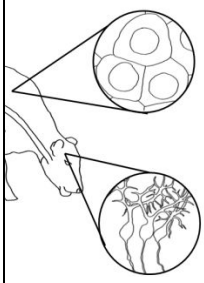
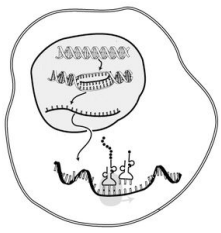
1.3 Exploring Human Albinism Name: _____ Hr: ___

Albinism is a group of inherited disorders that results in little or no production of the protein pigment melanin, which determines the color of the skin, hair and eyes. Melanin also plays a role in the development of certain optical nerves, so all forms of albinism cause problems with the development and function of the eyes. Other symptoms can include light skin or changes in skin color; very white to brown hair; very light blue to brown eye color that may appear red in some light and may change with age; sensitivity to sun exposure; and increased risk of developing skin cancer. Although there's no cure, people with the disorder can take steps to improve vision and avoid too much sun exposure. Most people with albinism live a normal life span and have the same types of medical problems as the rest of the population. Although the risk to develop skin cancer is increased, with careful surveillance and prompt treatment, this is usually curable

There are different types of albinism. One common type is called Oculocutaneous albinism (OCA) and involves the eyes, hair and skin. Individuals with OCA type 1A have an inactive tyrosinase protein. Tyrosinase is the enzyme that synthesizes melanin. If tyrosinase is inactive, the Melanocyte cells in the skin, hair, and eyes do not have melanin in their vesicles.

Adapted from - NIH https://rarediseases.info.nih.gov/diseases/5768/albinism

Organisms 	What is the observable trait? How do you think this trait might be influenced by heredity and the environment?
Cells 	How do cells influence the observable trait? What do you think is going on inside the cells?
Molecules 	What do you think is happening on the molecular level?