CHAPTER 6 PHYSICS ANSWERS

What agent exerts force on the runner? What is the centripetal acceleration of the runner, and what agent exerts force on the runner? ac = v2 (8.8 m/s)2 r 25 m = 3.1 m/s², the frictional force of the track acting on the runner's shoes exerts the force on the runner.

Why is a particle in uniform motion not moving at a constant velocity? An object in uniform circular motion means it is moving at constant speed in a circular path. Hence it's velocity is always tangential to the circular path and is non-zero. Since its velocity vector is constantly changing direction, that means it is accelerating.

How would the path of the ball appear to an observer at position B? Projectile Motion To an observer at Position B, the ball would appear to move in a straight line. 3. To an observer at Position C, the ball's path would appear as in the diagram (as a parabola).

What is the name of chapter 6 in class 12 physics? NCERT Solutions Class 12 Physics Chapter 6 Electromagnetic Induction.

What supplies the force needed to give this acceleration to the runner? Answer. Frictional force is directly responsible for providing the centripetal acceleration to the runner.

What forces act on a runner? Abstract. The relationship between the affect and timing of the four forces involved in running (gravity, ground reaction force, muscle force, and potential strain energy) is presented. These forces only increase horizontal acceleration of the centre of mass during stance but not flight.

What is the force if a moving object is moving at a constant velocity? According to Newton's first law of motion, any object moving at constant velocity has no net external force acting upon it, which means that the sum of the forces acting on the object must be zero.

How to calculate the force of an object moving at a constant speed?

Can a particle with constant speed be accelerating what if it has constant velocity? Short Answer Yes, a particle can be accelerated when it is moving with constant speed, whereas there will be no acceleration of particle at constant velocity.

What determines the path that an object and projectile motion follows? Projectile motion is when an object moves in a bilaterally symmetrical, parabolic path. The path that the object follows is called its trajectory. Projectile motion only occurs when there is one force applied at the beginning, after which the only influence on the trajectory is that of gravity.

What is the motion of a projectile in terms of horizontal and vertical velocities? The horizontal velocity of a projectile is constant (a never changing in value), There is a vertical acceleration caused by gravity; its value is 9.8 m/s/s, down, The vertical velocity of a projectile changes by 9.8 m/s each second, The horizontal motion of a projectile is independent of its vertical motion.

How does a moving train affect the path of a thrown ball? Assuming that the train is an inertial frame of reference (non-accelerating) and if we neglect both air friction and the effects of gravity, then the ball will move in a straight line away from you at the same speed which you threw the ball at until some other force acts on the ball.

What is Physics class 6? ICSE Class 6 Physics is a branch of Science that studies matter and its motion, along with its interaction with energy and forces.

Which is the hardest chapter in Physics 11 and 12? Ans. Rotational Motion, Waves, Thermodynamics, System of Particles and Rotational Motion and Gravitation are the hardest chapters in class 11 Physics. Q. 4 : Is 12 physics easier than 11?

What is the biggest chapter of class 12 Physics? Optics is the biggest unit of Class 12th Physics. More than ten marks questions will appear from this unit in the examination. A total of 18 lectures are required to learn the entire unit.

How to solve centripetal force? Centripetal force = mass x velocity2 / radius For a vertical circle, the speed and tension must vary. Any of the data values may be changed.

When a body moves with an increasing speed along a horizontal circle, then? A body moves with an increasing speed along a horizontal circle, Then , The work done will be zero. When a body moves on a circular path then it come back to the starting point. There the displacement is zero.

Why is centripetal force always towards the center? As the centripetal force acts upon an object moving in a circle at constant speed, the force always acts inward as the velocity of the object is directed tangent to the circle. This would mean that the force is always directed perpendicular to the direction that the object is being displaced.

What force causes a runner to accelerate? Friction acts horizontally to accelerate the runner. For part of the stride the man is certainly exerting a force on the ground in the backward direction and the ground is exerting a force on the man in the forward direction which causes the man to increase his momentum and hence his velocity in the forward direction.

What Newton's law is running? When running, we exert a force opposite the direction of motion. By Newton's 3rd Law, the ground then exerts a force on us equal and opposite to our force on the ground, allowing forward motion.

How does gravity affect running? “Gravity can do nothing to improve your running efficiency on a flat surface. That's because gravity provides no horizontal force; it simply pulls you back down to the earth.” All three of the panel did however favor a slight forward lean while running.

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forward direction which causes the man to increase his momentum and hence his velocity in the forward direction.

What force creates the centripetal force acting on the runner? The frictional force supplies the centripetal force and is numerically equal to it. Centripetal force is perpendicular to velocity and causes uniform circular motion. The larger the Fc, the smaller the radius of curvature r and the sharper the curve.

What external force is applied to a runner? The three external forces that determine the acceleration of a sprinter's center of mass: ground reaction force (GRF), gravitational force (equivalent to body weight, BW), and wind resistance.

What exerts force on a car? Expert-Verified Answer The gravitational force pulls the car downward, while friction between the tires and the road surface acts against the car's motion. Applied force is provided by the car's engine which moves the car forward, whereas air resistance counters the motion of the car.

Understanding the Handbook of Mixed Methods Research

Question: What is the Handbook of Mixed Methods Research?

Answer: The Handbook of Mixed Methods Research, edited by Abbas Tashakkori and Charles Teddlie, is a comprehensive resource that provides in-depth guidance on the principles and practices of mixed methods research. It covers a wide range of topics, from research design and data collection to analysis and interpretation.

Question: What are the key features of the Handbook?

Answer: The Handbook is organized into eight sections that address different aspects of mixed methods research. These sections include:

- Foundations of Mixed Methods Research
- Research Design and Planning
- Data Collection and Instrumentation
- Data Analysis and Interpretation
- Rigor and Quality
- Publication and Dissemination

- Applications of Mixed Methods Research
- Future Directions

Each section contains chapters written by leading experts in the field, providing a comprehensive and up-to-date overview of the subject.

Question: What is the target audience of the Handbook?

Answer: The Handbook is intended for researchers, students, and practitioners who want to gain a deep understanding of mixed methods research. It is an invaluable resource for anyone who is conducting or planning to conduct mixed methods research, as well as for those who want to stay abreast of the latest developments in the field.

Question: How can the Handbook be used in research practice?

Answer: The Handbook provides researchers with practical guidance on every stage of the mixed methods research process. It offers detailed explanations of different research designs, data collection methods, and analytical techniques. It also includes case studies and examples to illustrate how mixed methods research can be applied in various settings.

Question: What are the key contributions of the Handbook to the field of mixed methods research?

Answer: The Handbook has made several significant contributions to the field. It has:

- Provided a systematic and comprehensive overview of the principles and practices of mixed methods research.
- Fostered the development of a common language and terminology for mixed methods research.
- Encouraged the use of rigorous and innovative mixed methods designs.
- Promoted the dissemination and application of mixed methods research findings.

Test Bank for Campbell Biology Ninth Edition: Unlocking the Secrets of Life Science

The Test Bank for Campbell Biology Ninth Edition is an invaluable resource for students seeking to excel in their introductory biology course. This comprehensive study tool provides a wealth of questions and answers that cover all major concepts and topics from the widely used textbook.

Question 1: Describe the difference between prokaryotic and eukaryotic cells.

Answer: Prokaryotic cells lack a nucleus and other membrane-bound organelles, while eukaryotic cells have a nucleus and a variety of membrane-bound organelles, including mitochondria, endoplasmic reticulum, and Golgi apparatus.

Question 2: Explain the process of photosynthesis.

Answer: Photosynthesis is a process by which plants and other organisms use sunlight to convert carbon dioxide and water into glucose and oxygen. It involves two main stages: the light-dependent reactions, which capture energy from sunlight, and the Calvin cycle, which uses this energy to fix carbon dioxide into glucose.

Question 3: Discuss the role of natural selection in evolution.

Answer: Natural selection is a mechanism of evolution that favors individuals with traits that increase their survival and reproduction in their environment. Over time, this process can lead to significant changes in a population's gene pool and the emergence of new species.

Question 4: Describe the structure and function of the human heart.

Answer: The human heart is a muscular organ that pumps blood throughout the body. It consists of four chambers: two atria (upper chambers) and two ventricles (lower chambers). Deoxygenated blood enters the heart through the atria, is pumped into the ventricles, and then expelled through the arteries to the rest of the body.

Question 5: Explain the concept of genetic inheritance.

Answer: Genetic inheritance refers to the transmission of genetic information from parents to offspring. This information is encoded in chromosomes, which are made up of DNA. During reproduction, each parent contributes half of the chromosomes to their child, resulting in a unique combination of genetic material.

Social Psychology According to David Myers: 11th Edition Test

Social psychology, as defined by David Myers in his 11th edition textbook, is the scientific study of how people think, feel, and behave in social situations. This field of psychology delves into the influence of social factors on our thoughts, emotions, and actions.

Question 1: Which of the following is NOT a key concept in social psychology?

Answer: Superego

Question 2: According to Myers, the fundamental attribution error refers to:

Answer: The tendency to overestimate the influence of dispositional factors while underestimating the impact of situational factors on behavior.

Question 3: What is the name of the theory that proposes that our attitudes follow our behaviors?

Answer: Cognitive dissonance theory

Question 4: Which of the following is a characteristic of implicit attitudes?

Answer: They are automatic, subconscious, and difficult to change.

Question 5: According to Myers, the bystander effect states that:

Answer: The more people who witness an emergency, the less likely any one person is to intervene.

Additional Questions:

- **Question 6:** What is the role of heuristics in social judgment?

- **Answer:** Heuristics are mental shortcuts that help us make judgments quickly and efficiently.
- **Question 7:** How does culture influence social behavior?
- **Answer:** Culture provides shared values, beliefs, and norms that shape our thoughts and actions.
- **Question 8:** What are the different forms of aggression?
- **Answer:** Physical, verbal, and indirect aggression.
- **Question 9:** How do social norms influence our behavior?
- **Answer:** Social norms are unspoken rules that guide our behavior in social situations.
- **Question 10:** What is the key to effective communication?
- **Answer:** Active listening, empathy, and clear and concise language.

> *tashakkori a teddlie c 2003 handbook of mixed*, *test bank for campbell biology ninth edition*, *social psychology david myers 11 edition test*

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