

# Using the *Essential Physics* Online Teacher Edition and Tennessee Science Standards Correlation Tool TN Reviewer Code: 732 - 79z - j7y9

## Welcome to Essential Physics

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732 - 79z - j7y9 Online T.E.

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**Quick Guide  
Navigating the e-Book (3 min)**



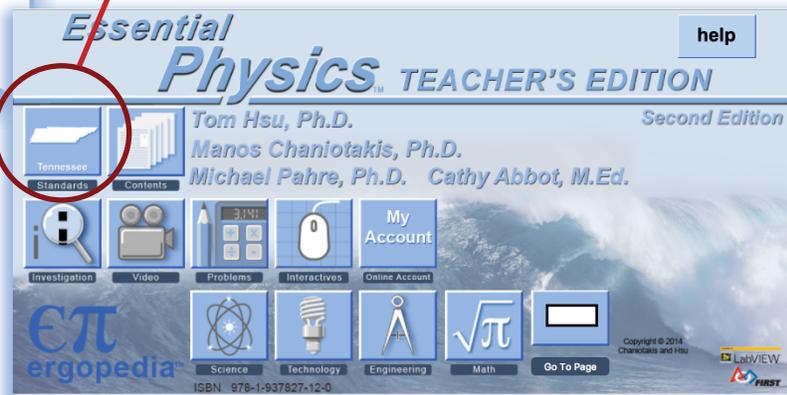
**Quick Guide  
Using the Teacher's Edition (2 min)**

- Go to [www.essential-physics.com/teacher/](http://www.essential-physics.com/teacher/) and enter your access code.

Click **Online T.E** to access the e-Book.

**Highly recommended:** Watch the 3 minute Quick Guide video which explains how the interactive e-Book works.

- The "front cover" of the e-Book has a button in the upper left corner that opens the linked correlation to the Tennessee standards.



- Pages 869-872 contain a detailed correlation to all aspects of the Tennessee Science Standards.

869 - PS1: Matter and Its Interactions

870 - PS2: Motion and Stability: Forces and Interactions

871 - PS3: Energy

872 - PS4: Waves and Their Applications in Technologies for Information Transfer

Code	Description	Location	Type	Link
PHYS.PS2.1	Investigate and evaluate the graphical and mathematical relationship (using either manual graphing or computers) of one-dimensional kinematic parameters (distance, displacement, speed, velocity, acceleration) with respect to an object's position, direction of motion, and time	p. 114 part 1	Content	<a href="#">View</a>
		p. 115, ¶ 1	Content	<a href="#">View</a>
		p. 117, ¶ 2	Content	<a href="#">View</a>
		p. 113, ¶ 1	Content	<a href="#">View</a>
PHYS.PS2.2	Algebraically solve problems involving constant velocity and constant acceleration in one-dimension	p. 88, ¶ 2	Content	<a href="#">View</a>
		p. 89, ¶ 3	Content	<a href="#">View</a>
PHYS.PS2.3	Algebraically solve problems involving arc length, angular velocity, and angular acceleration. Relate quantities to tangential magnitudes of translational motion.	p. 206, ¶ 6	Content	<a href="#">View</a>
		p. 207, ¶ 2	Content	<a href="#">View</a>
		p. 209, ¶ 2	Content	<a href="#">View</a>
PHYS.PS2.4	Use free-body diagrams to illustrate the contact and non-contact forces acting on an object. Use the diagrams in combination with graphical or component-based vector analysis and Newton's first and second laws to predict the	p. 134, ¶ 3	Content	<a href="#">View</a>
		p. 137, ¶ 2	Content	<a href="#">View</a>
		p. 235, ¶ 2	Content	<a href="#">View</a>

- Click "View" and the page reference will open and highlight the cited material in yellow.

General equation ( $d = vt$ ) must be applied to the specific speed, time, and distance variables for your problem. Let's look at the equation for bicycle 1. We write the speed equation as  $d_1 = v_1 t_1$ . We do a similar thing for bicycle 2 to get a second equation  $d_2 = v_2 t_2$ .

General relationship	Applied to this problem
$d = vt$	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>5 m/s</p> <p><math>d_1 = v_1 t_1</math></p> <p>The distance traveled by bicycle 1 is the speed of bicycle 1 multiplied by the time for bicycle 1.</p> </div> <div style="text-align: center;"> <p>8 m/s</p> <p><math>d_2 = v_2 t_2</math></p> <p>The distance traveled by bicycle 2 is the speed of bicycle 2 multiplied by the time for bicycle 2.</p> </div> </div>

Is there enough information? Applying the general relationship to this particular problem. We do not, however, know the distance  $d_1$ , so we cannot calculate a time. We have the same problem with the equation for bicycle 2. This brings up an important rule.

One equation allows you to determine only *one* unknown value.