**Character Rig Demo Outline**

The COG – Center of Gravity

* One of the first controls manipulated
  + When posing, broad strokes first, details later

Arms and Hands

* FK - forward kinematics
  + Poses limbs like a wooden mannequin
  + Can select multiple FK controls along the chain and pose them altogether
  + Should start from the base of the chain and work outwards

Legs and Feet

* IK – Inverse kinematics
  + “Goal based” control system
    - Works at the end of the chain and Maya will rotate everything leading up to it
    - Additional refinement using knee controls
* Addition control attributes are sometimes available and can be found in the channel box using the virtual slider. Similar to the squash and stretch control in the bouncing ball.
  + Some of the foot attributes:
    - Ball Lift
    - Heel Spin
    - Toe Spin
    - Toe Wiggle

FK/IK Switching

* Arms and legs can both switch between IK and FK which can be toggled through a switch control
  + IK and FK are independent rigs. Posing limbs in one rig will not translate to the other.
  + FK/IK Matching
    - Make sure production workspace is installed
    - To switch from FK to IK, use the “Align Switch” from the rig’s marking menu  
      (Ctrl+Shift+a and Left Click)

The Spine

* RFK – “reverse forward kinematics”
  + Two independent spine controls that guide the curve of the spine
  + Aiming the whole upper body requires rotating both controls at the same time
  + Pelvis also has an RFK control that independently shifts the hips

Marking Menu

* The marking menu also gives you access to “Select All Anims,” “Key All Anims,” and “Set Default Pose”

Parent Space Switching\* - We’ll come to this for the walk