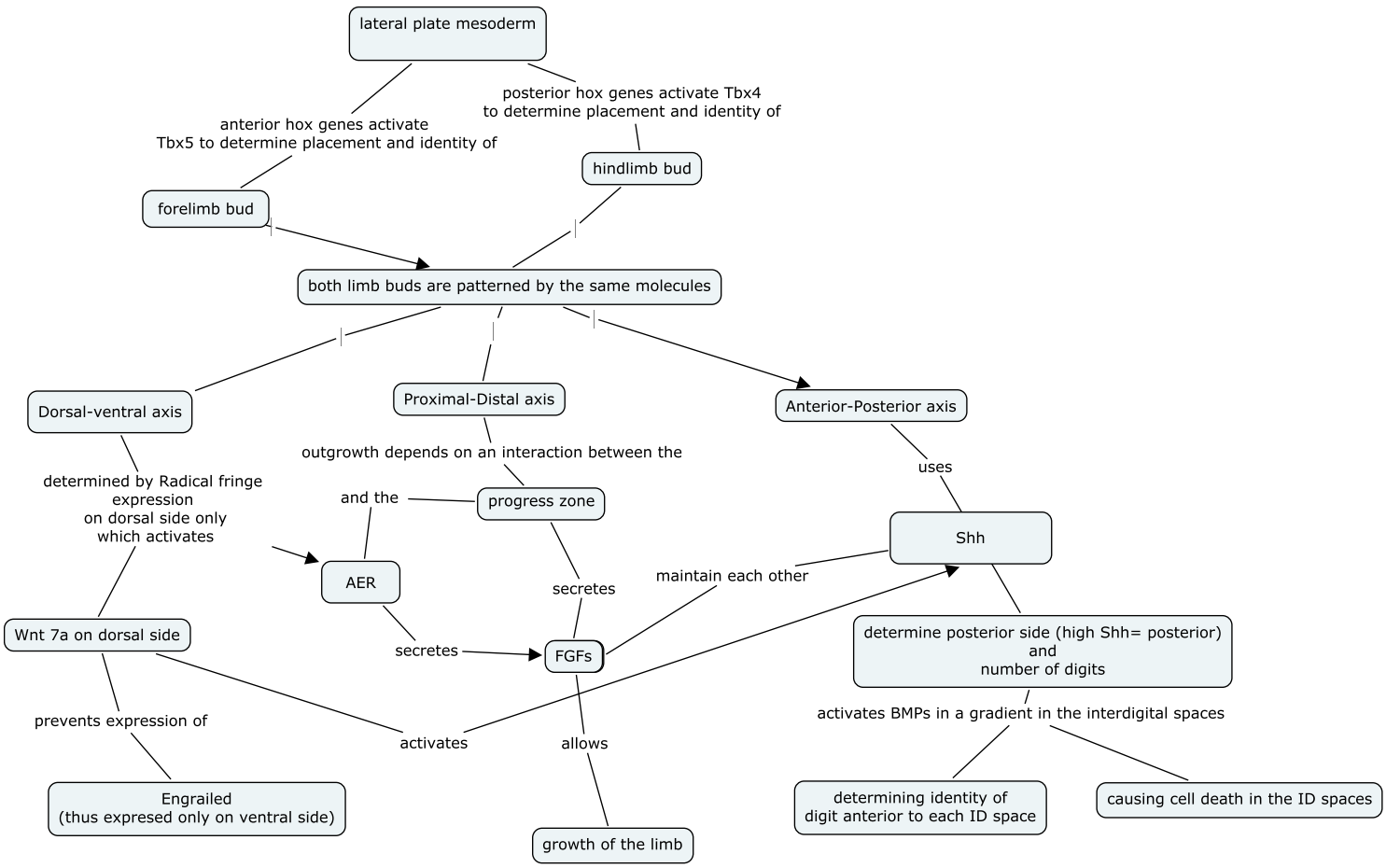
lateral plate mesoderm
anterior hox genes activate
Tbx5 to determine placement and identity of
posterior hox genes activate Tbx4
to determine placement and identity of
forelimb bud
hindlimb bud
both limb buds are patterned by the same molecules
Dorsal-ventral axis
Proximal-Distal axis
Anterior-Posterior axis
determined by Radical fringe
expression
on dorsal side only
which activates
outgrowth depends on an interaction between the
and the
progress zone
uses
Shh
AER
secretes
maintain each other
Wnt 7a on dorsal side
secretes
FGFs
determine posterior side (high Shh= posterior)
and
number of digits
prevents expression of
activates
allows
activates BMPs in a gradient in the interdigital spaces
Engrailed
(thus expresed only on ventral side)
growth of the limb
determining identity of
digit anterior to each ID space
causing cell death in the ID spaces