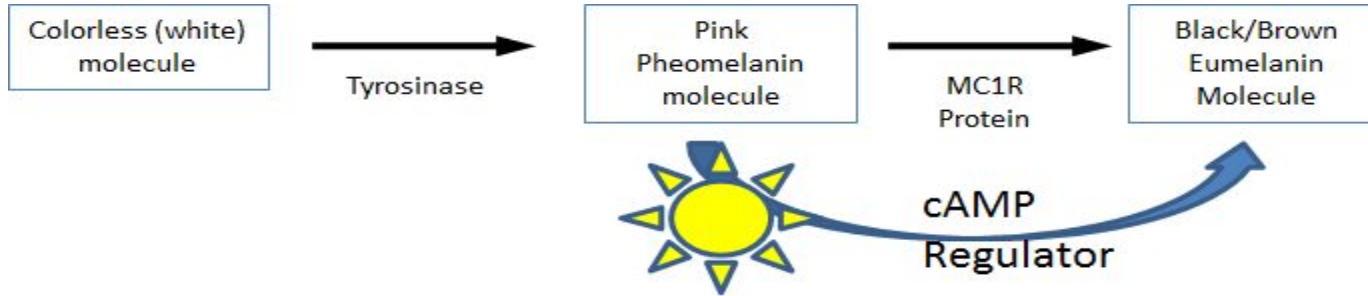


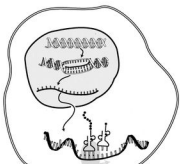


1.10 Explanations Tool - Why do some people tan and others burn?

Name: _____ Hr: ____

Use our gene model to explain why Julie tans and Debra burns in sunlight.



	Julie (tans)	Debra (burns)
<p>Organisms</p>  <p>How does the trait appear <i>in a sunny environment</i>? Is it harmful?</p>		
<p>Cells</p> <p>What do you think is going on inside the cells <i>in a sunny environment</i>?</p> 		
<p>Molecules</p> <p>What do you think is happening on the molecular level <i>in a sunny environment</i>?</p> 		

Skin Color in Different Environments

Lack of protection from sunlight has a major impact on human health. In Australia, the lifetime cumulative incidence of skin cancer approaches 50%, yet the oxymoronic “smart tanning” industry continues to grow. At the other end of the spectrum, inadequate exposure to sunlight can lead to vitamin D deficiency and rickets. (Adapted from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC212702/>)

Consider each Environment below. Describe which traits would be helpful and which traits would be harmful and why.

Environment 1 - Australia, a country with a lot of direct sunlight

Environment 2 - Norway, a country without a lot of direct sunlight