

# Module 6: DNA, RNA, and Molecular Genetics

## Topic 4 Content: Environmental Mutagens Notes

### Introduction



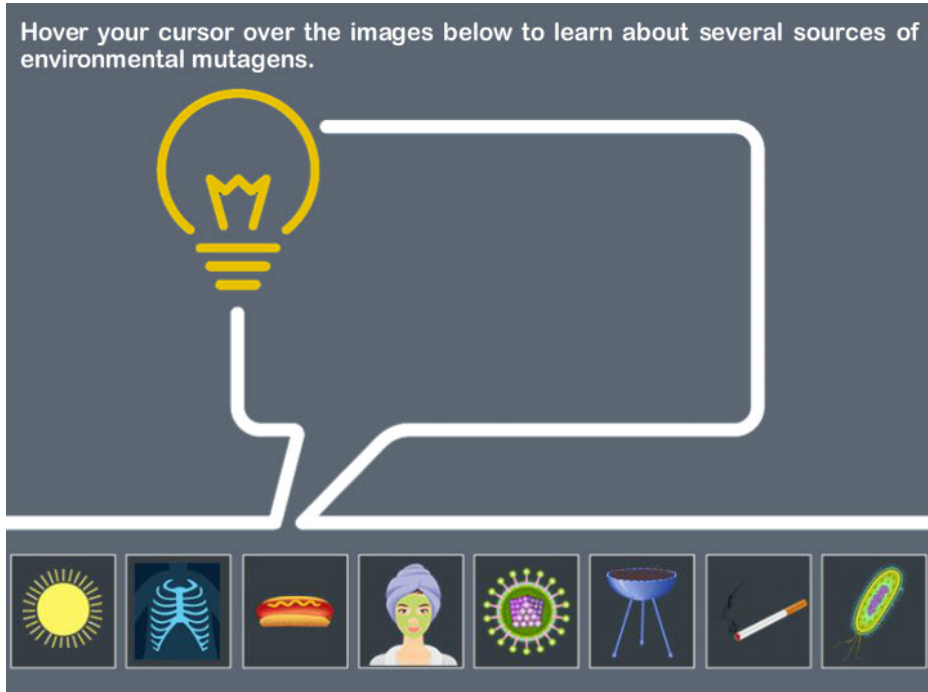
Environmental Mutagens.

## Module 6: DNA, RNA, and Molecular Genetics

### Topic 4 Content: Environmental Mutagens Notes

#### Instructions

Hover your cursor over the images below to learn about several sources of environmental mutagens.



The graphic consists of a dark grey rectangular area. At the top left, there is a yellow lightbulb icon. A white line extends from the bottom of the lightbulb, forming a speech bubble shape that points to the right. Below this, there is a horizontal row of eight small square icons, each representing a different environmental mutagen: a yellow sun, a blue ribcage, a hamburger, a person wearing a purple headscarf, a green virus-like particle, a blue grill, a lit cigarette, and a green microorganism.

Hover your cursor over each of the images to learn about several different environmental sources of environmental mutagens.

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#### UV Radiation

Hover your cursor over the images below to learn about several sources of environmental mutagens.

Natural sunlight and tanning beds produce UV radiation that affects the way the nitrogen bases interact with each other resulting in point mutations.

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### X-Rays

Hover your cursor over the images below to learn about several sources of environmental mutagens.

Over exposure to X-rays and gamma radiation can cause chromosomal mutations.

X-Rays

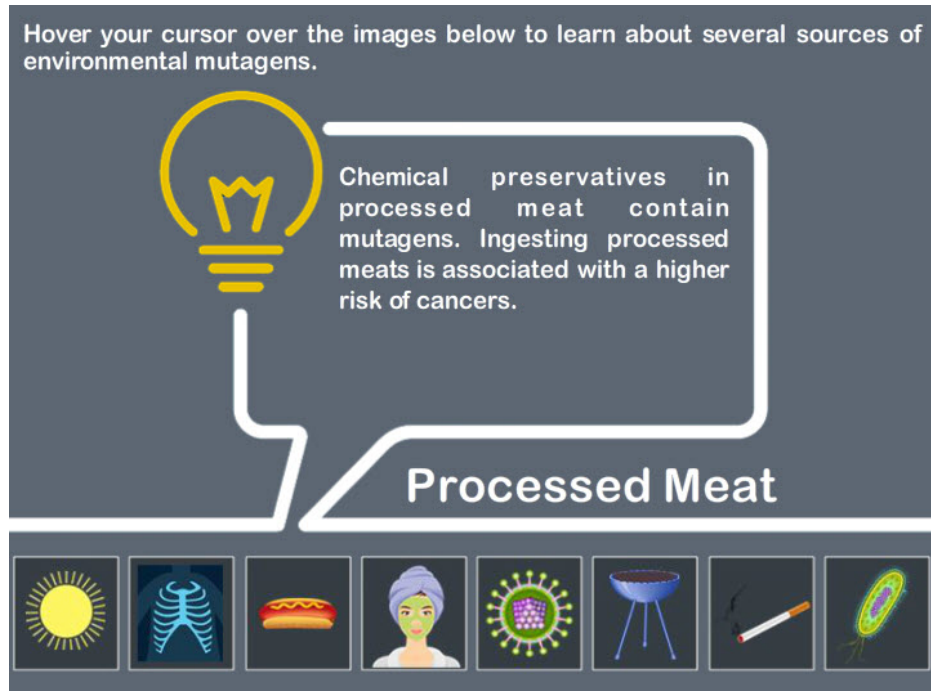
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#### Processed Meat

Hover your cursor over the images below to learn about several sources of environmental mutagens.



Chemical preservatives in processed meat contain mutagens. Ingesting processed meats is associated with a higher risk of cancers.

**Processed Meat**

The infographic includes a row of eight icons representing various environmental mutagens: a sun, a human ribcage, a hamburger, a woman's face, a virus, a grill, a cigarette, and a bacterium.

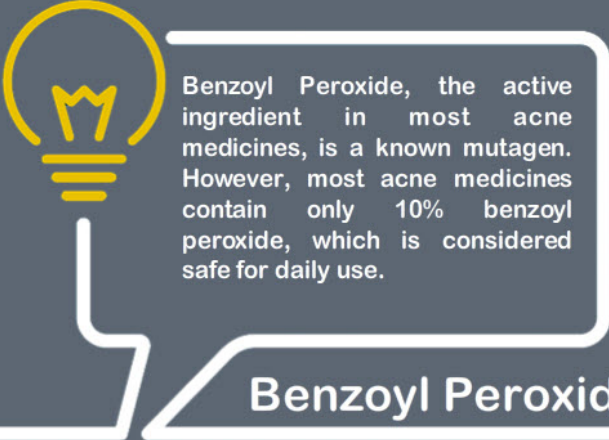
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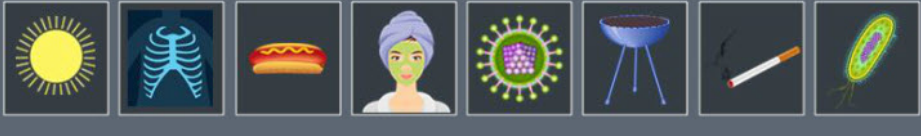
#### Benzoyl Peroxide

Hover your cursor over the images below to learn about several sources of environmental mutagens.



Benzoyl Peroxide, the active ingredient in most acne medicines, is a known mutagen. However, most acne medicines contain only 10% benzoyl peroxide, which is considered safe for daily use.

**Benzoyl Peroxide**



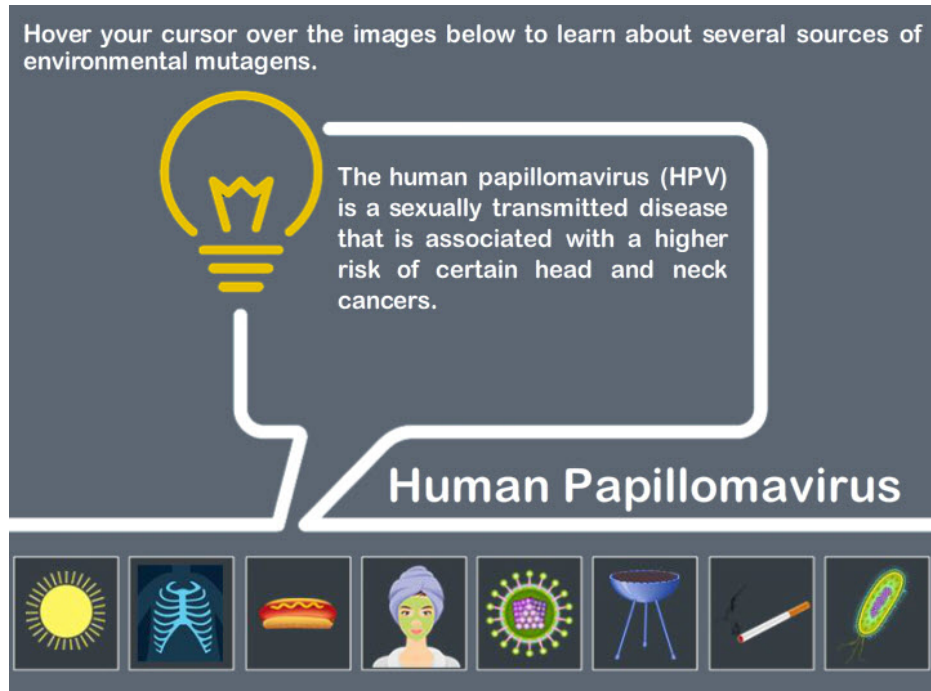
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#### Human Papillomavirus

Hover your cursor over the images below to learn about several sources of environmental mutagens.



The human papillomavirus (HPV) is a sexually transmitted disease that is associated with a higher risk of certain head and neck cancers.

**Human Papillomavirus**



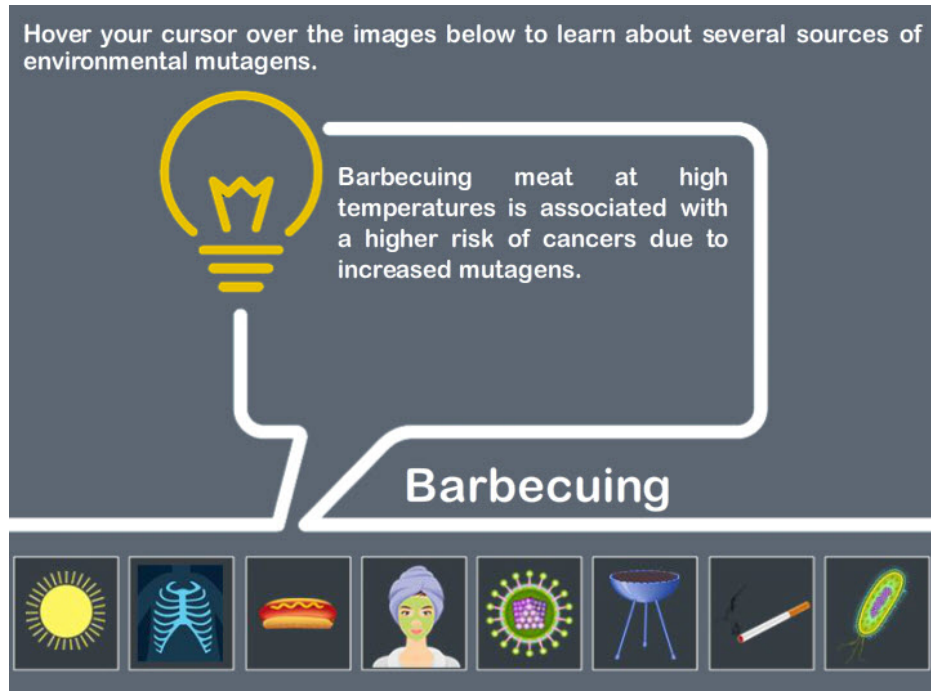
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#### Barbecuing

Hover your cursor over the images below to learn about several sources of environmental mutagens.



Barbecuing meat at high temperatures is associated with a higher risk of cancers due to increased mutagens.

Barbecuing



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### Cigarette Smoke

Hover your cursor over the images below to learn about several sources of environmental mutagens.

Cigarette smoke contains dozens of mutagenic chemicals.

Cigarette Smoke

The graphic includes a row of eight icons representing various environmental mutagens: a sun, a human ribcage, a hamburger, a woman with a headscarf, a virus, a charcoal grill, a cigarette, and a bacterium.

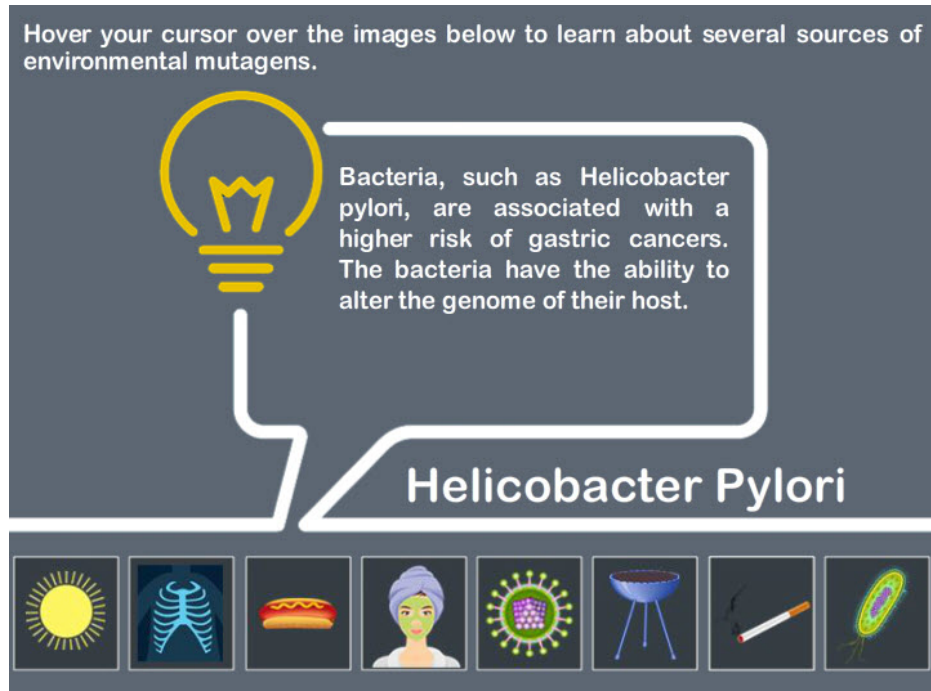
Cigarette smoke contains dozens of mutagenic chemicals.

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#### Helicobacter Pylori

Hover your cursor over the images below to learn about several sources of environmental mutagens.



The infographic features a dark grey background. At the top left, a yellow lightbulb icon is connected by a white line to a white speech bubble. Inside the speech bubble, the text reads: "Bacteria, such as Helicobacter pylori, are associated with a higher risk of gastric cancers. The bacteria have the ability to alter the genome of their host." Below the speech bubble, the name "Helicobacter Pylori" is written in white. At the bottom of the infographic is a horizontal row of eight small square icons: a sun, a human ribcage, a hamburger, a woman's face with a headscarf, a green virus-like particle, a blue charcoal grill, a lit cigarette, and a green rod-shaped bacterium.

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