

## Experiment n 2: **REPULSION**

### What do you need?

- A balloon
- Wool cloth (scarf, pullover ...)
- soap bubbles
- A plastic bag shaped like a jellyfish

### What do you need to do?

1. Blow up, tie and straighten the balloon.
2. Rub the balloon with the wool cloth.
3. **Rub the jellyfish bag**, throw it in the air and put underneath the balloon. Observe what happens.

### What do you notice?

- the "jellyfish bag" is...
  - attracted by the balloon
  - repulsed by the balloon
- the balloon has ...
  - a positive charge
  - a negative charge
- the "jellyfish bag" has ...
  - positive charge
  - negative charge
- the "jellyfish bag" has ...
  - the same charge of the balloon
  - a different charge in respect of the balloon
- The tentacles of the "jellyfish bag"
  - repel each other
  - attract each other
- The tentacles of the "jellyfish bag" repel/attract each other because: Give your own explanation!!! (use the box to draw the distribution of the charges on the jellyfish) ....

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*HOW does it happen? Explain!*

The simulation

[https://phet.colorado.edu/sims/html/balloons-and-static-electricity/latest/balloons-and-static-electricity\\_en.html](https://phet.colorado.edu/sims/html/balloons-and-static-electricity/latest/balloons-and-static-electricity_en.html)

PhET Interactive Simulations  
University of Colorado Boulder  
<https://phet.colorado.edu>

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**Step 1** Use the *simulator* and answer to these questions

**Step 2** Select 2 balloons:

1. The balloons, the wall and the pullover have
  - ☐ Positive charge
  - ☐ Negative charge
  - ☐ Neutral charge

**Step 3** Rub the balloons against the pullover and observe ...

2. The balloons have
  - a. The same charge
  - b. Different charges
3. What happens to the balloons?
  - a. The balloon are attracted by the pullover
  - b. Nothing happen
  - c. The balloon are repulsed by the pullover

**Step 4** Remove the wall

4. What happens to the balloons?
  - a. The balloon are attracted by each other
  - b. Nothing happen
  - c. The balloon repel each other

*What have we learned with this experiment?*

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## **Glossary**

Shape = forma

jellyfish = medusa

in respect of ... = rispetto a ...

tentacles = tentacoli