

MODULE

BioEngineering

- Measure, analyze, and classify angles with the use of a goniometer, digital camera, and imaging software.
- Transfer the concepts of angles and the effect angles have on athletic performance and body movement.
- Gather, graph, and interpret data of projectiles and how these angles affect the distance acquired.

SESSION FOCUS

- 1 Flexibility Averages
- 2 Classifying Angles
- 3 Projectile Motion
- 4 Projectile Data
- 5 Goniometer Measurement
- 6 Measuring Body Angles
- 7 Angle Analysis

Dear Parent,

As parents and teachers, we realize it can be hard to get a child to discuss what he or she is learning in school. We hope the information provided on this page will assist you in communicating with your child about what he or she is learning.

Your participation in the learning process is extremely important, as you are your child's best teacher.

For the next few days, your child will be learning about kinesiology and sports performance while completing the *BioEngineering* Module.

Words students will learn in this Module include:

- absolute value
- acute angle
- analyze
- athleticism
- degree
- flexibility
- goniometer
- integer
- launcher
- obtuse angle
- projectile
- ROM (range of motion)
- vertex

Questions for Discussion

During the course of this Module, your child will be assessed on key concepts and activities. You might want to discuss these concepts and activities with your child. He or she will be asked to:

- Explain the similarities and differences of hand goniometer measurements and digitized angle measurements. (*Differences in joint range of motion, ROM, measurements can result from the angle at which the picture is taken, or the positioning of the goniometer, or points in the imaging software.*)
- Explain the relationship of angles and distance reached. (*Reach measurements increase as the angle at the hip joint decreases.*)
- Demonstrate how to calculate the average distance of a projectile after three trials at that angle of release. (*Add the three distances, divide by three, and round the solution.*)

Student: _____

Parent: _____