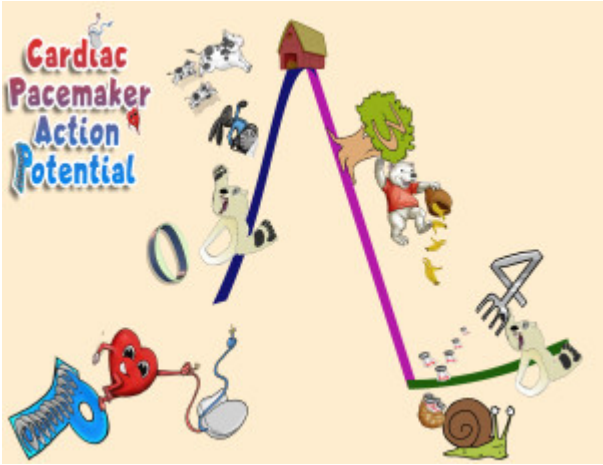
# Cardiac Pacemaker Action Potential




PLAY PICMONIC

**Phase 0**

(0)

Phase 0 is characterized by depolarization.

**Depolarization**

D-polar-bear

Phase 0 is described by the upstroke, opening of voltage-gated calcium (Ca2+) channels, which results in a rapid influx of calcium. This process will result in depolarization.

**Rapid Influx of Calcium**

Rapid-rabbit Brings in Calcium-cows

The opening of voltage-gated calcium (Ca2+) channels results in a rapid influx of calcium. Permanent inactivation occurs in fast voltage-gated sodium (Na+) channels due to these cells' less negative resting potential. This process will cause the AV node's slow conduction velocity to extend transmission from the atria to the ventricles.

**Phase 3**

(3) Tree

Phase 1 and 2 are absent. Phase 3 is characterized by repolarization.

**Repolarization**

Red-polar-bear

Phase 3 is described by the inactivation of the calcium (Ca2+) channels and the increased activation of potassium (K+) channels, resulting in the efflux of potassium. This process will result in repolarization.

**Potassium Efflux**

Bananas Head out

The inactivation of the calcium (Ca2+) channels and the increased activation of potassium (K+) channels cause an efflux of potassium.

**Phase 4**

(4) Fork

Phase 4 is characterized by depolarization.

**Depolarization**

D-polar-bear

Phase 4 is characterized by the presence of a funny current, which is responsible for the slow, mixed Na+ inward/K+ outward current, resulting in a slow influx of sodium.

**Slow Influx of Sodium**

Slow-snail Salt-shakers Come in

The presence of a funny current, which is responsible for the slow, mixed Na+ inward/K+ outward current, results in a slow influx of sodium.