PRACTICAL APPLICATIONS

Complete the practical application activities below. If you are unable to complete the activity, review the corresponding sections of the learning materials.

X-RAYS AND VISIBLE LIGHT

Use a check mark to indicate which of the statements below apply to x-rays and which apply to visible light. Note that some of the statements apply to both.

<table>
<thead>
<tr>
<th>Statement</th>
<th>X-RAYS</th>
<th>VISIBLE LIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can be aimed in the desired direction.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Can pass through a solid object.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Can be seen with the naked eye.</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Is a form of electromagnetic radiation.</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>

MAKING RADIOGRAPHS

Using the words listed below, fill in the blanks in the paragraph so that it correctly describes the formation of an image on x-ray film.

- lighter
- head
- absorbed
- dark
- diagnosis
- primary
- radiation
- chemical
- images

X-rays are produced within a tube located in the x-ray ___________. As the x-rays exit the cone of the machine, a ___________ beam is created. When x-rays strike the film, a ___________ reaction produces a ___________ area on the developed film. If an object is in the path, some of the radiation is ___________ by the object. This reduces the amount of ___________ penetrating to the film, resulting in a ___________ area on the film after processing. This contrast of light and dark areas produces _________ of tissue structures that the dentist can use to make a ___________.

PRACTICAL APPLICATIONS
In this section, human tissue that is especially sensitive to radiation is listed. CIRCLE the THREE that are most important in dental x-rays. The others are not affected by properly administered dental x-rays.

- cells of the embryo
- bone marrow
- red and white blood cells
- thyroid tissue
- gonadal tissue

RADIATION SAFETY AND INFECTION CONTROL

In the space provided next to each item, write a brief description of the way the item offers increased protection from exposure to radiation or exposure to infection.

- aluminum filter
- Position Indicating Device (PID)
- collimator
- control settings
- film holder
- lead foil in film
- high speed film
- lead apron and thyroid collar
- dosimeter badge
- removable barriers
- protective gloves or overgloves