

Random Front Toss

Skill Set: Hitting

Difficulty Level: Medium

Number of Athletes and Coaches: 1-2 athletes and 1 coach, or 2 athletes as partners

Average Time to Complete: 10 minutes

Equipment Required: Bat, screen for coach to throw behind, home plate, and a bucket of baseballs

Goal: Focus on identifying the pitch, strikes and taking good quality swings

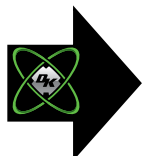
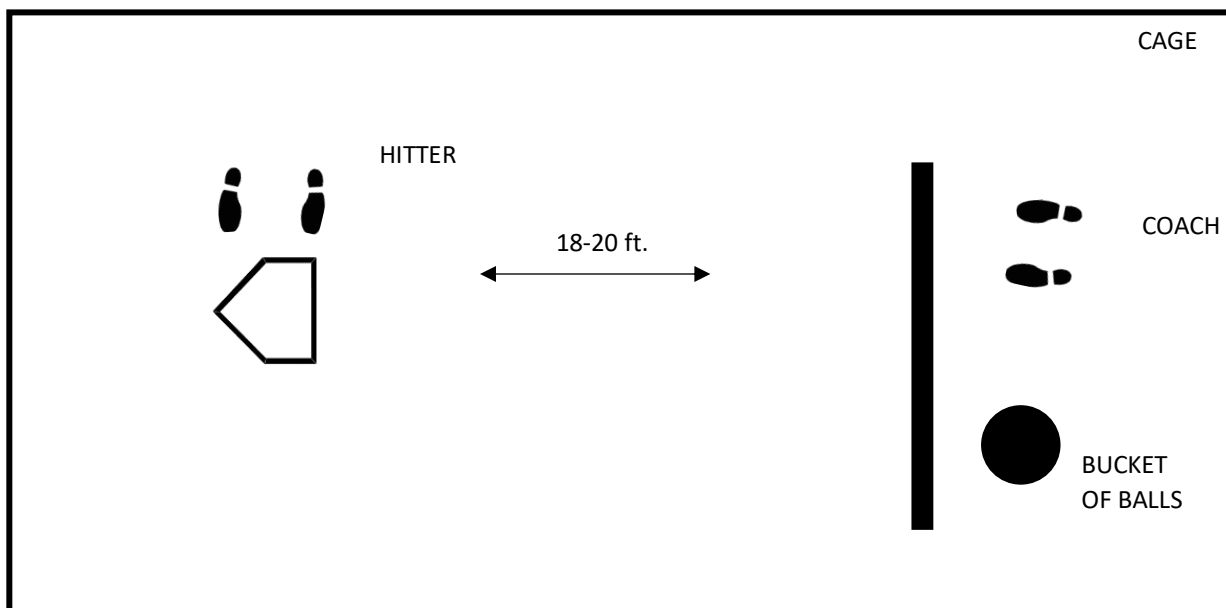
Description of the Drill:

- Screen set up 18-20 feet from the plate
- Hitter sets up even with the plate
- Coach underhand throws the ball down at varying speeds and locations, trying to mix up pitches to keep the hitter focused
- Hitter should work on seeing the pitch out of the coach's hand
- Focus should be on identifying the speed of the pitch, strikes and taking good quality swings
- Partners switch after 10 swings

Add Difficulty:

- To add a degree of difficulty, coaches can throw pitches inside and outside
- Hitters should hit outside pitches to the opposite field (or opposite side in a cage)
- Hitters should try to hit inside pitches back up the middle or a little to the pull side of the middle

Layout of Drill (cage is optional, can be done on a field):



Using Diamond Kinetics SwingTracker Sensor and mobile App - the following metrics and tools can help you measure your swing and see improvement when doing this drill:

Max Barrel Speed

Overview: Using Barrel speed, hitters can know the maximum speed of the bat's barrel during their swing. It's measured in miles per hour, so it's easy to understand and measure improvement over time. Higher barrel speed is the main factor in producing high exit velocity after contact so the ball goes further... faster.

Top 10% of Age Groups:

- U10 Players: 49mph +
- U12 Players: 54mph +
- U14 Players: 58mph +
- U16 Players: 63mph +
- U18 Players: 69mph +
- D1 College: 72mph +

Coaching Insights:

- This is the maximum speed of the bat's barrel during a swing, at a point 20% from the tip of the bat (i.e. the sweet spot). It is the main factor in producing high exit velocity when the ball is hit. It greatly affects both the distance and speed at which the ball travels after impact.
- Keep in mind that hitters need to "square the ball up" to maximize ball exit velocity.
- Increasing barrel speed is an important goal. Improvement should be measured over time to see if there is real physical and/or swing-mechanic growth.
- Mechanics are important, but so is size & strength. So when thinking about a kid's projectability, keep in mind if a player is not done growing yet.

Approach Angle

Overview: Using the Approach Angle metric, hitters clearly know the direction of their swing plane at the moment of impact. While the optimal Approach Angle is dependent on the type of pitch, it typically needs to be between +5° degrees and +15° degrees in order to hit a line drive and between +20° and +35° degrees in order to hit a home run.

Optimal Ranges by Type of Batter:

- For U10-14 players learning to hit line-drives: +6 to +10
- For U15-18 player who want to hit line-drives: +11 to +19
- For U15-18 power hitters who have strength & ability to hit deep: +20 to +35

Coaching Insights:

- Consider that a pitch is coming "downhill" from the mound at a -6° degree to -8° degree angle. To counter that, a batter should be making contact at an upward angle to "match the plane of the pitch" at a minimum.
- If you have a kid who is hitting a lot of ground balls – look at the approach angle and work drills to get the point of contact happening at a positive angle.
- When you marry Approach Angle with Distance in the Zone, you might see why a kid is popping up too much or fouling off.
- When hitting off a tee or even soft toss, you'd hope to see fairly consistent Approach Angles swing-by-swing, but when doing BP or facing live pitching, you will see a bigger range because the hitter has to "go get" the pitch (and that's OK).

Distance in the Zone

Overview: Using the Distance in the Zone metric, hitters can determine when their barrel is entering and leaving the hitting zone. The longer the barrel stays in the hitting zone, the better chance the player has to make consistent, solid contact. This is clearly depicted in the 3D viewer as the blue portion of the swing path.

Optimal Ranges by Age:

- U10-14: Good is 29-32 inches
- U15-18: Good is 31-34 inches
- College-Pro: Good is 33-37 inches

Coaching Insights:

- Having a swing that maintains a good Distance in The Zone gives the batter a better chance of making contact with the pitch. It also means the swing is "more forgiving"
- Having a good Distance In The Zone can account for small errors in timing because there is more "space" for the batter to make contact and still put the ball in play.
- This metric can help coaches identify loopy swings based on how early the barrel enters the zone and if there is a 'hard-turn' coming out of the zone.
- Additionally, based on where contact is most often made, it can help identify if a hitter is having issues with timing up the pitch.