

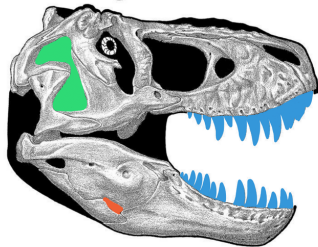
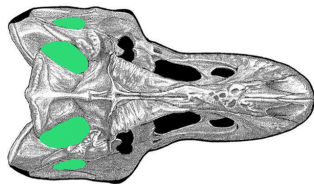
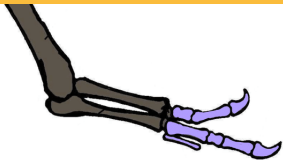
JOURNEY TO FLIGHT

Unlock an evolutionary mystery about
the origins of flying

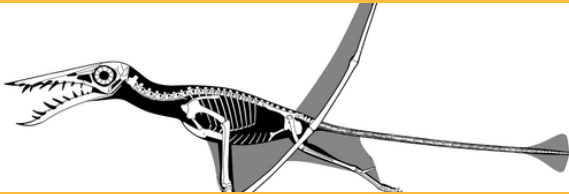
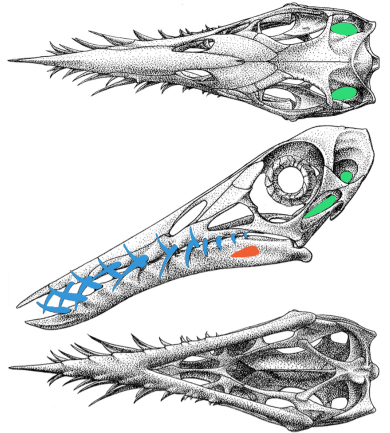
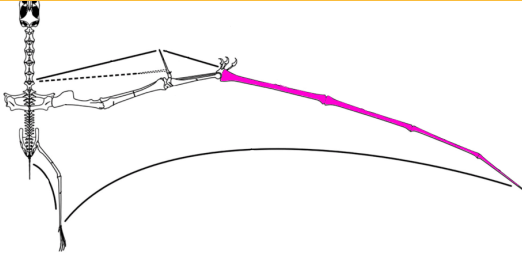


NCSE National Center for
Science Education

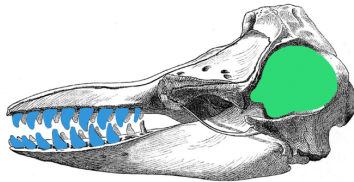
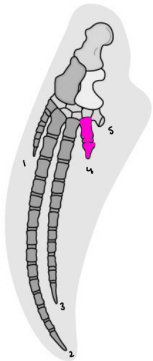
DINOSAUR



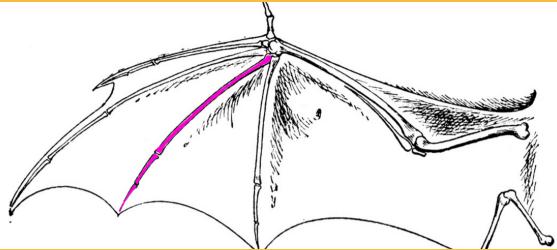
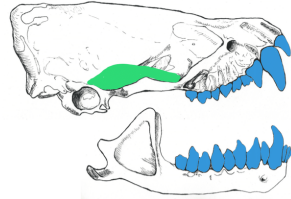
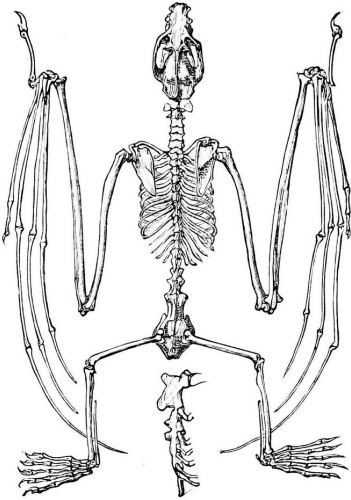
PTEROSAUR



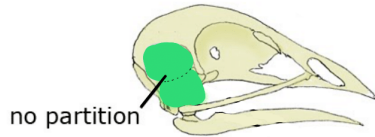
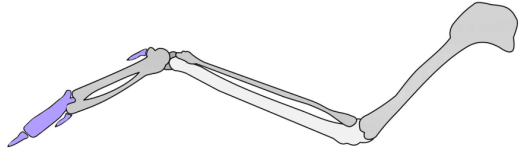
WHALE



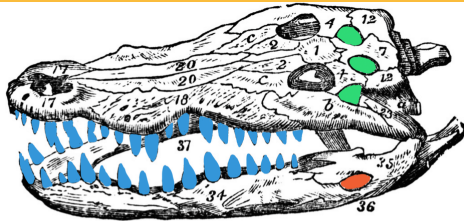
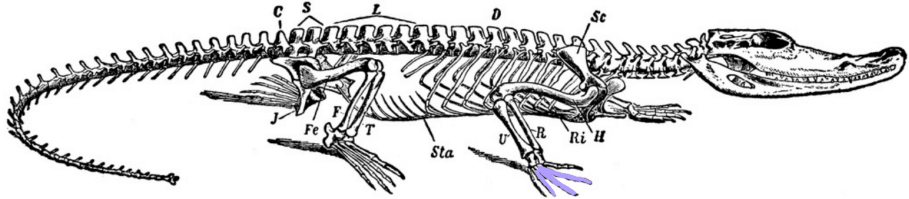
BAT



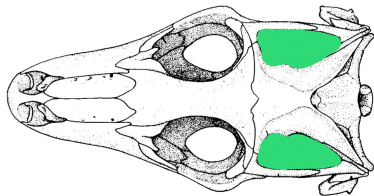
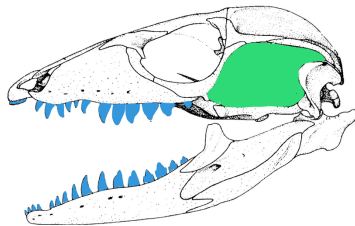
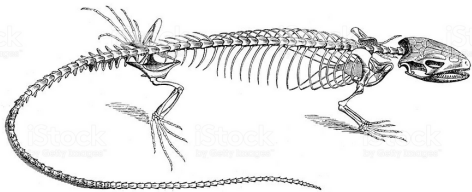
BIRD



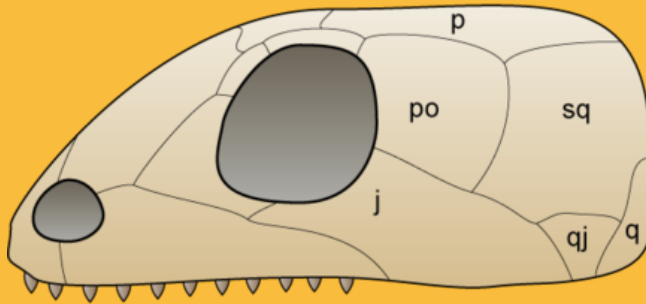
CROCODILE



LIZARD



LAST COMMON ANCESTOR



OBSERVATIONS

<u>Taxa</u>	# of skull fenestra	reduced 1st and 5th digits	mandibular fenestra	S-curve neck	lengthening of 4th digit	teeth in sockets
DINOSAUR						
PTEROSAUR						
WHALE						
BAT						
BIRD						
LIZARD						
CROCODILE						

ATG CGA GCC TCC TAA ACG GTA CGG CCG AGC



ATG CGA GCC TCC TAT ACG GTA CGG CCC AGC



AGG GGA TAC AGG AGA GAC TTA TAT TCA GCT



AGG GCA TAC AGG AGT GTC TTA TAT TCA GCA



AGG GGA TTC AGG AGT GAC TAA TAT TAA GCT



MAMMALIAN LINEAGE



OUTGROUP

ATG CGA GCC TCC TAA ACG GTA CGG CCG AGC

ATG CGA GCC TCC TAT ACG GTA CGG CCC AGC

ATG TGA GCC TAC TAA ACG GCA CGG CCC AGC



Eutherian (placental)
mammals specific



Bat lineage specific



Whale lineage specific

DIAPSID LINEAGE



AGG GCA TAC AGG AGT GTC TTA TAT TCA GCA



AGG GGA TAC AGG AGA GAC TTA TAT TCA GCT



AGG GGA TTC AGG AGT GAC TAA TAT TAA GCT

OUTGROUP

ACG GGA TAC AGC AGT GAC TAA TAT TAA GCT



Diapsid lineage
specific



Archosaur lineage
specific



Crocodile lineage
specific



Bird lineage
specific



Lizard lineage
specific

JOURNEY TO FLIGHT

