

DIPLOID and HAPLOID WORKSHEET

DIPLOID body cells always have an even number of chromosomes because the chromosomes are found in pairs (2n).
HAPLOID body cells only contain half the number of chromosomes (n).

Complete the following table of chromosome number in various species.

Species Name	# of chromosomes in diploid cells 2n	# of chromosomes in haploid cells n
Human	2n = 46	n = 23
House Fly		n = 6
monkey		n = 21
Bat	2n = 44	
King Crab	2n = 208	
Goat		n = 30
Rice	2n = 24	
Armadillo		n = 32
Chicken		n = 39
Leopard frog	2n = 26	

- What is the meaning of diploid? _____
- What cells in living organisms are diploid? _____
- What is the meaning of haploid? _____
- What cells in living organisms are haploid? _____
- What does the symbol 2n represent? _____
- What does the symbol n represent? _____
- The 2n number for dogs is 78. How many chromosomes would you find in a dog's blood cell? _____
- How many chromosomes would you find in a dog's sperm cell? _____
- If the sperm cell of a fruit fly has 4 chromosomes, then the number of chromosomes in each body cell is:
a) 2 b) 4 c) 6 d) 8 e) 16
- Of the following cells, the only one to have the haploid number of chromosomes is:
a) skin b) muscle c) nerve d) blood e) ovum

12. Put these parts of cells from the human body in order, from smallest (1) to biggest (4):

Gene _____ Nucleus _____ DNA _____ Chromosome _____

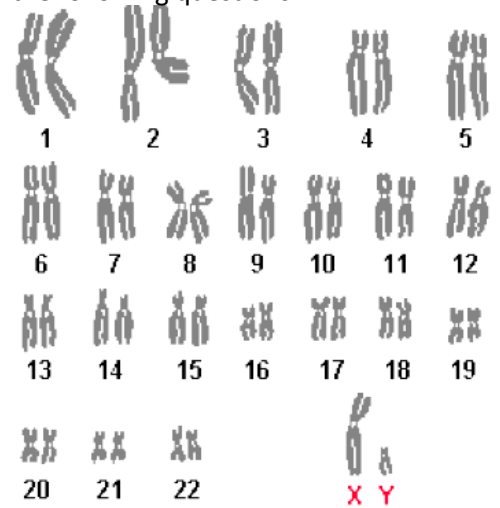
The picture on the right is of a **human** karyotype. Use the karyotype to answer the following questions.

13. How many pairs of chromosomes does this person have? _____

14. Is this person a male or female? _____ How do you know?

15. How many chromosomes are in a human's body cells? _____

16. How many chromosomes are in a human's sex cells? _____



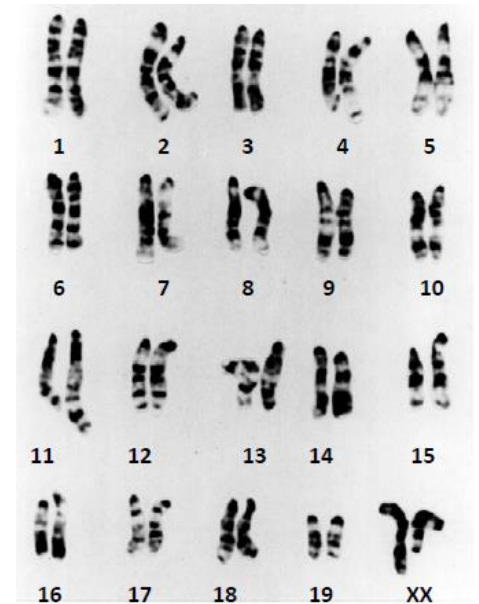
The picture on the right is of a **rat** karyotype. Use the karyotype to answer the following questions.

17. How many pairs of chromosomes does this rat have? _____

18. Is this rat a male or female? _____ How do you know?

19. How many chromosomes are in a rat's body cells? _____

20. How many chromosomes are in a rat's sex cells? _____



21. In the picture below,

A. **Color** the centromere RED

B. **Color** one sister chromatid GREEN

C. **Color** one sister chromatid BLUE

D. **Label** the bracket with the name of this structure

