

4D MASTER



ILLUSTRATED
GUIDE BOOK

4D VISION™ SNAIL

ANATOMY MODEL



<http://www.4Dmaster.com>

FAME MASTER INTERNATIONAL LTD.

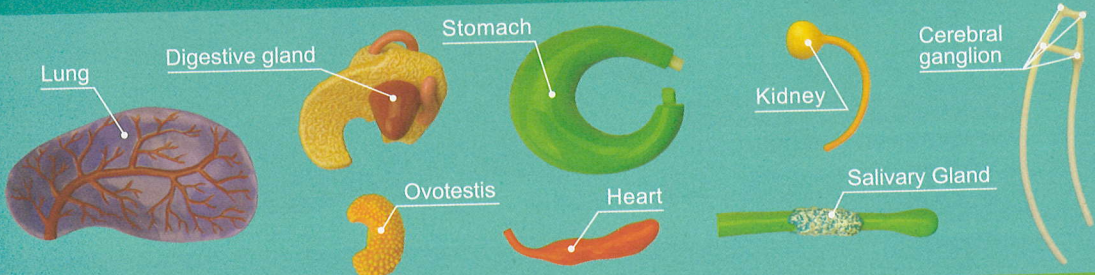
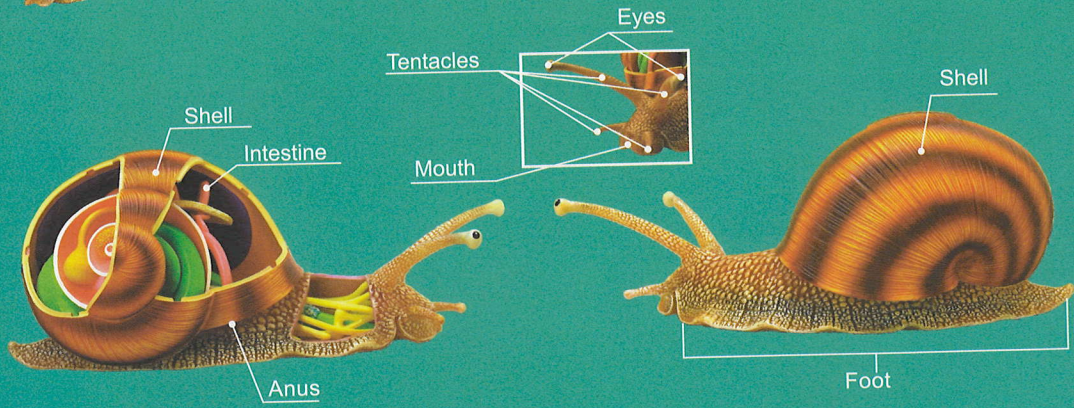
All rights reserved

Unit 541, 5/F., Sino Industrial Plaza, 9 Kai Cheung Road,
Kowloon Bay, Kowloon, Hong Kong

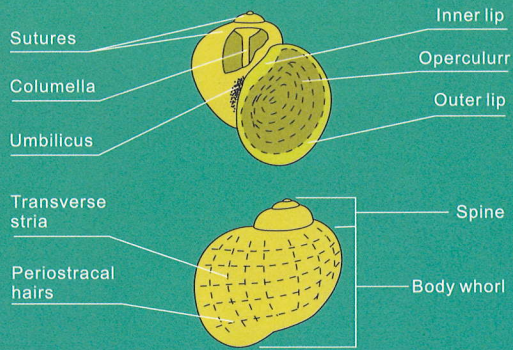
• MASTER SCULPTURING • DETACHABLE PARTS • HIGHLY DETAILED FINISH •



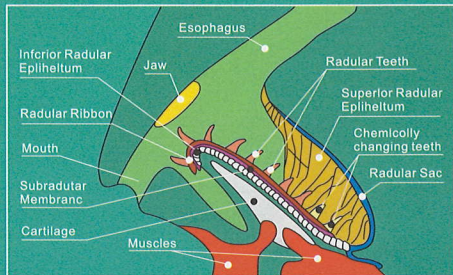
SNAIL ANATOMY



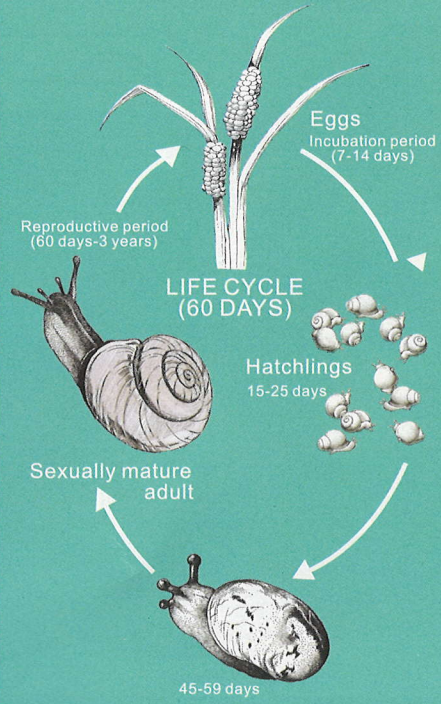
SHELL ANATOMY



MOUTH INTERNAL STRUCTURE



LIFE-CYCLE OF SNAIL

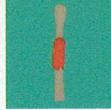


EYE & TENTACLE



Their eyes are on the tip of the tentacles, and at the base of the tentacles for marine species. The land snails have two pairs of tentacles on their heads; the eyes are on the upper pair, the lower pair shorter is used to smell and feel the way around. The tentacles are very important to the snail.

SALIVARY GIAND



It is a pair of salivary glands line on front part of the esophagus, which secretes mucus and a digestive fluid into the esophagus and mix with the food.

MOUTH



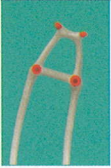
Snails have no big teeth in their mouth, but they have a rough tongue liked structure which called radula and with rows of tiny teeth, like a file to rasp and tear the food into shreds before they swallow.

STOMACH



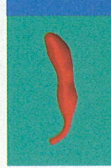
The snail's stomach has several muscular layers which is the first major organ of chemical digestion in a snail. It stores food and mixes it with enzymes to begin digestion. The food being broken down will pass to the intestine for further digestion. Some species have different chambers and compartments in their stomach.

CEREBRAL GANGLION



Snails have no brain, but they have a structure called cerebral ganglion, which is divided into four sections. It is much simpler than the brains of mammals and reptiles. Snails have the capability to think and learn. Some tests show that they can walk through mazes.

HEART



The snail's heart is much simpler than the human heart, as it's just a simple blood pump. Some species have a well developed heart that consists of 2 chambers (auricle & ventricle).

ANUS



The intestine and rectum ended in the anus, which is located near the entrance of the shell.

LUNG



Most the land snails are pulmonates. Pulmo in Latin means lung. The lung of the snails is a visceral cavity which is richly riddled with blood vessels.

KIDNEY



The snails do have kidney in their body, which is located near the stomach. It is like a blood filter to remove the wastes, and make urine.

DIGESTIVE GLAND



It is the largest gland in a snail which secrete digestive acids and enzymes to help for breaking down the food in gut.

INTESTINE



The food digestion is not just done by the enzymes of the snail, but also by the micro organisms which live in the intestine. The nutrition from the food will carry out through the wall of the intestine to the blood stream.

OVOTESTIS



The snails are hermaphroditic and their ovotestis produce both eggs and sperm, and are connected with 2 different ducts that transport eggs and sperms separately.

SHELL



The shells of snails are like those of the other molluscan members which are made out of calcium carbonate, similar to the shells of crabs or even the hard corals. Their shells are just a kind of art sculpture, which have variable kinds of shapes and colours. Most snail species have dextral (right handed) shells; however, some species also have sinistral (left handed) shells too.

Q: Which kind of snail is the fastest in the world?

A: The fastest snail is the common garden snail (*Helix aspersa*), with a speed of 0.0313 mph. It's capable of moving 20 metres per hour. It is one of the most well-known common land snails. weighed approximately 12000mg.

Q: What is the colour of the snails' blood? Is it red, like us?

A: No, the snails' blood is blue, not red! Actually all the mollusks and horseshoe crabs are blue-blooded too. Their blood contains copper atoms whereas red-blood animals contain iron atoms in blood.

Q: How long can a snail sleep?

A: Actually, a snail can sleep up to 3-4 years at a time! Even their regular sleeping time may last a week or so.

Q: Why snails have slime?

A: One of the main reasons is that snails use slime to increase the suction power, which helps them to travel even upside down on trees. Some land snails can lift ten times of their own weight even on vertical surface. They always leave a slime trail behind them. However, that makes their enemies very easy to track them.

Q: How can the snails move with no foot?

A: Snails are Gastropod, they creep by using their flat "foot" underneath the body. They control the contraction and expansion of the muscles, to create a kind of rippling movement that pushes the snail forward.

Q: How long is the lifespan of a land snail?

A: Some species can live up to 5 to 10 years and others have been known to live up to 15 years.

Q: Do snails have enemies too?

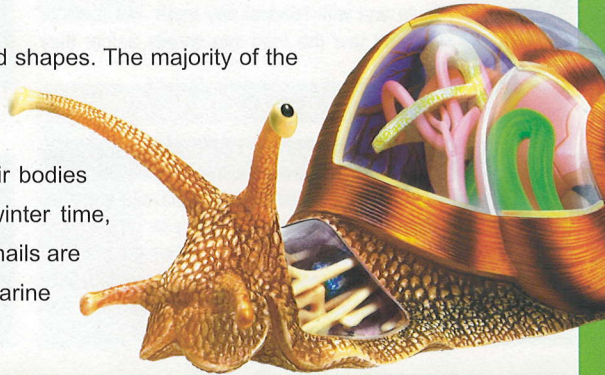
A: Snails need to face quite many enemies from the nature. They are the delicious food of many other animals, like birds, snakes, toads, turtles, fishes and ground beetles, even human!!

Q: Which kind of snail is the largest in world?

A: The largest land snail is the Giant African Snail (*Achatina achatina*), also called the "Ghana Tiger Snail" It can grow up to 39.3cm (15inches) from head to tail, and it weights about 900g (2 lb). If including the marine species, the Trumpet Conch (*Syrinx aruanus*) is the largest snail in the world. It can grow up to 80 cm (31inches) and about 18 kg (40 lb) in weight. :

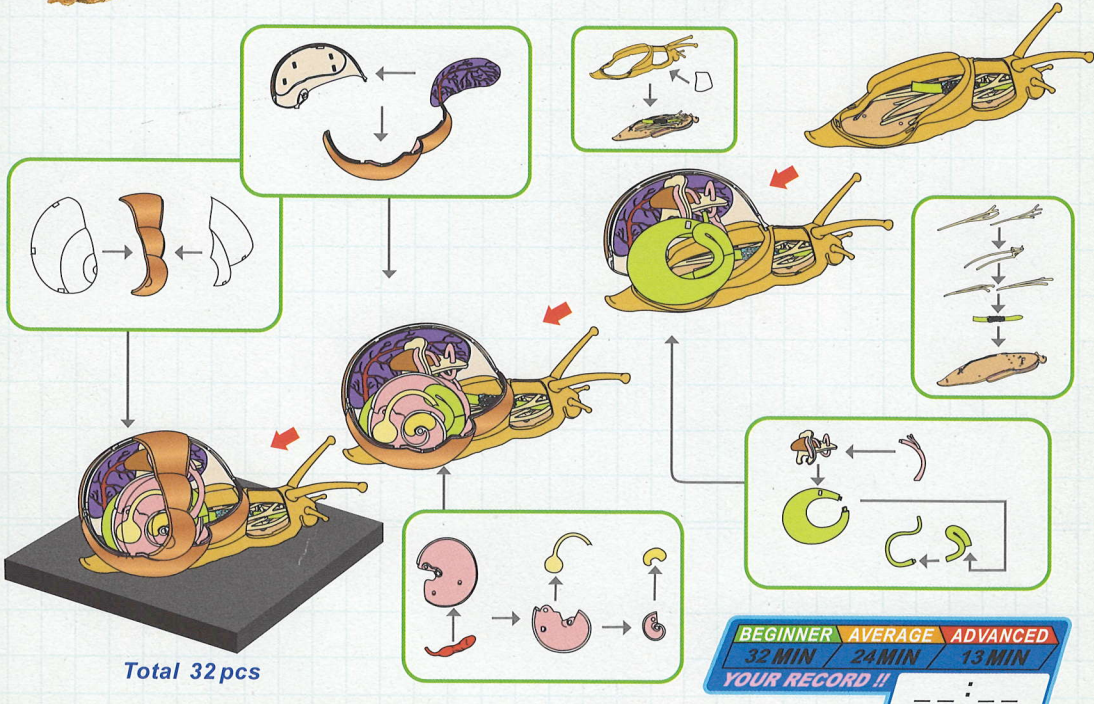
The word snail more often specifically applies to the species of pulmonate land snails. In general the word "snail" almost refers to all members of the molluscan class Gastropoda which have coiled shells. What is a Gastropod? In Latin, gastro means stomach and pod means foot, and together it means "a belly footed animal". Snails can be found in gardens, in ponds and even in the sea. Molluscs animals all have a soft body; oysters clams, and other shellfish are members of this big family too. All the snails have hard coiled shells to protect their soft bodies. When they sense any danger, they will just simply shrink their bodies back to their shells. Also, when the dry weather comes, land snails will hide inside the shell and seals the entrance to protect their bodies from drying up. This amazing little house, enables the land snails to live in almost every kind of habitat, like our gardens, woodland, marshes to mountains, and even deserts.

Snails' shells have many different colours and shapes. The majority of the land snails are more active at night time or on cloudy days. It's because they don't like sunlight very much, and they like to keep their bodies moist, but sunshine will make them dry. In winter time, they will hibernate in the ground. Most of the snails are herbivorous, but some land snails and many marine species are omnivores or carnivores.





SNAIL ANATOMY ASSEMBLY INSTRUCTION



Total 32 pcs

BEGINNER	AVERAGE	ADVANCED
32 MIN	24 MIN	13 MIN
YOUR RECORD !!		
_ : _		