

$\mathbf{j} + 2\mathbf{k} = \langle 0, 1, 2 \rangle$ is a normal vector to the plane and $(5, 0, -3)$ is a point on the plane, so setting $a = 0$, $b = 1$, $c = 2$, $x_0 = 5$, $y_0 = 0$, $z_0 = -3$ in equation $a(x - x_0) + b(y - y_0) + c(z - z_0) = 0$ gives $0(x - 5) + 1(y - 0) + 2[z - (-3)] = 0$ or $y + 2z = -6$ to be an equation of the plane.