4. Reptilia:

- Out line classification and general characters.
- *Calotes*:-External features,
- Respiratory system and
- Blood vascular system.
- Poisonous and non- poisonous snakes.

Adaptations to life on la

- More efficient lungs and a better circulatory system were developed for life away from water
- Scaly skin provided protection against the elements and desiccation
- The amniotic egg protected against desiccation

Respiratory system of *Calotes versicolar*

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Respiratory System

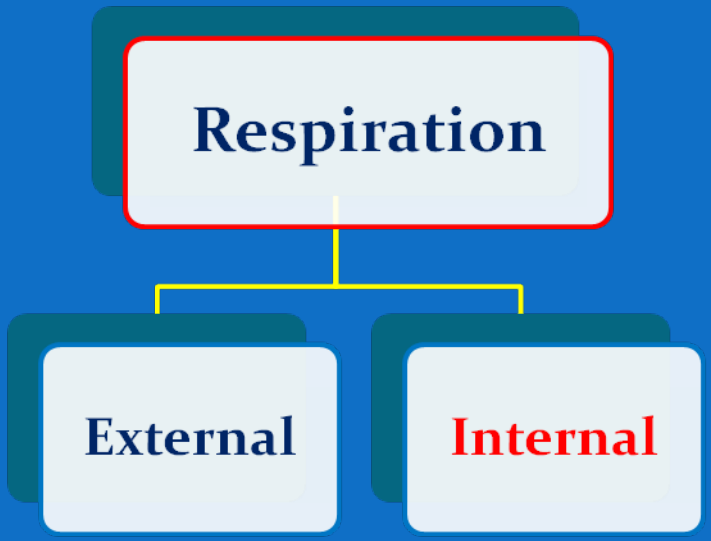
Respiration:

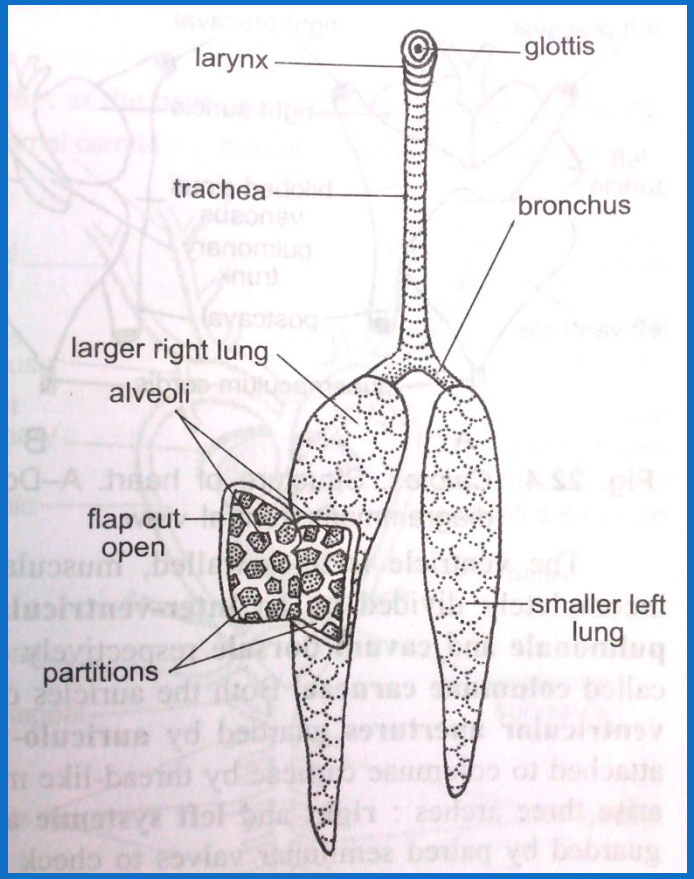
Exchange of Respiratory Gases i. e. O2 and Co2

(Inspiration/ Inhalation and Expiration / Exhalation)

Arial / Terrestrial

Respiratory organ – Lung





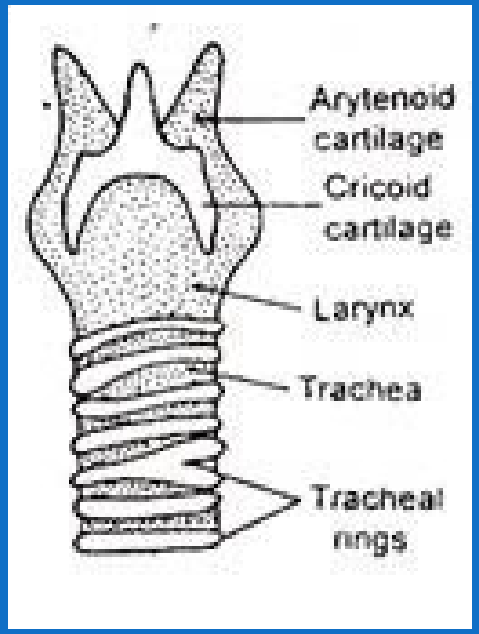


Fig: *Calotes* Respiratory System

Lungs, Larynx, trachea and other associated parts

Areal Respiration …….

- Reptilian lungs are better developed than amphibians
- Reptiles use two efficient lungs (except snakes – they only have one long one that fits their bodies)
- Muscular ribs help them expand the chest cavity as we do to draw in the air
- Nostrils allow them to bring in air while their mouth is closed
- Few reptiles can also exchange gasses through skin eg. sea snakes, soft shelled turtles

Lungs:

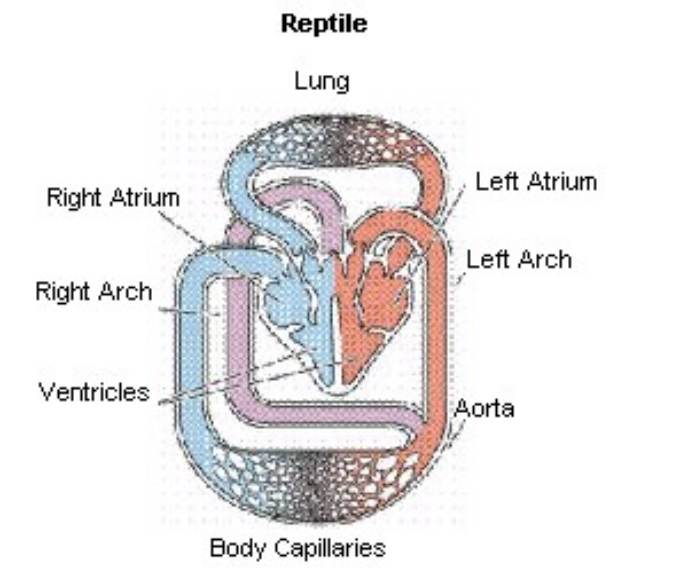
Paired, Left one small and Right one large

Bronchus

Trachea

Larynx

also, aquatic turtles can “breath” through their mouth and cloaca (can pump water in and out, highly vascularized)


Reptile
Lung
Right Atrium
Left Atrium
Left Arch
Right Arch
Ventricles
Aorta
Body Capillaries

Circulation

like amphibians, most with **three chambered hearts**

with 2 **atria & 1 ventricle**

but partial septum separates the ventricle slows mixing of oxygenated & unoxygenated blood

T wo separate **circuits of bloodflow:**

pulmonary and systemic the respiratory & circulatory systems of reptiles

provides more oxygen to tissues than that of amphibians more efficient heart; higher blood pressure but still less efficient than that of birds and mammals crocodilians have 4 chambered heart which completely separates the pulmonary and systemic circuits

overall, still low metabolic rate = cold blooded