## Light 3

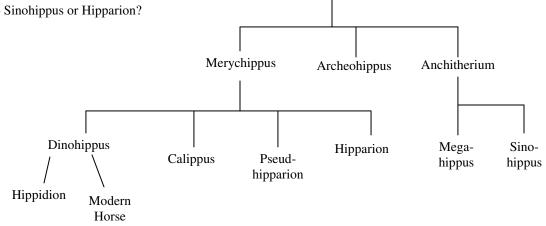
- Change the following to standard units.
  A) 340 nm to meters:
  - B) 45 MHz to Hz:
  - C) 23 nm to meters:
- 2. What is light (2 points) and where does it come from (1 point)?
- 3. Which has more energy: radio waves or visible light?
- 4. Which has a shorter wavelength: x-rays or microwaves?
- 5. Which has a higher frequency: gamma rays or ultraviolet light?
- 6. What is the speed of visible light?
- 7. What is the speed of x-rays?
- 8. What is the speed of gamma rays?
- 9. What device can we use to separate visible white light into its component colors?
- 10. If a radiowave has a 10,000 m wavelength, find its frequency.
- 11. Is the image you see in a flat mirror real or imaginary?
- 12. When you look in a mirror, what is the object?
- 13. What variable do we use for the object?
- 14. What variable do we use for the image?
- 15. What variable do we use for the height of the image?
- 16. What variable do we use for the height of the object?
- 17. If the image is upright, is it real or imaginary?
- 18. What is the difference between a real and imaginary image?
- 19. A 5 cm tall object is 10 cm from a concave mirror. If the focal length of the mirror is 6 cm:A) Assign variables.
  - B) Find the distance to the image.
  - C) Find the magnification of the mirror.
  - D) Find the height of the image.
  - E) Is the image real or imaginary?
- 20. Draw the color chart (with connecting lines).
- 21. What is the background in the RGB model?
- 22. What is the background in the CMYK model?

Use the CMYK model to answer the following.

- 23. What colors are needed to make Red?
- 24. How would you make cyan?
- 25. What two colors does magenta reflect?
- 26. So what color does magenta absorb?
- 27. What two colors does yellow reflect?
- 28. So what color does yellow absorb?

Use the Family Tree to answer the following.

- 29. Is Calippus closer related to Hipparion or Archeohippus?
- 30. Is Merychippus closer related to Calippus or Megahippus?
- 31. Is the Modern Horse closer to Anchitherium or Miohippus?
- 32. Is the Modern Horse closer to Sinohippus or Hipparion?



Miohippus