

Dissection 101: Crayfish

Student Checklist

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Crayfish Checklist:** Identify the following structures/locations.



Crayfish are arthropods, which are the most diverse and abundant group of animals on earth. There are more species of arthropods than all other animals combined.

Arthropod characteristics:

* Jointed appendages – bend to move in specific directions and specialized for specific jobs
* Exoskeleton – hardened cuticle, which is an outside layer of skin; it is nonliving tissue called chitin that does not grow with the body and must be removed for growth in a process called molting (shedding)
* Body segmentation – specific regions
* Use lines provided for additional notes
* External structures
  + Regions (two)
    - Cephalothorax – head and thorax region \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - Abdomen – segmented tail \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The telson (single – middle section) and uropods (two – outer sections) form the flipper-like structure at the end of the abdomen (tail); used to propel the crayfish in a backward direction (third law of motion) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_



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* + Chelipeds (pinchers) – 1st of the paired walking legs; modified for defense, fighting and capturing prey (can regenerate, but slow) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Antennae – 2 pair, smaller anterior paired called antennules; used for taste (chemicals in water) & touch \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Carapace – specialized portion of the exoskeleton; covers the head and thorax regions

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* + Rostrum – anterior section of carapace; protects eyes/head

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* + Walking legs – 4 pair of jointed legs; for movement \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Maxillipeds – 3 pair of larger appendages near mouth; handle food  
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  + Mandibles – Jaw like structure; move side to side to break food apart

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* + Swimmerets - structures used to help propel crayfish through the water; move water across gills; hold fertilized eggs and larva in females

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* + - Male – First 2 pair of swimmerets are hardened/enlarged (copulatory swimmerets); used to deposit sperm from opening of sperm duct to seminal receptacle of female

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* + - Female (L) – Has a seminal receptacle which is an opening to the female reproductive system (eggs expelled and held by swimmerets after they are fertilized)

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* + - Anus – Complete digestive system

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* Internal Structures  
  + Gills - Feather-like structures (increased surface area); used to remove oxygen from water for respiration \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Heart (may be attached to the carapace) - Open circulatory system; keeps blood moving under low pressure \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Digestive gland – Produce enzymes to digest food; absorption of nutrients \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Stomach – Storage and digestion – 2 chambered: cardiac stomach is anterior (closer to the mouth), has a gastric mill which is a teeth-like structure used to break food into smaller pieces; pyloric stomach connects to the intestine
    - Cardiac Stomach

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* + - Pyloric Stomach.

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* + Antennal glands (green glands) – Paired; excretion of body wastes (equivalent to urine)

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* + Ganglia – Nervous tissue

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* + Intestine – Passage of undigested food from the stomach to the anus (complete digestive system)

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 Draw and label the external structures of the crayfish.

telson carapace chelipeds

walking legs abdomen cephalothorax

rostrum antennae uropod

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