



Curiosity Guide #304

Football Science

Accompanies Curious Crew, Season 3, Episode 4 (#304)

Sticky Fingers

Investigation #6

Description

How do you improve at catching a football pass? Here's one way!

Materials

- Sticky football gloves, possibly treated with Grip Boost
- A football
- A friend

Procedure

- 1) While barehanded, try throwing a football back and forth to a friend for 20 passes each.
- 2) Make some attempt at catching the ball with one hand.
- 3) Repeat the experiment wearing sticky football gloves.
- 4) Could you make more catches?
- 5) Could you catch the ball more easily with one hand?

My Results

Explanation

A football player who plays in the wide receiver position is supposed to catch a lot of passes, in hopes of moving the ball down the field and scoring a touchdown. For years, most wide receivers played bare-handed, even in the snow, when the ball can sting as you catch it. In the 1970's, players started to wear gloves with sticky adhesives sprayed on the gloves to make the ball easier to catch. The NFL made rules against sticky spray in 1981, but today's receivers almost always wear gloves that have some stick. Wide receivers can make some amazing one-handed catches, like the New York Giants' Odell Beckham Jr.'s three finger catch. Players today will even revitalize old gloves with engineered sticky polymers that don't leave any residue on the ball, but that really improve receptions.

Think about this: There is a lot of science in football. For example, have you ever wondered why the players crouch so low on the line? This makes the players more stable, making them harder to move. You see, by getting low, a player moves his center of mass that is near his tummy closer to the ground. You can compare this to trying to knock over a bowling pin. Think about the shape of a bowling pin. Its center of mass is really low! Coaches often tell their players, "The low player wins." By pushing off with his legs and contacting one side of the opponent while rising, even a smaller lineman can rotate his opponent and make a gap for his teammate with the ball. Touchdown!

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