Vertebrates - spinal nerves arranged segmentally — metamerism
- Spinal nerve development -
- Associated with myotome and dermatome

- Dermatome - a patch of skin innervated by the same spinal nerve

Shingles diagnosed by dermatome analysis
Attachment of a spinal nerve to the CNS at 2 roots.

Dorsal root

Ventral root

Sensory info enters dorsally
Motor info leaves ventrally

Attachment of a spinal nerve to the CNS at 2 roots.

Dorsal root ganglion

To somatic tissue

Dorsal ramus
Ventral ramus
Several successive ventral rami interconnect forming ‘plexuses’
- brachial plexus
- pelvic plexus

Autonomic Nervous System

- Impulses to the viscera, glands, blood vessels, smooth muscles
- Motor system for homeostasis

ANS in amniotes:
- **Sympathetic system**
  - arise from thoracic, lumbar VR
- **Parasympathetic system**
  - arise from cranial, sacral VR
Sympathetic N.S.

- Fight or flight - inhibit digestive, release sugar, relax bladder, inc. heart rate

Parasympathetic N.S.
- Parasympathetic fibers from cranial nerves
  - most visera

- Sacral nerves supply the lower viscera and genitalia.