

STUDENT NOTEBOOK

Sections 1-2. What are the shark jaw muscles and what are their actions?

Muscle name	Attachments		Potential actions (concentric only)							
			Lower jaw		Upper+Lower				Hyoid arch	
			Elevation	Depression	Elevation	Depression	Protrusion	Retrusion	Elevation	Depression
Levator palatoquadrati										
Levator hyoideus										
Preorbitalis										
Quadratomandibularis										
Coracomandibularis										
Coracohyoideus + Coracoarcualis										
Interhyoideus										
Intermandibularis										

The table above lists all eight muscles that you'll attach to your shark. In the "Attachments" columns, you'll list the two skeletal elements that each muscle connects (using the abbreviations listed below, the order doesn't matter). In the "Actions" columns, you'll add an "X" for the action(s) corresponding to each muscle.

Helpful abbreviations

- Basihyal:** BH
- Ceratohyal:** CH
- Chondrocranium:** CC
- Hyomandibula:** HM
- Mandibular cartilage:** MC
- Palatoquadrate:** PQ
- Pectoral girdle:** PG

If you need to specify left vs. right, add an "L" or "R" in front of the abbreviation, respectively. For example, use "LMC" for left mandibular cartilage.

Section 3. How do sharks use body muscles to open their mouth?

Using your shark skull to perform simulations, can you explain how fish can use their body muscles to open their mouth and generate suction? Your explanation should include which muscles are involved and their role. Feel free to write in bullet points.

Section 4. How do sharks manipulate their food without a tongue?

How can sharks manipulate their food without a tongue? Feel free to write in bullet points.
