**Activity 1.2.5 Translation Mapping Notation**

**How to Dynamically Modify and Translate Shape *While Completing the Activity***

* The **original shape (blue object)** can be modified by dragging any vertex and moving it to a different location.
* Use the **horizontal and vertical arrows** (along the x-axis & y-axis) to make a new shape identical to the blue one except for its position. change the translation vector.
* Use the tick box **"Show New Shape"** to see the overall distance and direction moved as a result of the horizontal and/or translation.
* Use the tick box **"Show Resultant Vector"** to see the overall distance and direction moved.
* Use the tick box **"Show All Vectors"** to see arrows between points in the original shape to corresponding points in the new shape.

***\* Translation Notation*** is always displayed to describe the translation so you can draw conclusions about this new notation that you are being introduced to in this activity.

**Understanding Translation Notation: Activity Steps**

1. Access the dynamic GeoGebra activity by clicking on the following link: <http://tube.geogebra.org/student/mbm3qUaJP>
2. Check the tick box on **"Show New Shape", "Show Resultant Vector"** and **"Show All Vectors"** so thatyoucanviewthe effect modifications to the vector has on the position of the new shape.
3. Alter the position of the **vertical arrow** and observe the changes to all shapes, vectors and values of **h and k in the Translation Notation**.
4. What conclusions can you draw about the position of the Resultant Vector and the Translation Notation of the vector when the horizontal arrow is moved?

**(Basically what happens to h and k in the parenthesis that follow the arrow?)**

1. Alter the position of the **horizontal arrow** and observe the changes to all shapes, vectors and values of **h and k** **in the Translation Notation**.
2. What conclusions can you draw about the position of the Resultant Vector and Translation Notation of the vector when the **horizontal arrow** is moved?

**(Basically what happens to h and k in the parenthesis that follow the arrow?)**



1. How can you change the value of h?
2. How can you change the value of k?
3. Is it possible to get the two shapes to coincide? How?

10. What do you notice about the vectors when you show all of them?