Physics Interactives Updated

Interactive 04 Free-Body Diagrams

The name of this interactive is "Free-Body Diagrams" (plural and with a hyphen). Replace the title "Free Body Diagram" with "Free-Body Diagrams " in every instance.

Replace "digrams" with "diagrams", "normal fornce" with "normal force", "Over All Score" with "Overall Score", and "Number of vectors Drawn" with "Number of vectors drawn" in every instance.

In the last bullet point of the Instructions, replace "diagram" with "diagrams" in every instance.

In the 7th slide, replace "labeled" with "labelled", "Below them, there" with "Below them there", "rope and pully" with "rope and pulley", "other side of the pully" with "other side of the pulley.", "Use left" with "Use Left", "While focus on Force" with "While the focus is on Force", and "degree" with "degrees".

In the 9th slide, replace "equals" with "equal" and "degree" with "degrees" in every instance.

Interactive 05 Circular Equatorial Orbits

The name of this interactive is "Circular Equatorial Orbits". Replace the title "Satellite" with "Circular Equatorial Orbits" in every instance.

Replace "With this app you can study satellites in circular equatorial orbit" with "With this app you can study satellites in circular equatorial orbits", "closer to Earth or further away" with "closer to the Earth or farther away", "or you can you" with "or you can use", "They click on" with "Then click on", "sattlite's orbit" with "satellite's orbit", and "radius of Earth" with "radius of the Earth" in every instance.

In the 6th slide, replace "This app shows the a planet revolved by a satellite." with "This app shows a satellite orbiting the Earth.", "the the distance of the satellite from the earth." with "the distance from the satellite to the Earth.", "shown.Start" with "shown. Start", "kilometer" with "kilometers", and "Distance from Earth slider" with "Distance from the Earth slider" in every instance.

In the 7th slide, replace "kilometer" with "kilometers", "velocity V" with "velocity v", "Time t" with "time t", and "earth" with "Earth" in every instance.

Interactive 07 Collision of Two Billiard Balls

The name of this interactive is "Collision of Two Billiard Balls". Replace the title "Billiards" with "Collision of Two Billiard Balls" in every instance.

Replace "poinlike" with "pointlike", "throught" with "through", and "moemtum" with "momentum", and italicize "theta" in the diagram and to the left of the slider in every instance.

In the 7th slide, replace "This app shows a player, playing billiards with two balls aligned straight inside the perimeter and a stick pointing to the first ball. A value of time t = 0.00 seconds is shown on the top left. A Next button, Previous button and a History button is placed below." with "This app shows a person playing billiards with a pool table, a cue ball, an object ball, and a cue stick. Time *t* = 0.00 seconds is shown in the top left. Next, Previous, and History buttons are shown below." and "time t equal to [value]" with "time t equal to [value] seconds" in both instances.

In the 8th slide, replace "for 13 times" with "13 times", "Show P" with "Show p vector", "Arrows directing the ball distribution appears." with "Show initial and final momentum vectors", and "degree" with "degrees" in all three instances.

Interactive 08 Atwood Machine

Replace "Two masses m1 and m2 are connected via a rope that runs over a solid wheel with mass mw, radius R, and moment of inertia mw R2/2." with "Two masses m_1 and m_2 are connected via a rope that runs over a solid wheel with mass m_w, radius R, and moment of inertia $m_w R^2/2$." in every instance.

In the 5th slide, replace "The application features a pulley system with two connected loads, m1 and m2, displayed visually. Accompanying the setup is a graph illustrating time and length, along with adjustable sliders for mass1, mass2, and the wheel's mass. A start button, pause button, and a clear button are placed at the bottom." with "This app shows a pulley system with two connected masses, m1 and m2, a graph of position vs. time, adjustable sliders for mass 1, mass 2, and the wheel's mass, and Start, Pause, and Clear buttons." and "kilogram" with "kilograms" in both instances.

In the 6th slide, replace "kilogram" with "kilograms" and "The graph's vertical axis labeled y subscript 1 of t plots [value] centimeters. Horizontal axis labeled t plots [value] seconds." with "The graph's vertical axis is labelled y subscript 1 (cm) and its horizontal axis is labelled t (s).".

Interactive 10 Pendulum

In the Instructions, in the 1st bullet point, italicize "m".

In the 6th slide, replace "At the bottom is a graph of the pendulum's oscillation." with "At the bottom is a graph of the angular displacement of the pendulum measured with respect to the vertical in degrees vs. time in seconds.", "Use left or right arrow to set angle for pendulum" with "Use the left or right arrow keys to set the initial angle for the pendulum.", "While focus of pendulum" with "While the focus is on the pendulum", "degree" with "degrees", "equals" with "equal" in both instances, "kilogram" with "kilograms", and "meter" with "meters".

In the 7th slide, replace "periodic sine wave" with "periodic wave", "Paused the oscillation." with "Pause the oscillation", "angle scale scaled up by the interval of [value] degrees" with "angle increased by [value] degrees", and "angle scale scaled down by the interval of [value] degrees" with "angle decreased by [value] degrees".

Interactive 11 Beats

The name of this interactive is "Beats". Replace the titles "Super Position" and "Superposition" with "Beats" in every instance.

Replace "Superposition is the ability of a quantum system to be in multiple states at the same time until it is measured" with "Beats are the periodic and repeating fluctuations in overall intensity that occur when two waves with slightly different frequencies interfere.", "the blue and the red oscillation" with "the blue and the red oscillations", and "emerge" with "emerge.". In all four graphs, replace "*t*" with "*t* (s)".

In the 6th slide, replace "Hertz" with "hertz" in both instances, "an absolute value of y subscript 1 of t plus y subscript 2 of t and raised to the power 2." with "the square of the absolute value of y subscript 1 of t plus y subscript 2 of t.", and both instances of "Frequency [value]" with "Frequency of Red Oscillation [value]".

In the 7th slide, replace the first instance of "Frequency [value]" with "Frequency of Red Oscillation [value]", and the last three instances of "Frequency [value]" with "Frequency of Blue Oscillation [value]".

Interactive 12 Doppler Effect and Mach Cone

The name of this interactive is "Doppler Effect and Mach Cone". Replace the title "Doppler" with "Doppler Effect and Mach Cone" in every instance.

Replace "The Doppler effect is the change in the frequency of a wave in relation to an observer who is moving relative to the source of the wave." with "The Doppler effect is the change in the frequency of a wave measured by an observer who is moving relative to the source of the wave." and "starts.Clicking" with "starts. Clicking".

In the 7th slide, replace "A slider controls the Mach speed" with "A slider controls the Mach number", "Reset position" with "Reset Position", "Velocity vector slider" with "Mach number slider", and "Velocity vector sub-sonic/supersonic value [value]" with "Mach number [value]".

In the 8th slide, replace "Velocity vector slider" with "Mach number slider" in both instances, and "Paused the airplane motion." with "Pause the airplane's motion.".