PreAP: Due Tues., Mar 21 (Assigned Fri., Mar 10)
Reg. Due Wed., Mar 22 (Assigned Mon., Mar 20)

Light 3

1. 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?