
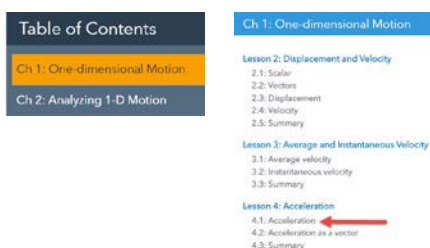


First Person Physics

The product consists of expository material and interactive questions, and many units start with an activity. An activity is an interactive simulation that enables students to experience the topic, and asks them to discover for themselves some of the crucial concepts. **The “Try It” account** provides access to Chapters 1 and 2 of the student edition and the associated virtual labs. The complete program has 27 chapters. The teacher edition also includes lesson plans and a course management system with automated grading and analytics.

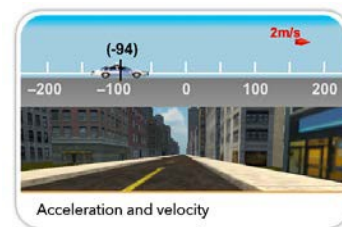
Suggested Tour:


1. The 3 parallel horizontal lines  at the top left of your screen will aid you in navigating the site.
2. For aid in navigation, answering Quickchecks, completing assignments, and checking grades, click on the 3 parallel horizontal lines and then click “Help”. You can view the student help videos. When finished click on the 3 parallel lines again and return to the table of contents.
3. Click on Chapter 1 and scroll down using the scroll tool on the far-right side of your table of contents, click on 4.1 Acceleration.



4. Read the text for instructions for the activity and the questions that students will answer through discovery. Click on the card to launch the simulation. (Please ensure pop-up blockers are disabled or have an exception for this site.)

The car starts with a positive velocity and students control it by setting the acceleration, like using a gas pedal and a brake in a car. Notice the speed, velocity, and acceleration of each screen capture of the live animation. Students discover how to turn the car around when the initial velocity is positive using negative acceleration, and they see for themselves that the car stops, turns around, and begins to move faster in the negative direction. While interacting with the program students apply the fundamental skills of observation, hypothesis, and analysis.



5. Close the activity and navigate back to the main Table of Contents by clicking on the 3 horizontal lines  at the top left of your screen.
6. Click on Chapter 2, click on 2.2 Velocity in position-time graphs. Notice the header-Chapter 2, Lesson 2, Topic 2, Section a. Please read the text and study the graphic as if you were a student using a print text.
7. Now click the graphic to view and listen to the instructional whiteboard. The animation provides a very different experience for the learner. Close the instructional whiteboard.

8. Click on “Next” (bottom right hand corner) to move to the next section. Click on “Back” (bottom left hand corner) to move to the previous section.


CH 2: ANALYZING 1-D MOTION > LESSON 2: POSITION-TIME GRAPHS > VELOCITY IN POSITION-TIME GRAPHS

2.2.a Velocity in position-time graphs

Velocity can be determined from a position-time graph. The graph of our theme park ride's position shows that it rises rapidly for 8 seconds, then stays still at the top to build suspense for a few seconds, and finally plummets toward the ground, picking up speed as it falls.

Velocity is the displacement divided by the elapsed time. That rate equals the slope of a position-time graph. Why? Slope is rise over run. The rise in a position-time graph is the change in position, which is displacement.

In the example in this section with a vertical theme-park ride, the change in position is the change in height. The run is elapsed time. The rise over run is the displacement divided by the elapsed time, which is the definition of velocity.



Velocity and position-time graphs
Graph shows position versus time
Velocity = slope of graph

◀ Back Next ▶

9. Click on the arrow located on the left of the screen to see the chapter Table of Contents. Expand a selection by clicking on the + sign. Collapse a selection by clicking on the – sign. Navigate to a different section by clicking on it.
- The textbook has over 75 activities ranging from position time-graphs, to constructing direct current circuits, to experimenting with the photoelectric effect.

10. Navigate to 2.2b Activity: Draw a position-time graph. Read the text. Click the graphic and try to match the graph by dragging the ball in the positive direction, staying stationary, and then dragging the ball in the negative direction.

Let's practice navigating through the text by looking at a Quickcheck.

11. Go to the Table of Contents. Click on Chapter 2: Analyzing 1-D Motion. Click on 4.1 Freefall acceleration. Open the chapter table of contents by clicking on the . Click 4.1.f Quickcheck: Freefall acceleration 2.

Quickchecks provide progress monitoring and instructional support: click on the video and then step to experience the support provided. Students also have the option of trying another similar problem.

4.1.f Quickcheck

What is the egg's velocity after falling from rest for 0.10 seconds? Assume the upward direction is positive and the downward direction is negative.

$v_f =$ m/s ✓ ?

Step by Step Help

Identify the variables

$v_i =$ m/s
 $\Delta t =$ s
 $g = 9.81 \text{ m/s}^2$
 $v_f =$ m/s


✓ ?




FREEFALL ACCELERATION

- Acceleration due to gravity
- Magnitude represented by g
- 9.81 m/s^2 on Earth
- Points down (is negative in motion equations)

12. Click next to navigate to the 4.2 Summary. Click on the summary board. There are one or more summary boards at the end of each Lesson. The graphics are always live.
13. There is a search feature. It is the little magnifying glass at the top right of your screen. This demo only has content from the first 2 chapters.

14. Click on Virtual Labs. Open  the lab of your choice. To return to the table of contents, click on Book in the upper left hand corner.

The complete product includes 23 physical labs that use equipment commonly found in science classrooms. There are 21 demonstrations complete with an introduction, the equipment needed, a safety section, and instructions for the teacher. There are also 13 virtual labs that bring to life concepts that can't be demonstrated in most laboratories.

15. Click on Book to return to the table of contents. Click on the 3 parallel lines  and then select FACTBOOK. It covers topics such as math, units, fundamental constants, physical properties, and physics equations – ALL the necessary equations are categorized and included here.

16. Click on the 3 parallel lines  and then select Assignments. You see the student view of assignments. There are 6 short assignments covering content from Chapter 1. There are four categories of assignments.

Homework—students are allowed multiple tries per problem (set by the teacher) and can access videos or step-by-step help.

Quiz—students are allowed multiple tries per problem (set by the teacher) but cannot access videos or step-by-step help.

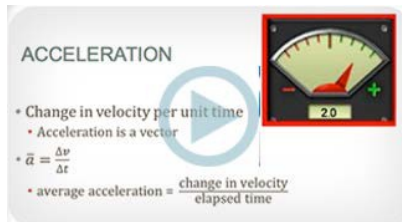
Test—students are allowed one try per problem and cannot access videos or step-by-step help.






i-Practice—students can keep trying with access to videos and step-by-step help. When a student completes and submits the assignment, the program will create a new assignment consisting of one similar problem for each problem missed. Students increase their score by mastering the new iterations. Students can continue until they reach complete mastery.

Teachers can edit pre-built assignments or create homework, quizzes, tests, or i-Practice assignments by selecting questions that are grouped by lessons and/or standards.

17. Click on 1.4 Acceleration.

- Click on problem #1.
- Play the instructional video



- Click on the step button.    Follow the prompt and input your answers.
- Click the check button.  
- Complete the steps, but at some point, enter an incorrect answer to see what happens and then make your correction and click check again. When finished, click next to go to the next problem.
- The teacher has set this assignment to allow two tries at getting the problem correct. Get a problem correct on the first try.
 - › Get a problem correct on the second try.
 - › Miss a problem on both tries.
 - › Complete the assignment.

18. Click on **assignment** to return to the problem list.

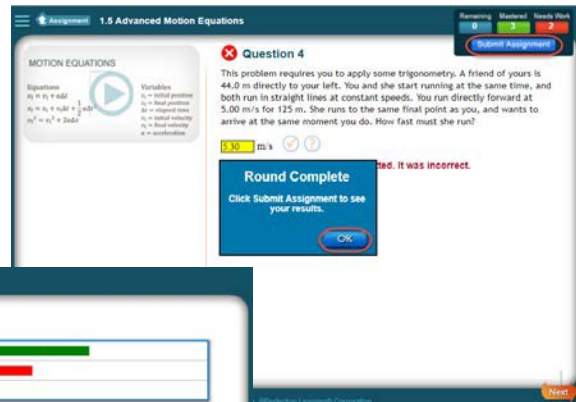


19. Click on **homework** to return to the homework list.

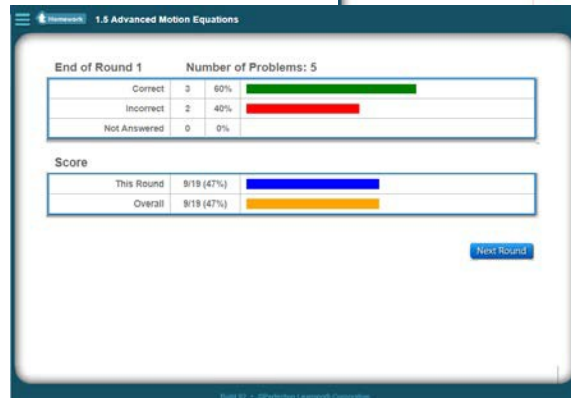


20. Click on **1.5 Advanced Motion Equations**. This is an i-Practice assignment. Complete the assignment and miss one or two problems.

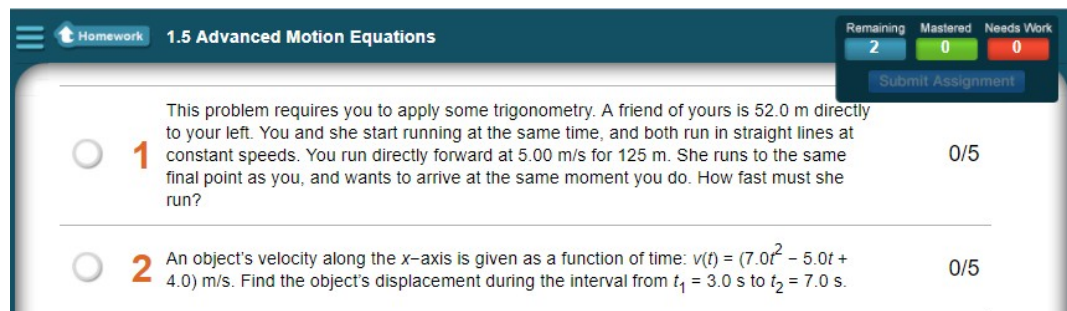
- Click **OK**.
- Note the totals in the upper right hand corner.
- Click **Submit Assignment**.



21. You will see a report.



22. Click **Next Round**. New problems will be generated for the problems that were missed and the student can improve the score. This feature is only available when a teacher selects *i-Practice*. When teachers create an assignment, or use a pre-canned assignment, they always have the option of assigning it as *i-Practice*, homework, quiz, or test. In this case, the student missed 2 questions. New forms of the same type question are shown. Students have the opportunity of continuing to better their score up until they have all problems correct or the assignment due date has passed.

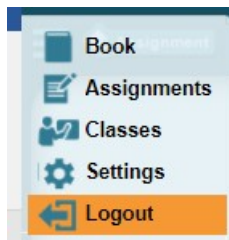


23. Navigate back to the assignment list by clicking **Homework**.

24. Click on **Chapter 1 Test**.

- Click on problem number one.
- Click **Next** to scroll through the problems.
- Notice that the video feature and the step feature is disabled for tests and quizzes.

25. Click on the menu icon  in the upper left corner and then click Logout from the dropdown menu.



For more information or to setup a trial of the teacher account,
please contact your local sales representative.

Visit <https://www.perfectionlearning.com/contacts/> and enter your state.
You will then see the contact information for your local sales representative.