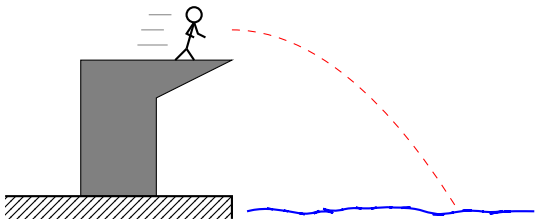
Projectile Motion - Quiz I

A child runs straight off a high-dive platform with a horizontal velocity of 2.1 m/s. He lands in the water, 5.2 meters below

(a) Label this diagram of the situation and **make a T-chart** to list your knowns and unknowns. (3 points)



(b) How long will it take the child to reach the water? (3 points)

(c) What horizontal distance will the child move before hitting the water? (3 points)

(d) What are the x- and y- components of the child's velocity just before he hits the water? (3 points)

(e) Draw a triangle and calculate the magnitude and direction of the child's resultant velocity just before hitting the water. (3 points)