

Name that mini beast

Activity sheet



How many different types of mini beasts can you spot in your local river*?

Beneath the surface of your local river, you'll find a secret underwater world full of tiny creatures.

These mini beasts are a vital part of the river system, providing food for larger creatures and keeping the river bed clean.

You will need

- A fishing net
- A bucket (filled with water from the river)
- Magnifying glass (optional)
- Identification key
- Wellies or old trainers



*Parents/tutors:

Only hunt for mini beasts from June to October so that you don't disturb any spawning or migrating fish!

- 1 Find a shallow part of the river where the water is moving (if the river is still the mini beasts won't go into your net!) Stand, holding your net as shown in the picture, so that it rests on the river bed.
- 2 To catch mini beasts, 'kick' the river bed in front of the net with your foot so that the mini beasts are lifted from the river bed into your net.
- 3 Empty your net into your bucket. Now you're ready to identify what you've caught and find out some fascinating facts about each creature by using the identification key on the following pages.



Once you have identified them, carefully put the mini beasts back in the river where you found them!

1 Has it got a shell?

Yes



Bladder Snail

- up to 12mm high
- clockwise spiral
- prefers standing/still water



Freshwater Limpet

- very tiny, usually 2-4mm
- likes high oxygen levels in water
- found in rivers and lakes in still to fast flowing water



Nerite Snail

- 7-10mm high
- found in large flowing waters such as rivers



Valve Snail

- 6mm tall
- anti-clockwise spiral
- also known as freshwater winkle



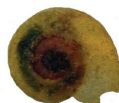
Jenkins Spire Shell

- 4-5mm high
- anti-clockwise spiral



Bi-valve Mollusc

- very small, usually 2-4mm
- shell consists of two hinged valves



Ram's horn Snail

- move with a gliding motion
- generally 4 - 8mm in size (but can reach up to 25mm)
- flattened coil with no spire or point (like a ram's coiled horn)
- found in still water on plants at the pond margin



Wandering Pond Snail

- up to 18mm tall
- anti-clockwise spiral
- found on aquatic vegetation in slow-moving or still water

No

2 Has it got a case?

Yes



Cased Caddis Fly Larvae

Sand grains (Limnephilids)

- straight or curved case made from sand grains
- larger sand grains often located on sides
- found in both stony- and sandy-bottomed streams
- case length may be larger than 25mm



- straight case made from fine sand particles
- case widens towards head end
- common in still or slow flowing water



Plant material (Limnephilids)

- case based on pieces of twig
- straight case
- case around 30mm long by 8mm wide
- found in rivers and streams



- case is a mixture of both living and dead plant material
- straight case
- very chunky case, about 20mm long by 10mm wide
- found in still or slowly flowing water



Saddle Case (Glossosomatids)

- case made from a mound of sand grains
- firmly fixed to underside of rocks in groups
- found in rivers and occasionally lake shores
- case length may be larger than 6mm



The Grannom (Brachycentrids)

- square shaped case in cross section
- case made of living plant material or closely bound silk threads
- commonly found attached to plants
- found in fast flowing rivers and streams

No

3 Has it got six legs and three tails?

Yes



Upwing Nymphs (Mayflies)

Stone Clingers (Heptagenids)

- plate-like gills held out sideways
- flat and wide body with eyes on the top of the head
- clings to rocks and cobbles in fast flowing rivers and streams
- up to 15mm in length



Laboured Swimmers (Leptophlebids)

- poor swimmers preferring slow flowing water
- long feathery gills along side of body
- tails are as long as the body
- up to 10mm in length



Agile Darters (Baetids)

- small leaf-like gills located on side of body
- rounded stream-lined body (torpedo-shaped)
- shorter middle tail
- moves around in fast flowing rivers and streams
- up to 10mm in length



Silt Crawlers (Caenids)

- gills located on back hidden under two large wing cases
- prefers slow flowing and still water
- smallest nymph reaching just 8mm



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3 Has it got six legs and three tails? (cont)

Yes



Moss Creepers (Ephemerellids)

- poor swimmers (swim with a 'rocking horse' movement)
- gills located on the back of the body (move with a rippling effect)
- striped tails and legs
- 7 - 11mm in length



Burrowers (Ephemerids)

- largest of the upwings reaching lengths of 3cm
- live in tunnels beneath the mud, sand and gravel
- strong legs for burrowing
- feathery gills found on the back of the body rather than at the sides
- tusk like mouth parts



Damselfly Nymph

- hinged, extendable jaw called a 'mask'
- flat leaf like tails form gills
- found in still water amongst vegetation
- up to 4.5cm in length



Dragonfly Nymph (Darter)

- short spiky tails
- hole at rear end used to suck in water to internal gills
- hinged, extendable jaw called a 'mask'
- found in still water among plants or in mud
- up to 2.5cm in length

NO

4 Has it got six legs and two tails?

Yes



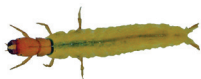
Stonefly Nymphs

- varies in size - between 7 - 25mm in length
- live in fast flowing stretches of rivers and streams
- move in a lazy, sluggish manner
- needs highly oxygenated, clean water

Caseless Caddis fly Larvae

Bag maker (Philopotamus)

- creamy/yellow body with reddish head
- found in fast flowing water
- hooked tails
- live inside a finger-shaped net



Free living (Rhyacophila)

- bright green in colour especially on underside
- bunched gills visible along body
- body visibly segmented
- found in running water

Net maker (Hydropsyche)

- dark brown in colour
- hairy tails & feathery gills along body
- live in stone shelter with a net at front
- net used to catch food particles



Great Silver Beetle Larva

- fat and greyish, thinning towards the tail end
- two short, hooked tails
- found in still water in pondweed & thick vegetation
- slow walking, poor swimmer
- largest larvae growing up to 6cm in length



Great Diving Beetle Larva

- yellow to light brown in colour
- short hairy tails
- visible 'pincer-like' jaws
- found in still water
- up to 6cm in length



Dragonfly Nymph (Hawker)

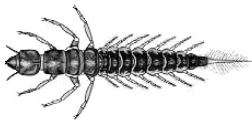
- short spiky tails
- tiny wing cases on its back
- hinged, extendable jaw called a 'mask'
- found in still water among plants or in mud
- up to 5cm in length



NO

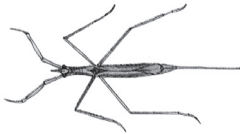
5 Has it got six legs and one tail?

Yes



Alderfly Larva

- large head with powerful jaws
- feathery gills along the body
- long spiked tail gill
- found in ponds and slow flowing streams in mud or silt
- up to 17mm in length



Water Stick Insect

- found in still or slow moving water such as ponds and lakes
- long tail used as a breathing tube
- piercing tube-like mouth part
- looks like a twig or rolled up leaf
- can reach 5cm in length



Water Scorpion

- found in still water such as ponds
- grey/brown flattened body - looks like a dead leaf
- piercing tube-like mouth part and long tail used as a breathing tube
- slow moving, often found crawling across the bottom of the pond
- two pincer-like front legs for catching prey
- generally 18 - 22mm in length (but can be up to 3cm)

No

6 Has it got six legs and no tail?

Yes



Whirligig Beetle Larva

- pair of hair-like gills on each segment of the abdomen
- four gills on the rear
- common in ponds and slow moving streams
- 3 - 8mm in length



Whirligig Beetle

- Found swimming on the surface of ponds or slow moving streams
- move in a 'whirling' pattern across the water surface
- eyes are in two parts for seeing above and below the water
- metallic black/green in colour with orange legs
- 5 - 7mm in length



Great Diving Beetle

- Size of a 50p coin (around 3cm in length)
- dark brown/black in colour with yellow edges to the wing cases
- ridged wing cases in females, smooth in males
- found in both rivers and ponds



Great Silver Beetle

- the largest water beetle reaching 4cm in length
- shiny black wing cases with a silvery belly
- favours still water such as ponds and ditches
- very rare

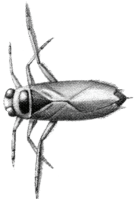
6 Has it got six legs and no tail? (cont)

Yes



Small Diving Beetle

- found in fast flowing rivers and streams
- blotchy, yellow and black body
- fast moving
- 3 - 5mm in length



Backswimmer (Waterboatman)

- found in slow moving rivers and ponds
- swim on their backs
- powerful oar-like back legs for swimming
- reaches 14 - 17mm in length



Lesser Waterboatman

- common in ponds and slow moving rivers
- swim on their bellies (ie the right way up)
- powerful oar-like back legs for swimming
- can reach up to 10mm in length

No



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7 Has it got more than six legs?

Yes



Water Mite

- tiny, the size of a pin head (at most 2mm in length)
- moves very quickly
- comes in many different colours
- has 8 legs (belonging to the spider family)
- common in fast, slow and still water



Freshwater Hoglouse (Water Slater)

- resembles a woodlouse
- segmented body and a large pair of antenna
- has 7 pairs of legs
- often found in still or slow moving muddy water
- can reach up to 20mm in length (generally about 8 mm)



Freshwater Shrimp

- swim very quickly on their sides
- varies in colour from pale cream to dark grey
- up to 15mm in length
- found under stones on river bed
- common to fast flowing rivers and streams



White-clawed Crayfish

- olive green to brown in colour
- large front claws and a pair of long antennae
- can reach up to 12cm in length
- needs fast flowing, clean water to survive
- lives in burrows under rocks and stones

No

8 Is it like a caterpillar or a grub?

Yes



Cranefly Larva

- tough skin
- found in slow moving water in mud and silt
- breathing holes and horns to grip with are found at the rear end
- can reach up to 5cm in length



Blackfly Larva

- found in fast flowing water
- 'club' shaped with fatter end attached with hooks to rocks
- narrower 'head' end with two fan-shaped structures to catch food
- up to 10mm in length



Mosquito Larva

- attach to the water surface by a breathing tube
- fine hairs attached to a segmented body
- large head with bristles on mouth parts to filter food
- up to 10mm in length



Phantom Midge Larva

- transparent and difficult to see
- moves quickly by flicking its body
- large eyes and brush-like mouth parts
- up to 14mm in length



Midge Pupa/Mosquito Pupa

- both comma shaped, with a big head and short, curled tail
- some have feathery tufts on their heads
- moves quickly with a flick of its tail
- up to 10mm in length



Rat-tailed Maggot

- caterpillar-like body with short stumpy legs (pro-legs)
- long tail-like breathing tube
- reaches about 15mm in length (without tail)
- found in dirty water

No

9 Is it long and thin like a worm?

Yes



Non Biting Midge Larva

- less than 15 segments to body
- may have very tiny 'pro-legs' like a caterpillar
- come in a range of colours
- usually no more than 20mm in length



Bloodworm Midge Larva

- bright red in colour
- feathery tufts on its head
- has a characteristic thrashing movement
- can tolerate quite dirty water
- can reach up to 20mm in length



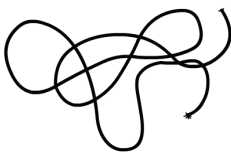
Biting Midge Larva

- has a characteristic thrashing movement
- 'U' shaped when at rest
- can range in colour from creamy yellow to green



Riverworm

- looks like an earthworm
- ranges in size from a few mm to several cm



Hair Worm

- looks like a string of liquorice or black wire
- firm to the touch like a piece of wire
- can be up to 40cm long



Leeches

- flattened with suckers present at both ends of the body
- can be up to 20cm long
- moves like a caterpillar
- swims with a wave (ribbon) motion through the water



Flatworms

- very tiny, less than 10mm in length
- have visible horn shaped projections on head
- moves with a gliding motion (like snails)

No

10 Is it like a fish?

Yes



Stickleback

- small and silvery in colour
- 3 spines located on its back followed by a soft fin near the tail
- usually no more than 7.5cm in length
- found in most types of water but prefers slower moving water



Minnow

- dark horizontal stripe along its body
- distinctive silver belly
- can reach up to 10cm in length
- likes clean water with sandy/gravelly river bed



Stoneloach

- fleshy whiskers around its mouth used to forage for food
- spotted or striped fins
- reaches 5 - 10 cm in length



Bullhead

- large head and a thin body with big eyes
- large pectoral (side) fins used to pull itself along the riverbed
- has a slimy skin instead of scales
- can be up to 15cm in length (usually 7 - 10cm)
- found under stones in fast flowing rivers and streams

Is it like a fish (cont)?

Yes



Salmon Fry

- 'adipose' fin present (small fin behind the dorsal (back) fin)
- has a pointed nose
- 'v' shaped tail fin
- has 'finger-like' markings along body
- found in well oxygenated streams and rivers



Trout Fry

- 'adipose' fin present (small fin behind the dorsal (back) fin)
- has a blunt nose (bullet shaped)
- has a 'c' shaped tail fin
- distinctive red/orange/ fins
- found in well oxygenated streams and rivers



Lamprey

- eel-like in shape but without any 'pectoral' (side) fins
- has seven holes (open gills) along either side of its head
- jaw-less with a round sucker-like mouth
- can reach up to 1 metre in length



Eel

- single long fin on back
- pair of 'pectoral' (side) fins
- pointed nose with visible jaw
- gills present like fish
- can grow up to 1.3m in length