card pushing up
gravity pulling down

pulling

gravit' down

cup pushing up
gravity pulling down
Inverse Relationship

→ Speed of card ↑ horizontal motion ↓

The slower you move the card, the less it changes its position on the card.
The faster the card is pulled determines where the penny falls. The faster the card is pulled, the less likely the penny will move horizontally.
Pattern: Penny + Card

How fast + how long the Card moves influences the final placement of the penny.
The faster the card is moved, the less the coin moves. (We think this is because there is more force in the same amount of time to overcome the friction.)
Speed of pull vs. movement of penny

Penny moves less (cm) as speed of pull increases.

Slow 

Speed of pull

Fast
The greater the horizontal acceleration of the card, the shorter the distance the penny moves horizontally.
card, speed of card, penny, horizontal motion of penny

speed of card \uparrow \approx \text{horizontal motion} \downarrow 

\text{Pull of card (time)} \approx \text{horizontal motion} 

F(timed) \approx \text{penny horizontal motion change velocity}