

Activity at a glance

Time to complete	Approximately 2-2.5 hours
Age level	Advanced high school, College, or Professional school
Bloom's level(s)	<ul style="list-style-type: none"> • BL3 - Apply • BL4 - Analyze • BL5 - Evaluate
Learning objective	After completing this activity , students will be able to infer (BL4 - Analyze) knee ligament function using a knock-out experiment (BL3 - Apply) and motion simulations (BL5 - Evaluate) and use these results to explain (BL5 - Evaluate) patterns of knee ligament injury and recommended strategies for knee injury avoidance.
Assessment	<ul style="list-style-type: none"> • Students: On page 1 of the worksheet, students can assess their own work for the MCL using "Assess" boxes in the activity guide. There are no answers provided to students for the remaining ligaments nor for the challenge questions. • Educators: Educators can assess students' work for the remaining ligaments on page 1 of the worksheet and the challenge questions using the answer key (only visible to educators).
Materials needed	See Materials needed
Systems/Tissue types	<ul style="list-style-type: none"> • Connective tissues <ul style="list-style-type: none"> ○ Bones ○ Cartilage ○ Ligaments
Core concepts	<ul style="list-style-type: none"> • ??Structure & function • System integration

Competencies	<ul style="list-style-type: none">• Data integration• Motion analysis• Observation• Scientific reasoning• Scientific communication
Activity ID	HSKN3

