**Relay Mechanics**

The three types of relays are the 4X400m, 4X100m, and the Medley (2X200m, 400m, and the 800m). The objective in the 4x100m relay is for athletes to pass the baton while sprinting at top speed. A nonvisual (or blind) pass is used. This means that the baton receiver does not look back or turn and reach back for the baton. The 4X100m relay has three changeover zones: each one is 20m in length. Prior to the changeover zone is a 10m acceleration zone. The rules of the event permit the baton receiver to accelerate within the 10m acceleration zone provided that the baton is subsequently exchanged within the 20m changeover zone. Usually the athletes place a check mark at the precise distance from the start of the acceleration zone. The baton receiver begins accelerating when the baton carrier hits this check mark. A call from the baton carrier indicates when the baton receiver must reach back for the baton. Usually the exchange occurs approximately 5m prior to the end of the changeover zone. It is up to the baton carrier to see that the baton is passed safely. After passing the baton, athletes must stay in their lanes rather than immediately moving to the infield of the track.

In the 4X400m relay, only the first lap and the first bend of the second lap are run in lanes. The incoming athlete is moving at a slower speed than the athlete in the 4X100m relay, so there are no changeover zones. Also, a visual exchange is used rather than a blind pass, which means the baton receiver looks back and reaches back for the baton.

In the medley, it is a mixture of 4X100 technique and 4X400 technique during the baton passes. Only the first lap, (the two 200m) and the first bend of the second lap are run in lanes.

There are two fundamental exchange techniques used for passing the baton. They are the up-sweep and down-sweep techniques. At Layton High School, we practice the Down-sweep technique.

In down-sweep technique, the baton carrier passes the baton with a downward, forward-pushing motion onto a platform provided by the hand of the baton receiver, who reaches back to grip the upper 1/3 of the baton. In this action, the forward push of the baton is emphasized by the incoming runner. Layton High School uses the alternate down-sweep exchange.

In this alternate down-sweep exchange, the baton carrier grips the base of the baton and passes it with a pushing down-sweep motion into the raised palm of the baton receiver, who grips the upper extremity of the baton. Once the baton receiver gets the baton, the receiving hand rotated down, under and then forward. This rotation means that the upper extremity of the baton becomes the base, and the baton is ready for the next exchange. This exchange allows for the greatest possible distance between the two athletes during the exchange. The baton carrier grips the lower 1/3 of the baton, and the baton receiver grips the upper 1/3; consequently the distance between the two athletes is two outstretched arms plus 1/3 of the baton. The second and third athletes on the team have shorter distances to run, and there is no shift of the baton from one had to the other.
The positioning of team members require the first athlete to pass, the baton on the inside half of the lane, the second to pass the baton on the outside half of the lane, and the third to pass the baton on the inside half of the lane.

First Exchange: The first athlete runs along the inside half of the lane, carrying the baton in the right hand. The second athlete waits on the outside half of the lane. As the first athlete approaches, the second athlete accelerates along the outside half of the lane and receives the baton in the left hand where the baton remains. The second athlete continues to run along the outside half of the lane.

Second Exchange: the third athlete waits on the inside half of the lane. As second athlete approaches (with the baton in the left hand), the third athlete accelerates along the inside half of the lane and receives the baton in the right hand. With the baton remaining in the right hand, the third athlete continues to run along the inside half of the lane.

Third Exchange: The fourth athlete waits on the outside half of the lane. As the third athlete approaches (with baton in right hand), the fourth athlete accelerates along the outside half of the lane and receives the baton in the left hand. With the baton remaining in the left hand, the fourth athlete runs directly toward the finish.
First Athlete: Reliable starter, runs well on the curves and skilled at handing off the baton. He/she runs about 105m.
Second Athlete: Skilled at receiving and handing off the baton. He/she can be massive since there are no curves to run. He/she runs about 125m.
Third Athlete: Skilled at receiving and handing off the baton. Good at running the curves. He/she runs about 125m.
Fourth Athlete: A fighter in spirit. He/she can sprint under pressure. He/she is skilled at receiving the baton.

Things to remember

Baton carrier: If you’re carrying the baton in your right hand, remember you must run along the inside half of the lane. If you’re carrying the baton in your left hand, remember your must run along the outside half of the lane. Don’t run directly behind the baton receiver; otherwise you might step on each other. Call “stick” and reach out with your arm and the baton only when you are within distance to make the pass, not before.

Baton receiver: If the baton carrier is carrying the baton in the right hand, you’ll stand on the outside ½ of your lane, and receive the baton in your left hand. If the baton carrier is carrying the baton in the left hand, you’ll stand on the inside half of your lane, and receive the baton in your right hand. Accelerate as vigorously as possible as soon as you see the baton carrier hit the check mark; stay in your ½ of the lane until you receive the baton. It’s the job of the baton carrier to catch you and give you the baton, so don’t slow down. Listen for the call of “stick”; only then do you put you’re arm back for the baton. Don’t put your arm back until you hear the call. If you run continuously with your arm back, you’ll lose speed. The complete baton exchange should take no more than 2-3 strides.