**Ch 2.4: Enzymes Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

As in all organisms, enzymes are critical for chemical reactions in humans. One reaction produces melanin, which gives skin a dark color. Melanin helps protect skin cells from ultraviolet radiation – the greater the exposure to UV radiation, the greater the production of melanin. Melanin is made from the amino acid tyrosine by an enzyme called tyrosinase. Without tyrosinase the reaction cannot take place, which causes a condition called albinism.

**Problem**

What happens if an enzyme is missing or defective?

**Research**

Research the effect of one of the following enzyme deficiencies:

* Phenylketonuria (PKU)
* Galactosemia
* Lactose intolerance

For the enzyme deficiency that you have selected:

1. Identify the enzyme involved and its function.

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1. Examine how a person’s health is affected by this enzyme deficiency.

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1. Find out how the deficiency is diagnosed.

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1. Describe the effects of not treating the deficiency.

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