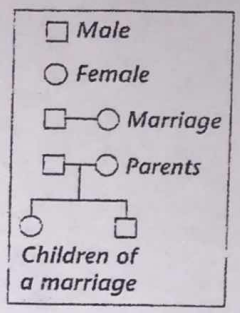
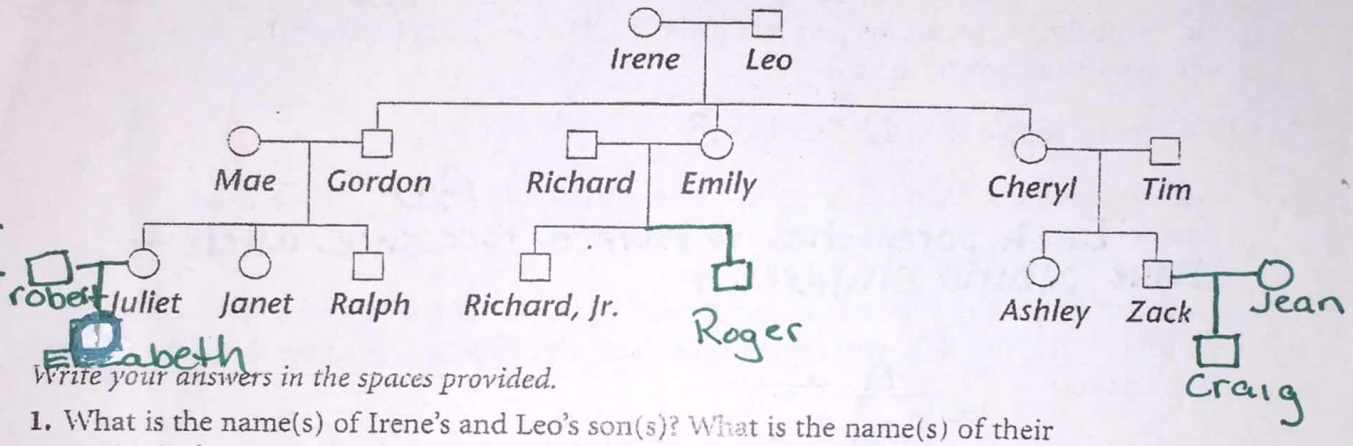
Making Pedigrees

A pedigree is a diagram that shows how traits are passed from one generation to the next in a family. A pedigree usually starts with a married couple in the first generation, and then shows their children in the second generation, their grandchildren in the third generation, and so on. Standard symbols are used to represent males, females, and the relationships among individuals, as shown in the figure below.



The sample pedigree below is similar to the pedigree you will create for the Chapter 4 Project. Study the sample pedigree, and then answer the questions that follow.

I
II
III



Write your answers in the spaces provided.

1. What is the name(s) of Irene's and Leo's son(s)? What is the name(s) of their son(s)-in-law?

Sons = Gordon son-in-law = Tim, Richard

2. How many grandchildren do Irene and Leo have? How many of their grandchildren are girls?

grandchildren = 6 girls = 3

3. What is the name of Ralph's father? What is the name of Ashley's mother?

Ralph's father = Gordon Ashley's mom = Cheryl

4. What is the name of Emily's son? What is the name of Tim's son?

Emily's son = Richard Jr. Tim's Son = Zack

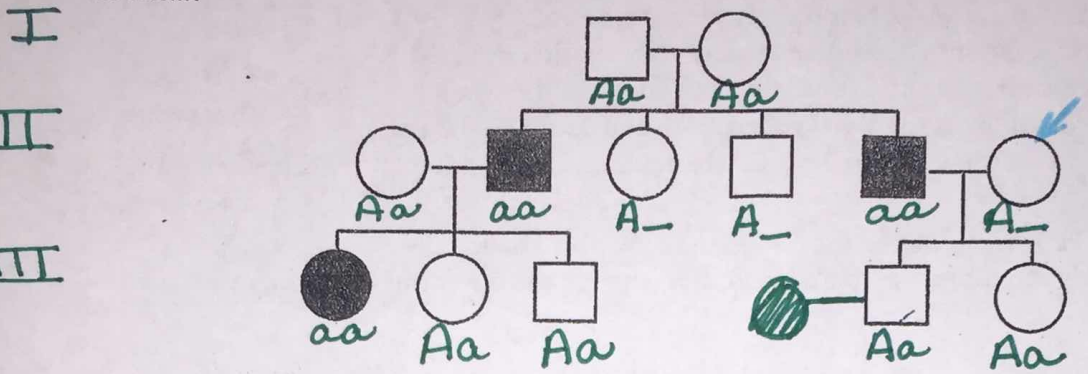
5. After this pedigree was made, Richard and Emily had another son, whom they named Roger. Juliet married a man named Robert and had a daughter named Elizabeth. Zack married a woman named Jean and had a son named Craig. Add all of these individuals to the pedigree.

(Attachment 1) Activity taken from Prentice Hall, Inc

SIMPLE PEDIGREE PRACTICE

Name_____ Pd_____

1. *Albinism* is a recessive disorder affecting humans. If someone has this disorder, they can not produce skin pigment, and have the genotype aa. The pedigree below shows people with *albinism*.

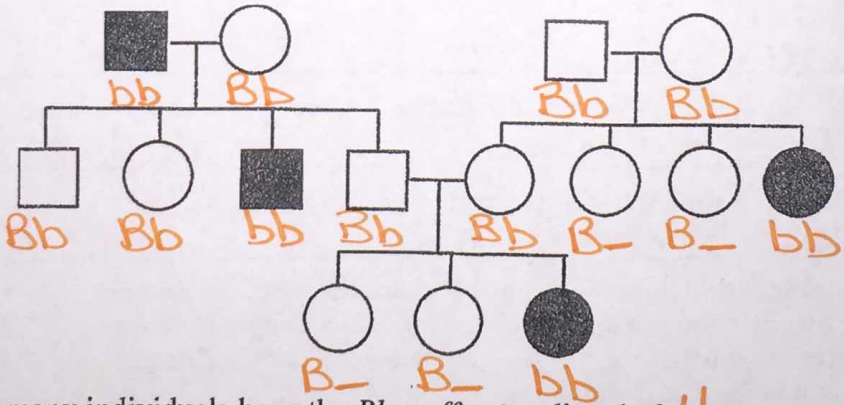


- On the pedigree, mark each person's genotype. If a dominant individual's genotype is unknown, write A___.
- How many people have the disorder? 3
- Both generation I-1 and I-2 must have what genotype? Aa How do you know? Each parent has to have a recessive allele to have albino children.
- If generation III-4 marries an albino woman and has a child, what is the probability that the child will have the disorder? Use a Punnett square to justify your answer.

	A	a
a	Aa	aa
a	Aa	aa

50%.

2. Some groups of people in rural Kentucky are affected with a skin disorder called *Blue offspring*, where the skin appears to be bright blue. The pedigree below shows people who have this disorder.



- How many individuals have the *Blue offspring* disorder? 4
- Look at generation I-3 and I-4. Neither of these people have the disorder, but their last daughter, II-8 does. What does this tell you about the disorder? Use a punnett square to justify your answer. recessive
- Fill in the genotypes for the pedigree, using the letter B.

	B	b
B	BB	Bb
b	Bb	bb