

1  **HTML5 and CSS3**

TABLES AND COLUMNS

2  **HTML Tables**

- Tables are a systematic arrangement of data in rows and columns similar to a spreadsheet (e.g. Microsoft Excel):
 - For displaying text, images, links, forms and form fields, other tables, etc.
- The basic unit of every table is the cell which is the intersection of a row and column and is the smallest component of a table

3  **Tabular Data**

- HTML forms are best used for displaying tabular data
 - In older web documents tables were used for layout but should be avoided for that process now
- If what is placed on the page is information that would make sense to record or track in a *spreadsheet*, it is almost certainly tabular data
- If the information will have header fields at the top of the columns of data or to the left of the rows of data, then it likely is tabular

4  **KPAF Nightly Schedule**5  **Try It Out**

- Add your name and the date to the existing web document
- Add your name and the date to the two style sheet files
- Link the web document to the "kpa.css" style sheet


6  **Creating a Table in a Web Document**

- A table is a block inserted within the tags `<table> ... </table>`
- Rows are inserted within the table using the tags `<tr> ... </tr>`
- Cells are inserted into the row's using the tags `<td> ... </td>`
- Creating a table example:

```
<table>
  <tr>
    <td>Some data</td>
    <td>More data</td>
    <td>End of line</td>
  </tr>
</table>
```

7  **Adding Table Headers—Page 1**

- Table headers are titles displayed in bold and centered above each of the columns of the table
- To create headers over each column, the developer uses `<th>` tags within the first `<tr>` (row) of the table
 - Theoretically headers could be placed into any row
 - Also they might be placed in the first column of rows
- There usually should be as many headings as there are columns in the table

8  **Adding Table Headers—Page 2**

- Format:
 - `<th>content</th>`
- Example:
 - `<tr>`
 - `<th>Time</th>`
 - `<th>Monday</th>`
 - `<th>Tuesday</th>`

```

    <th>Wednesday</th>
    <th>Thursday</th>
    <th>Friday</th>
    <th>Saturday</th>
    <th>Sunday</th>
  </tr>

```

9 Try It Out

- Insert the web table
- Insert the table headings
- Insert table data for the next two rows of the table

10 Adding Table Borders—Page 1

- In a table the border is/are the lines that are displayed around the table and around all cells
- The border attribute sets the width of the border value as a valid CSS unit of measure
- A value of zero (0) will turn off all borders around and within the table, the default in a web table
- The border attribute for the table does not control the width of borders around cells, but must be set on for cell borders to display

11 Adding Table Borders—Page 2

- Format:
 - `<table border="value">`
- Example:
 - `<table class="schedule" border="1">`

```

      <tr>
        <td>Some data</td>
        <td>More data</td>
        <td>End of line</td>
      </tr>
    </table>

```

12 Try It Out

- Add a border to the table

13 Spanning Rows and Columns—Page 1

- The colspan attribute formats a cell to span a distance of more than one column
 - The number of cells defined in the row should be reduced by the colspan size
- The rowspan attribute formats a cell to span a distance of more than one row
 - Cell(s) within the same column in the row(s) below rowspan cells will not be defined
- The colspan and rowspan attributes only may be used in a `<td>` cell tag

14 Spanning Rows and Columns—Page 2

- Format for colspan:
 - `<td colspan="columns">`
- Example:
 - `<table border="1">`

```

      <tr>
        <td colspan="2">1st cell in row 1</td>
      </tr>
      <tr>
        <td>1st cell in row 2</td>
        <td>2nd cell in row 2</td>
      </tr>
    </table>

```

```

    <tr>
      <td>1st cell in row 3</td>
      <td>2nd cell in row 3</td>
    </tr>
  </table>

```

15 Spanning Rows and Columns—Page 3

- Format for rowspan:
 - `<td rowspan="rows">`
- Example:
 - `<table align = "center" width = "50%">`

```

    <tr>
      <td rowspan="2">1st cell in row 1</td>
      <td>2nd cell in row 1</td>
    </tr>
    <tr>
      <td>2nd cell in row 2</td>
    </tr>
    <tr>
      <td>1st cell in row 3</td>
      <td>2nd cell in row 3</td>
    </tr>
  </table>

```

16 Try It Out

- Create cells that span several columns
- Span several table rows
- Add the remaining KPAF evening program

17 Adding a Table Caption—Page 1

- A table caption is a centered title displayed above (or possibly) below the entire table
- The caption tag must be placed after the table tag to insert the caption and only one is allowed in the table
- The default position for the caption is the top row of the table (to place the caption under the table, the optional `valign` attribute is used with the value set to `bottom`)

18 Adding a Table Caption—Page 2

- Format:
 - `<caption [valign="bottom"]>content</caption>`
 - ✦ The `valign` attribute inside [brackets] is optional
- Example:
 - `<table class="schedule" border="1">`

```

    <caption>All Times Central</caption>
    <tr>
      <th>Time</th>
      <th>Monday</th>
      <th>Tuesday</th>
      <th>Wednesday</th>
      ...
    </tr>

```

19 Try It Out

- Create a caption for the table

20  **Creating Row Groups—Page 1**

- HTML tables provide three section types for creating groups of rows that can be formatted as a unit
 - `thead`—for heading elements in a table; must appear first and only one per table
 - `tfoot`—for footer elements in a table; must appear second and only one per table
 - `tbody`—for the row content of the table; appears last and may include any number of `tbody` elements for grouping of table row sections

21  **Creating Row Groups—Page 2**

- Formats:
 - `<thead>`
 `rows`
 `</thead>`
 - `<tfoot>`
 `rows`
 `</tfoot>`
 - `<tbody>`
 `rows`
 `</tbody>`

...

22  **Try It Out**

- Mark the row groups

23  **Creating Column Groups—Page 1**

- Columns are creating implicitly from cells that are inserted into rows, so there is no HTML tag to mark table columns
- The `colgroup` block tag creates groups of one or more columns so that an entire column (or columns) can be formatted as a unit
- Must be inside a table block, after any caption elements and before any `thead`, `tbody`, `tfoot` and `tr` elements
- Format:
 - `<colgroup>`
 `columns`
 `</colgroup>`

24  **Creating Column Groups—Page 2**

- The `col` tag defines the column(s) in the group
 - It has a `span` attribute which designates that there is more than one column in a group (default is one column)
- Format:
 - `<colgroup>`
 `<col class="className" [span="value"] />`
 `<col class="className" [span="value"] />`
 `...`
 `</colgroup>`

25  **Creating Column Groups—Page 3**

- Format:
 - `<table class="schedule" border="1">`
 `<caption>All Times Central</caption>`
 `<colgroup>`
 `<col class="firstCol" />`
 `<col class="dayCols" span="7" />`

```
</colgroup>
```

```
...
```

26 Try It Out

- Mark the column groups

27 Creating a Table Summary

- The summary attribute for a table specifies a summary of the table's content
- Normally has no visual effect but can be used by screen readers when listening to each cell might be cumbersome
- Format:
 - `<table summary="description"> ... </table>`
- Example:
 - `<table summary="This table contains the nightly ... ">`

```
...
```

```
</table>
```

28 Try It Out

- Add a summary to the table

29 Formatting Tables with HTML Attributes

- Many older web pages prior to CSS used HTML attributes to format table, e.g.:
 - Cell spacing
 - Cell padding
 - Widths
 - Row heights
 - Border properties
 - Aligning cell contents
 - Vertical alignment

30 Try It Out

- Link the web document to the "tables.css" stylesheet
- Delete the border attribute from the `<table>`
- Add the table border styles (`<table>`, `<th>` and `<td>`)

31 Separate vs. Collapse Borders—Page 1

- The border-collapse property draws borders as follows:
 - separate—borders around the table and around the cells are separate (default)
 - collapsed—borders for the table and cells are "collapsed" onto each other
- Format :
 - `border-collapse: separate | collapse | initial | inherit;`
- Example:
 - table


```
{
    border-collapse: collapse;
}
```

32 Separate vs. Collapse Borders—Page 2

- If border-collapse is set separate, the space between the borders can be set using the border-spacing property
- Format :
 - `border-spacing: value;`
- Example:
 - table


```
{
    border-collapse: separate;
```

```
border-spacing: 10px;
```

```
}
```

33 **Try It Out**

- Collapse the cell borders
- Set the text and background styles in the table
- Set the width of the table
- Set the width of the table columns
- Set the height of the table rows
- Place the program names at the top of each table cell (vertically) (as well as add cell padding)

34 **Setting Caption Styles**

- Captions by default are centered vertically at the top of a table but can be positioned at the bottom with caption-side property

- Format:

```
caption-side: top | bottom | initial | inherit;
```

- Example:

```
table caption
{
  caption-side: bottom;
  text-align: right;
```

```
}
```

35 **Try It Out**

- Apply a style to the table caption
- Display the introductory paragraph in two columns (not a table technique)

36 **Using figure and figcaption with Tables—Page 1**

- HTML tables are “figures” just as are illustrations, diagrams, photos, code listings, etc.

- A <figure> block can be wrapped around a table

- The <figcaption> tag can be used to provide a caption for the table

37 **Using figure and figcaption with Tables—Page 2**

- Format:

```
<figure>
  <figcaption>content</figcaption>
  <table>
```

```
  ...
```

```
</table>
```

```
</figure>
```

38 **Using figure and figcaption with Tables—Page 3**

- Example:

```
<figure id="table">
  <figcaption>The KPAF Evening Lineup</figcaption>
  <table class="schedule">
```

```
  ...
```

```
</table>
```

```
</figure>
```

39 **Try It Out**

- Add a <figure> and <figcaption> around the table
- Format the <figure> and <figcaption> from the stylesheet

40 **Nested Tables**

- One table can be placed inside (nested within) another table by placing the new table within a `<td>...</td>` block

- Example:

```
<table>
  ...
  <tr>
    ...
    <td>
      <table>
        ...
      </table>
    </td>
  </tr>
  ...
</table>
```

41 **Try It Out**

- Place a “sub” table in “The Classical Music Connection” table detail `<td>`