How to Take Off and Land in a Cessna 172s

On the runway, ready for takeoff:

1. Nose Wheel straight on the CenterLine
2. Yoke deflected to counter the wind appropriately (crosswind correction)
3. Full Power / right rudder to maintain centerline.
4. Slowly take out crosswind correction as you accelerate to Vr
5. Rotate at 55 KIAS (Vr)
6. Relax back pressure when airborne to maintain 74 KIAS (Vy)
7. Visual reference for climb out should be cowling on the horizon or 10-12 degrees nose up on G1000 Artificial Horizon
8. Maintain right rudder for coordination
9. Check visual alignment with the runway. May need to add wind correction.
10. Complete After Take-off & Climb checklist.
11. Climb to 500 AGL before making the initial turn.
12. Verify clear of traffic before turning

In the Pattern to land, Descent & Before Landing checklist completed.

Downwind

1. Established in the downwind at traffic pattern altitude (1000 AGL) (heading will be opposite of runway heading).
2. Verify ground track and add wind correction to keep the aircraft at the appropriate distance from the runway.
3. 2100 RPM's; Slow to 90 KIAS maintaining altitude.
4. Abeam your landing point (or when 3nm away from runway threshold on a straight in/non-standard pattern), reduce power to 1500 RPM
5. Ensure below 110 KIAS, add 10 degrees of flaps
6. Maintain altitude until aircraft slows to 85 KIAS, then allow descent.
7. From this point on you will pitch for your airspeed and use throttle for your altitude (think slow flight)
8. Once the touchdown point is 45 degrees behind your left shoulder (if left pattern), turn base.

Base

1. On base (or 2nm final), verify below 85 KIAS and add 20 degrees of flaps slowing to 75-80 KIAS.
2. Verify ground track and add wind correction to keep the aircraft at the appropriate distance from the runway.
3. Visually clear extended final, turn final

Final

1. Established on final, add flaps to 30 degrees; slowing to 70 KIAS.
2. If winds are reported with gusts, add ½ the gust factor to your final approach speed
    a. Ex. If winds are 160 @ 5 gusting 15.Add 5kts to approach speed.

3. Pick an aiming point 100 - 200 feet before touchdown point.
    a. This will vary based on: 1. your natural sight picture above the cowling 2. type of landing (short or normal) 3. the strength of the headwind component.
4. Verify track along the ground is in line with the runway.
5. Crosswind correction
    a. Before entering ground effect: crab into the wind to maintain centerline ground track
    b. Once in ground effect: use rudders to align the nose with the centerline, use ailerons to correct for wind drift.
6. Level off (round out) roughly 5 - 8 ft above the runway (ground effect)
7. Transition your eyes to the end of the runway, visually noting the airplane “sink” - the horizon moves up the windshield
8. Add back pressure with small increments to match the sink rate, touching down on the mains, in a nose high attitude.
9. Use aileron crosswind correction and maintain centerline with rudder
10. Retract flaps and do not immediately brake! Allow the aircraft to slow aerodynamically maintaining back pressure on the yoke.
11. Run the appropriate after-landing checklist after crossing runway hold short markings or busy taxiway.

Keys to good landings:

· Start with a good, stabilized approach

· When transitioning into ground effect make sure to move your eyes from your aiming point to the end of the runway.

· When transitioning from ground effect to the flare, start by leveling off and then gently pull in small increments making sure not to climb. The amount of pressure on the elevator should get progressively greater as the aircraft slows and the control effectiveness becomes less effective. Remember don’t let the elevator move forward after the aircraft touches down. Continue to keep the weight off the nose gear with the elevator as the aircraft slows. The yoke should almost be touching your chest at the completion of every landing.

· Be precise on your airspeeds

Pitch = Airspeed
Power = Altitude
Bank = Lateral (left to right) movement to Centerline
Rudder = Align nose with centerline