UNDERSTANDING PHYSICS BEHIND KICKING A FOOTBALL

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WHAT FORCES AFFECT A FOOTBALL WHEN IT'S KICKED

When a football is kicked, several forces come into play such as gravity, friction and the force made by the foot. Understanding these forces helps explain the motion of the ball.

CAN ANGLES EFFECT A FOOTBALL WHEN IT'S KICKED

The angle at which a football is kicked significantly influences its trajectory. A well-angled kick can maximize distance and accuracy, which is essential knowledge for aspiring players.

IS MOMENTUM IMPORTANT

Momentum is critical when kicking a football. The faster the foot moves when it contacts the ball, the greater the momentum transferred, affecting the ball’s speed and trajectory.

HOW CAN WEATHER EFFECT A FOOTBALL

Weather has a significant impact on how a football moves when it's kicked. Many things in terms of weather can effect it, for example air density, rain, wind speed, or altitude.

For instance a football stadium in Peru is located in approximately 4000 meters above sea level and is known for its challenging conditions.

CAN THE SHAPE OF THE BALL EFFECT ITS TRAJECTORY

In 2010 the FIFA designed a perfectly spherical and round ball, that was introduced in the World Cup in South Africa. It quickly became the most controversial ball in the history of the game. Players, especially goalkeepers, criticized it for its strange, unpredictable flight behavior. Since then FIFA hasnt made a similar ball and mistake.

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ANOTHER PHENOMENONS IN SPORTS IN TERMS OF PHYSICS

Backspin in basketball-When players shoot with backspin, the ball slows slightly when it hits the rim or backboard, increasing the chance of it falling into the basket.

Running track surfaces-Modern track materials are designed to return more energy to the runner, increasing speed while minimizing injury risk. It is like having a slight spring in each step

Slapshot in hockey-In a slap shot, the stick bends before striking the puck so that the puck moves more quickly.

THANK YOU FOR YOUR ATTENTION

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