

In cases 1 and 2, two bodies are shown in *delicate* balance. Next, something happens to them. Show the result in terms of charge and in terms of the balance of the system. Use words and pictures.

1. Aluminum ball, rubber ball—both positive.

Both are touched by a normal, neutral person.

Rubber (insulator) retains positive; aluminum (conductor) is neutralized. Aluminum weighs more.

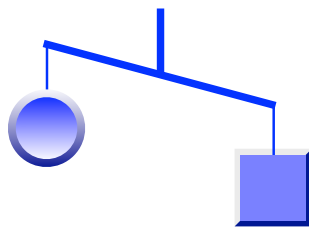
2. Positive rubber ball; negative aluminum ball.

Both are touched by a normal, neutral person.

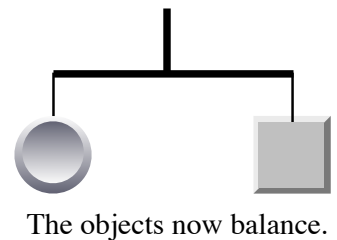
Rubber (insulator) retains positive; aluminum (conductor) is neutralized. Rubber weighs more.

The arrangements in cases 3 and 4 were *not* initially balanced. But after the square was touched, they *did* balance. (Both objects are made of the same material.) **Show and describe** different, possible initial conditions. (The initial condition in case 4 must be different from the initial condition in case 3.)

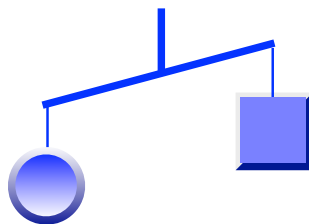
3. The square is negative
and weighs more than
the neutral circle.



The square is touched.



4. The square is positive
and weighs less than
the neutral circle.



The square is touched.

