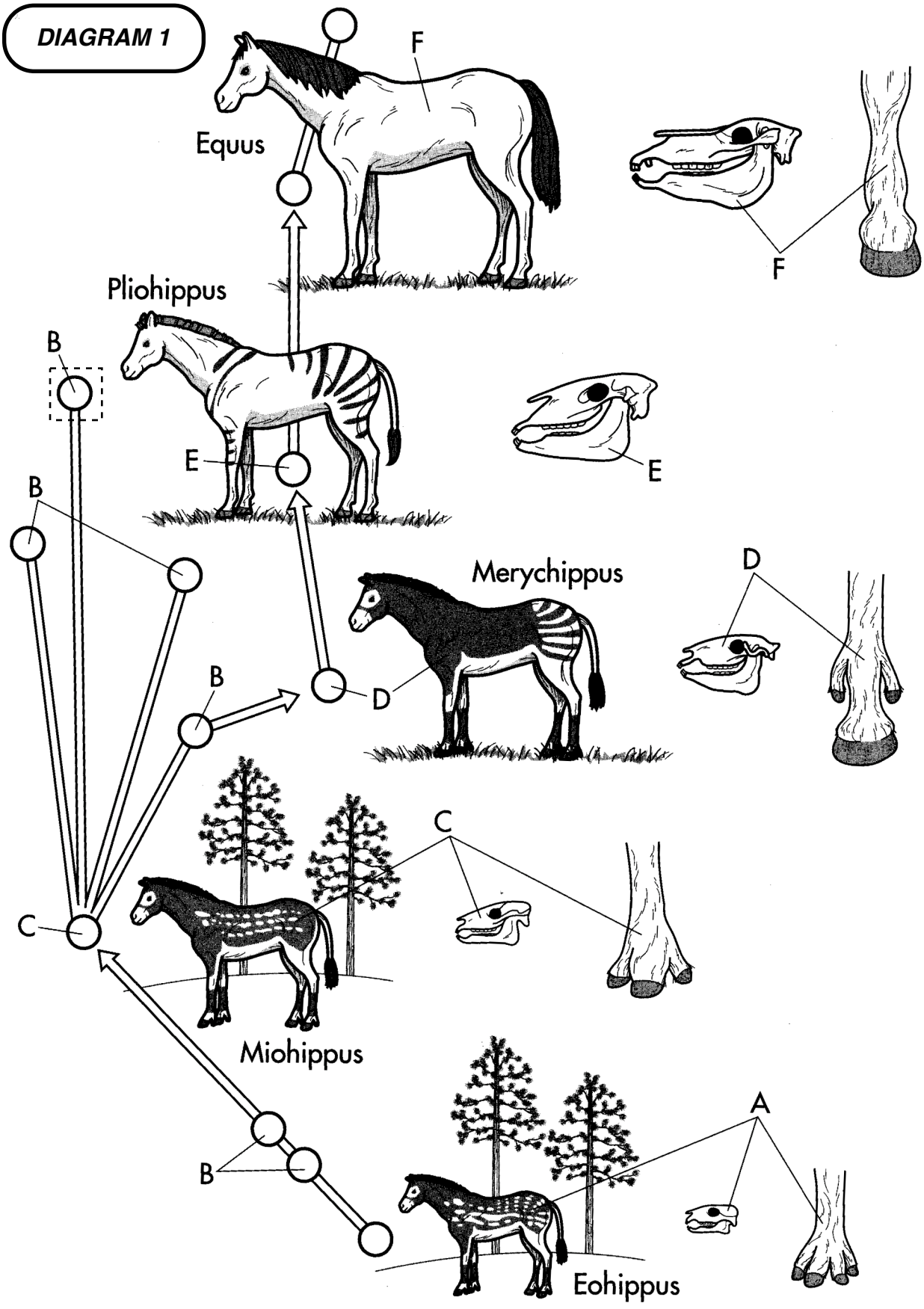
Evolution Name:

Horse Evolution Period:

DIAGRAM 1



-diagram from The Princeton Review Biology Coloring Book (1998) by I. Edward Alcamo

Evolution Name:

Horse Evolution Period:

DIAGRAM 2

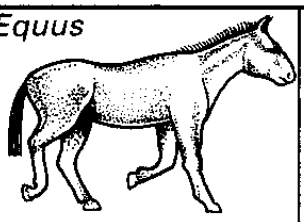
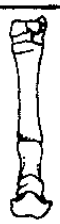
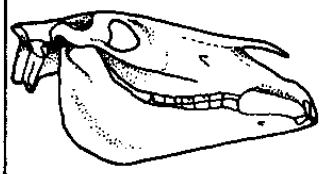
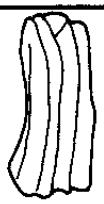
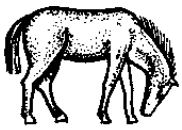
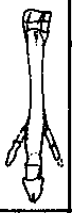
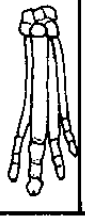
		LEG BONES	SKULL	TEETH (TOP VIEW)	TEETH (SIDE VIEW)	
RECENT AND PLEISTO-CENE	*Equus* 					grazers
PLIOCENE	*Pliohippus* 					
MIOCENE	*Merychippus* 					
	Parahippus 					browsers
OLIGOCENE	*Mesohippus* 					
EOCENE	*Hyracotherium* 					

diagram from Vertebrate Paleontology (2005) by Michael J. Benton

Evolution Name:

Horse Evolution Period:

For this exercise, you will be examining physical changes that occurred as animals evolved into the modern horse. You will need to use and interpret the two diagrams of horse evolution.

1. Look at the DIAGRAM 1. The modern horse is at the top. At the bottom is a very old ancestor of the modern horse. What happened to the size of the horse ancestors as they evolved?

2. Look at DIAGRAM 1 again, and closely examine the legs and feet of each type of horse ancestor. These details are found on the right side of the diagram. Compare them to the legs and feet of the modern horse.

   Eohippus has _____ toes touching the ground on each foot.

   Miohippus has _____ toes touching the ground on each foot.

   Merychippus has _____ toes on each foot, but only _____ touches the ground.

   Equus (modern horse) has only _____ toe that touches the ground on each foot.

3. Look at DIAGRAM 1 again. Each "B" represents other horse relatives that are not shown in detail on this diagram. Find the horse relative that is in a box by the nose of *Pliohippus*. Which is a closer relative to *Equus*, the relative in the box or *Pliohippus*?

   _____ is a closer relative.

   It is a closer relative because...

4. Look at the skulls in both DIAGRAM 1 and DIAGRAM 2. Below, list 2 changes that you notice in the skulls of the horse ancestors as they evolved.

   change #1—

   change #2—

5. Look at the leg bones in DIAGRAM 2. What happened to the number of bones in the leg as these animals evolved?

6. Look at the last 2 columns of drawings in DIAGRAM 2. These represent the teeth of each horse ancestor. What happened to the length of the teeth as these animals evolved?