

**TABLE 1**

**Physics symbols perceived by students as changing between secondary and undergraduate studies.**

<b>Secondary symbolic representation</b>	<b>Undergraduate physics symbolic representation</b>
<p><math>x</math>: displacement  <math>s</math>: displacement  <math>u</math>: initial velocity  <math>v</math>: final velocity</p>	<p><math>\Delta x</math>: displacement  <math>v_{ix}</math>: initial velocity in horizontal direction, or  <math>v_0</math>: initial velocity  <math>v_{fx}</math>: final velocity in horizontal direction</p>
<p><math>I</math>: impulse</p>	<p><math>J</math>, impulse</p>
<p><math>\hat{i}</math>, <math>\hat{j}</math>, and <math>\hat{k}</math> and <math>\cdot</math>: unit vectors</p>	<p><math>\hat{x}</math>, <math>\hat{y}</math>, and <math>\hat{z}</math>, and <math>\cdot</math>: unit vectors</p>
<p><math>R</math>: normal reaction force</p>	<p><math>N</math>: normal reaction force</p>
<p><math>f_0</math>: base frequency</p>	<p><math>f_1</math>: base frequency</p>
<p><math>c</math> – general constant</p>	<p><math>k</math>: general constant</p>
<p><math> \mathbf{a} </math>: magnitude of a vector</p>	<p><math>\mathbf{a}</math>: magnitude of a vector</p>
<p>Logarithm: assumed as base 10</p>	<p>Logarithm: assumed as base <math>e</math></p>