

Mapping Out Relational Causality in Lift

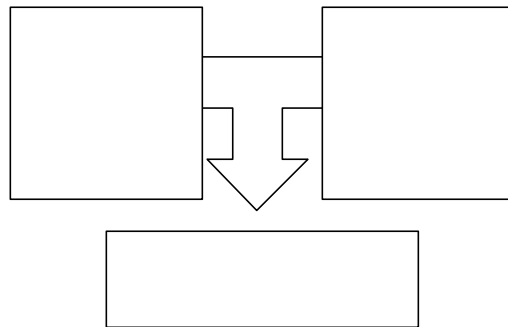
Name _____ Date _____

When thinking about how lift works, or how an airplane can fly, it is important to understand the effect of differences in air pressure on top of a wing and below a wing. Air moving across curved surfaces, such as the top part of a wing, moves faster than air moving across flat surfaces. Therefore, there is less pressure pressing down on the top part of the wing than on the bottom. In this way, the pressure on top of the wing and the pressure below the wing work together to cause lift (or to make the plane fly). Neither pressure alone is the "cause" of lift. It is the relationship between the two pressures that "causes" the plane to fly. It is useful to make comparisons about the relationship. For example, you can say that one area has lower pressure and one area has higher pressure, but it only makes sense in terms of the relationship, in comparing them to each other.

Map out how each event involves relational causality:

In relational causality, a relationship between two things (or variables) causes something to happen. (So it is more than just having two things, there needs to be a relationship between them.)

- In the top two boxes, write what the two things are.
- In the middle of the arrow, tell what the relationship is.
- In the bottom box, tell what the effect is.



In relational causality, comparisons or differences between two variables are responsible for something happening or being so.

What comparison is responsible for the outcome of lift? In other words, how does the design of an airplane help it fly?