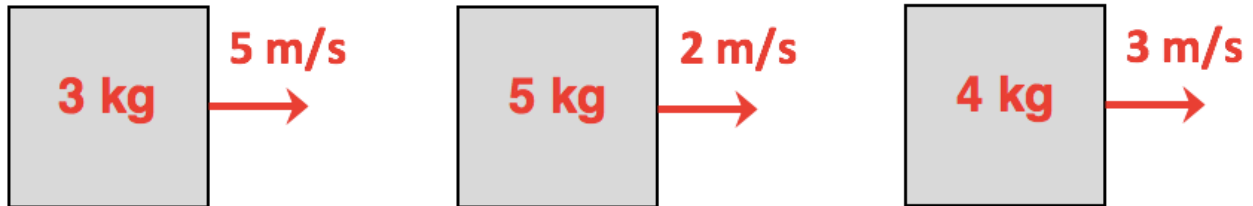
Question 23:

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



Question 24:

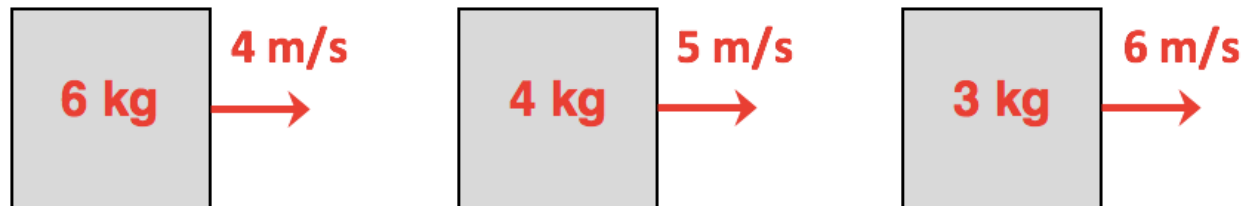
The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



Question Group 8:

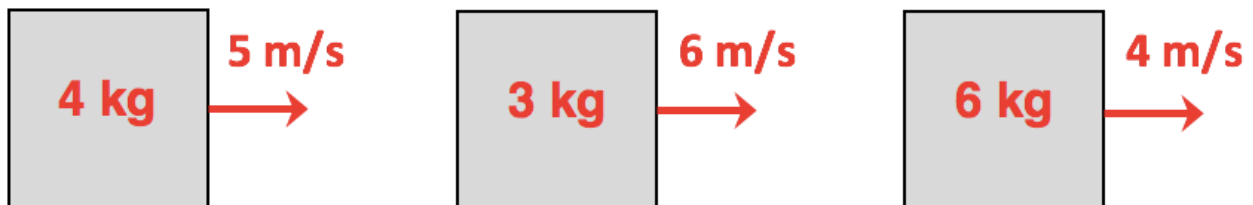
Question 25:

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



Question 26:

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.



Question 27:

The mass and velocity of three objects are shown below. The arrow represents the direction of the velocity. Rank these three objects in terms of their momentum.

A truck is moving eastward and slowing down. The direction of the truck's momentum vector is

- a. east b. west c. impossible to tell

A truck is moving westward and slowing down. The direction of the truck's momentum vector is

- a. east b. west c. impossible to tell

Question Group 11:

A car is moving eastward with a constant speed. The direction of the car's momentum vector is

- a. east b. west c. impossible to tell

A car is moving westward with a constant speed. The direction of the car's momentum vector is

- a. east b. west c. impossible to tell

A truck is moving eastward with a constant speed. The direction of the truck's momentum vector is _____.

- a. east b. west c. impossible to tell

A truck is moving westward with a constant speed. The direction of the truck's momentum vector is _____.

- a. east b. west c. impossible to tell

Question Group 12:

A car is slowing down. The direction of the car's momentum vector is _____.

- a. east b. west c. impossible to tell

A car is speeding up. The direction of the car's momentum vector is _____.

- a. east b. west c. impossible to tell

Question 42:

A truck is slowing down. The direction of the truck's momentum vector is _____.

- a. east b. west c. impossible to tell

Question 43:

A truck is speeding up. The direction of the truck's momentum vector is _____.

- a. east b. west c. impossible to tell