Kinesiology: Core Concepts
Task Sheet for Learning about Spin & Rebound

Definitions:
Spin and Rebound
Spin is the result of force being applied away from an object’s center of gravity. The object spins in the direction of least resistance.

Rebound: A ball will rebound at an angle equal to that at which it strikes a surface unless the rebound is altered by the elasticity of the ball, the firmness of the surface, or ball spin.

A spinning object will rebound from a horizontal surface in the direction it is spinning, and in the opposite direction from a vertical surface.

Top spin

Ball path

Back spin

Ball path

Learning activities:
1. Perform the following three passes:
   a. two-handed chest pass (with a basketball)
   b. overhand (baseball) pass (with a basketball)
   c. underhand pass (with a basketball)
   d. overhand football pass (with a football)

   Observe the direction of the spin on the ball and the last “body part” to touch the ball.

   Question: Which way did the ball spin in each pass? Why?
   a. ____________________________
   b. ____________________________
   c. ____________________________
   d. ____________________________

   Question: What was the last “body part” to touch the ball in b, c, and d above?

   2. Shoot the basketball using a one-hand set shot. Notice the spin on the ball and the last “body part” to touch the ball.

   Question: Which way did the ball spin? Why?

   Question: What was the last “body part” to touch the ball?

   Question: Why is it important that the fingers touch the ball last?

   3. Stand 10 feet from the wall. Aim at a spot 3 feet from the wall. Execute two bounce passes as follows:
   a. with top spin
   b. with back spin

   Notice the height of rebound on each pass.

   Question: Which pass rebounded the highest?

   Question: Which pass rebounded the lowest?
Question: What is the effect of spin on the height of the rebound?

Question: In making a two-handed bounce pass to a teammate, which type of spin will be most effective?

4. Stand 8-10 feet from the wall and aim for a spot 10 feet high on the wall. Throw the ball in the following ways:
   a. two-hand, underhand throw (with top spin)
   b. one-hand set shot (with back spin)
   Notice the angle of rebound from the wall.

Question: When shooting a basketball (as in the diagram below), what type of ball spin is needed to make the ball go into the basket rather than over the front of the rim?

5. Hold the ball as high as possible and let it drop:
   a. to the floor
   b. to the artificial turf
   c. to the carpet pad.
   Observe the difference in the bounces.

Question: What difference did you observe? Why?