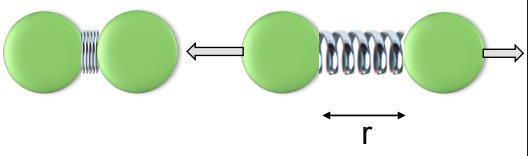
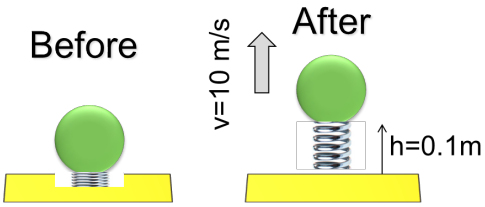
Comparing the "before" state at rest with a compressed spring and the "after" state with moving balls, which of the following is true

1. The momentum of the system is the same before and after
2. The total energy of the system is the same before and after
3. Both balls have the same momentum and energy in the "after" state
4. 1 &2
5. 1&3
6. 2&3
7. All



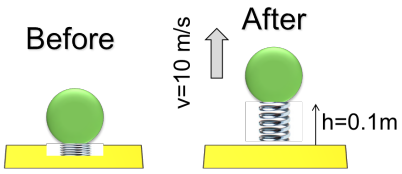
Comparing the before and after state, the spring pushes on both the ball and the earth giving them energy and momentum

1. Momentum change of ball/spring and earth is the same
2. Only the ball/spring changes momentum
3. Depends on your choice of system

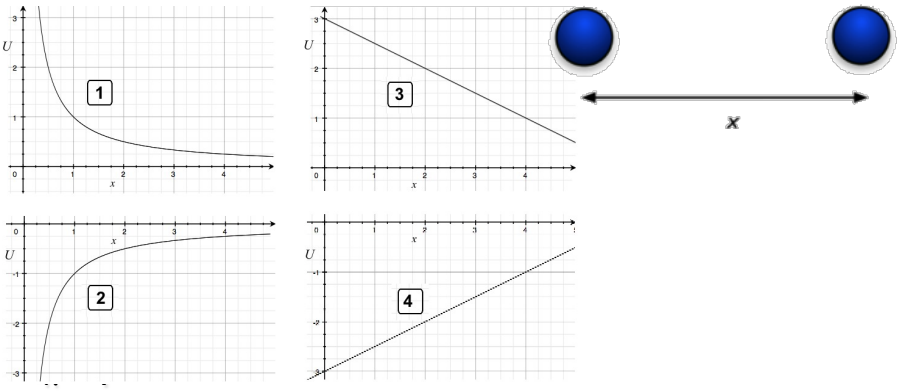


Comparing the before and after state, the spring pushes on both the ball and the earth giving them kinetic energy and momentum

1. Kinetic Energy change of ball/spring and earth is the same
2. Only the ball/spring changes Energy
3. Depends on your choice of system

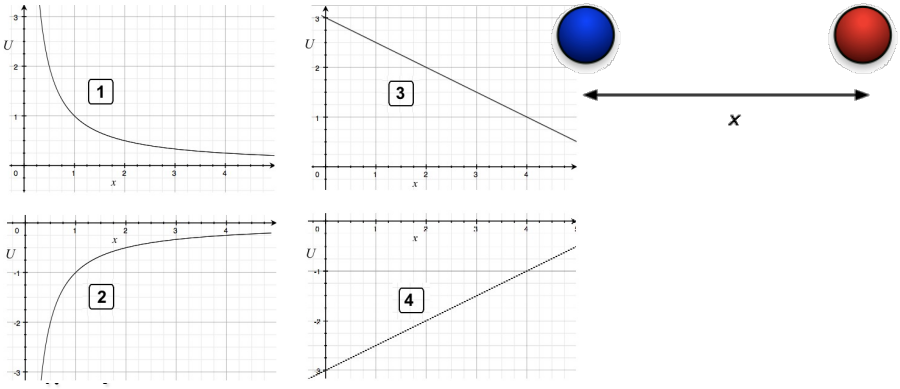


What does the electric potential energy between two identical charges look like?



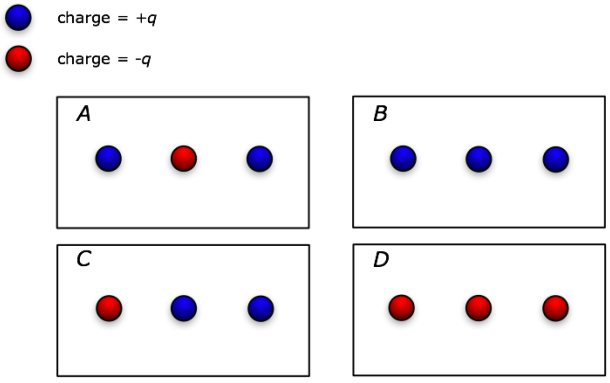
5. None of the above

What does the electric potential energy between two opposite charges look like?



5. None of the above

Which group of charges has the largest potential energy



1. A
2. B
3. C
4. D
5. A and C
6. B and D
7. other

When a positive (test) charge is released from rest near a fixed positive (source) charge what happens to the electric potential energy of the interaction between the test charge and source.

1. It will increase because the test charge will move towards the source charge.
2. It will decrease because the test charge will move away from the source charge.
3. It will increase because the test charge will move away from the source charge.
4. It will decrease because the test charge will move towards the source charge.
5. It will remain constant because the test charge remains at rest.
6. There is not enough information to tell.

When a negative (test) charge is released from rest near a fixed positive (source) charge what happens to the electric potential energy of the interaction between the test charge and source?

1. It will increase because the test charge will move towards the source charge.
2. It will decrease because the test charge will move away from the source charge.
3. It will increase because the test charge will move away from the source charge.
4. It will decrease because the test charge will move towards the source charge.
5. It will remain constant because the test charge remains at rest.
6. There is not enough information to tell.