Name _____ Date _____ Class _____

QUICK LAB

What Advantage Do Jointed Appendages Provide?

To understand the importance of jointed appendages, test your range of movement without and with bending your joints.

Materials

meterstick, paper, and pencil

Procedure

1. Work in pairs, and assign one person to be the test subject and one person to record the data.
2. The test subject extends one arm straight out in front of the body. The subject then places a meterstick along the inside of the arm. Do not bend the elbow.
3. The recorder measures and records the distance along the meterstick that the test subject can reach with extended (not bent) fingers.
4. The test subject now tries to increase the range of movement by bending the fingers only. The recorder measures and records the closest and farthest distance along the meterstick that can be reached.
5. The test subject now tries to increase the range of motion by bending the elbow. The recorder measures and records the closest and farthest distance along the meterstick that can be reached.

Analysis

1. Describe how eating breakfast might be different if you did not have joints on your fingers and at your elbows.
2. Predict the advantages an animal with jointed appendages has over an animal without jointed appendages when capturing and consuming food.
3. Predict the advantages for an arthropod that has sense organs (eyes and odor detectors) on the ends of jointed appendages.