**Delicious Licorice & Force Effects: Observing the Effects of Forces**

1. Bend a licorice strip in half and observe where the bend occurs. **Draw a diagram** of the licorice and **label** the top and the bottom part of the bend **with arrows** to indicate the **direction of the forces** acting within the licorice.

Write a brief description of what is happening in your diagram.

1. Straighten the licorice and, holding one end steady, turn the other end of the licorice. **Draw a diagram** of the licorice and **label the directional forces with arrows**.

Write a brief description of what is happening in your diagram.

1. Teacher Demonstration: Breaking frozen licorice against the edge of a table.

Observe the pieces, and then **draw a diagram** of the licorice, **labelling the directional forces with arrows**.

Write a brief description of what is happening in your diagram.

**Effect of Forces Background information:**

* ***Compression***is the result of forces **squeezing together**. (bottom of bent licorice)
* ***Tension***is the **pulling apart** of a structure. (top of bent licorice)
* ***Shear***is the result of forces acting in **opposite directions** of each other. (broken licorice)
* ***Torsion***is a **twisting** force. (twisted licorice)

stretched

pushed together

Top streches, bottom is pushed together.

Licorice is

held in place one way and is turned another, causing

twisting and stretching to occur.

distance.

Example:

**Table**

Licorice is forced in one direction.

An opposite force causes licorice to break.