

Website Navigation

Web Development

Time: 60 mins

Introduction

In this class, student/s will learn to create a navigation bar using unordered lists in HTML. Student/s will also learn to style the navigation bar in CSS and style the navigation items as the mouse hovers over them using pseudo-selectors to make exploring the school website more delightful.

HTML Tags & CSS Properties Introduced

- `` Ordered list tag creates a list which can start with 1,2,... or A, B, ..., a, b,..., I, II, ..., i, ii, ...
- `` Unordered list tag create a list with bullets/ circles/ squares.
- `` List tag is used to enumerate an item in a list.
- `` "a" stands for anchor tag. It is used to add hyperlinks to a webpage.

Vocabulary

- **Lists** allow you to group a set of items. There are two types of lists: Ordered lists which list items by numbering them. Unordered lists are marked with bullets instead of numbering.
- **Anchor** tag is used to add hyperlinks to a webpage. The URL link to be navigated to is mentioned as a value to the attribute 'href'.
- A **pseudo-selector** is a keyword added to a CSS selector that specifies a special state of the selected tag/element. For example, ":hover" can be used to style when a mouse hovers over the tag/element.
- **Nesting** is enclosing a selector inside another selector in CSS. e.g. to style only anchor tags placed within `` tag, we use the nesting selector as

```
li a {  
    /* CSS properties */  
}
```

Learning Objectives

Student/s should be able to:

- **Recall** how to style tags using CSS properties.
- **Demonstrate** how to create ordered and unordered lists.
- **Demonstrate** how to add hyperlinks to a webpage.
- **Explain** how to style a specific tag nested in another tag.
- **Create** and style the navigation bar for the school website and style the navigation items as the mouse

hovers over them using a pseudo selector in CSS.

Activities

1. Class Narrative: (2 mins)

- Brief the student/s that no website is complete without a navigation bar. Visitors can easily explore the website sections or web pages with a navigation bar.

2. Concept Introduction Activity: (5 mins)

- Let the student/s play the explore-activity and observe that the navigation bar has multiple items which on-click help to navigate to different sections of the webpage.
- Using the slides, explain how:
 - to create the navigation bar items
 - to style the navigation bar
 - to style the navigation items as the mouse hovers over them using CSS.

3. Activity 1: Create the Navigation Bar Items: (12 mins)

Teacher Activity: (6 mins)

- Explain to the student/s how to create ordered and unordered lists in HTML.
- Explain how to create the navigation bar using the `` tag, add the names of two sections in it using the `` tag, and provide a hyperlink to it using the `<a>` tag.
- Explain the use of 'href' attribute of the anchor tag `<a>` which accepts the URL to navigate to use ordered lists to add skills.
- Show how to change the bullet style or numbering style to the lists using the 'type' attribute of the `` and `` tags.

Note: The '#' in the URL of the 'href' attribute of the anchor tag `<a>` allows users to navigate to different sections within the same webpage.

Student Activity: (6 mins)

- Guide the student/s to create the navigation bar using ``, ``, and `<a>` tags. Also, guide the student/s to display ordered lists in the webpage content.

4. Activity 2: Style the Navigation Bar: (10 mins)

Teacher Activity: (6 mins)

- Explain to the student/s the need to style the navigation bar and lead them to use an external CSS file to style multiple elements together.
- Demonstrate to the student/s the below-mentioned CSS properties by changing values as shown below one by one.

Tag to be styled	CSS Property	Value
ul	list-style	circle, disc, square, none none
	text-align	left, right, center center
	font-size	any numeric value (unit pixels) 20px

	margin	any numeric value (unit pixels) 0px
	position	sticky (This makes the navigation bar always visible on screen even when scrolled down.)
	top (This property is used along with position as sticky to place the navigation bar on top when scrolled.)	any numeric value (unit pixels) 0px
	padding-top	any numeric value (unit pixels) 20px
	padding-bottom	any numeric value (unit pixels) 20px
	background-color	color name or hexadecimal color code #340969
a	color	color name or hexadecimal color code white
	text-decoration	none
	margin-right	any numeric value (unit pixels) 40px
	padding	any 4 numeric values (when the values for each side differ) (unit pixels) 0px 15px 0px 15px
li	display	inline-block Note: Highlight to the student/s that it has also changed the display of list items placed in both ordered and unordered list. Explain to the student/s that, we can use nesting in CSS such that style is applied only to unordered list items.
ul li	display	inline-block

Student Activity: (4 mins)

- Guide the student/s to style the navigation bar by updating the values of CSS properties within the style.css file.

Probing question: What property adds a gap between the border and the content?

Expected answer: padding

5. Activity 3: Style on Mouse Hover: (10 mins)

Student Activity: (10 mins)

- Highlight to the student/s that each heading name looks different in style when the mouse hovers over it.
- Guide the student/s to add styling properties in the style.css file in the below order.

Tag to be styled	CSS Property	Value	Expected output/ reasoning
ul:hover	color background-color	#4105a2 #f3f348	Highlight to the student/s that the hover effect is applied all around the ul tag which is not expected.
ul li:hover			Highlight to the student/s that the hover effect is applied but navigation ease is not achieved as it still styles an extra space after the heading.
ul li a:hover			Explain to the student/s that adding a hover effect should ease navigation (highlight only clickable area) and hence the tag to be styled is "ul li a".
a	border-radius	5px	This adds a rounded cornered border around all the anchor tags placed within unordered lists.
a	transition	0.5s ease	This adds a transition effect that plays for a duration of 0.5 seconds.

Note: Ask the student/s to check the output after each step.

6. Introduce the Post class project: (2 min)

- Add and style the navigation bar of the Bluestone Zoo website.

7. Test and Summarize the class learnings: (5 mins)

- Check for understanding through quizzes and summarize learning after respective missions.
- Summarize the overall class learning towards the end of the class.

8. Additional activities:

- Encourage the student/s to style the font on hover using CSS properties.
- Encourage the student/s to create an unordered list within an ordered list.

9. State the Next Class Objective: (1 min)

- We will learn about flexbox property, iframe, and google maps integration, and create the About and Footer section of the school website.

U.S. Standards:

CSTA: 2-AP-13

Links Table		
Activity	Activity Name	Link
Class Presentation	Website Navigation	https://s3-whjr-curriculum-uploads.whjr.online/ae255a5c-a38a-4051-81b3-7d71ca945297.html

Explore Activity	Website Navigation: Explore link	https://tynker.com/code/view/636b85accce0523de1546712/
Teacher Activity 1	Create the Navigation Bar Items	https://tynker.com/code/project/636b7bb22e924e1809604752
Teacher Activity 1 Solution	Create the Navigation Bar Items - Solution	https://tynker.com/code/project/636b65bb5b199018096e12d2
Student Activity 1	Create the Navigation Bar Items	https://tynker.com/code/project/636b82eb368c725ef4739ca3
Teacher Reference: Student Activity 1 Solution	Create the Navigation Bar Items - Solution	https://tynker.com/code/project/636b8248c1fa0d68382044c2
Teacher Activity 2	Style the Navigation Bar	https://tynker.com/code/project/6385c89964cca7549f317462
Teacher Reference: Teacher Activity 2 Solution	Style the Navigation Bar - Solution	https://tynker.com/code/project/6385c9a0232fb85e4159ef72
Student Activity 2	Style the Navigation Bar	https://tynker.com/code/project/636b848cc21984730f612072
Teacher Reference: Student Activity 2 Solution	Style the Navigation Bar - Solution	https://tynker.com/code/project/636b83b309a44806124bd902
Student Activity 3	Style on Mouse Hover	https://tynker.com/code/project/636b86a12b4a40720f76b0e2
Teacher Reference: Student Activity 3 Solution	Style on Mouse Hover - Solution	https://tynker.com/code/project/636b85accce0523de1546712
Student's Additional Activity 1	Style the Font on Hover	https://tynker.com/code/project/636b88b0f0f6013c18678527
Teacher Reference: Student's Additional Activity 1 Solution	Style the Font on Hover - Solution	https://tynker.com/code/project/636b877f701ff122587adb42
Student's Additional Activity 2	Create Nested Lists	https://tynker.com/code/project/636b8b2925149252363d18b2
Teacher Reference: Student's Additional Activity 2 Solution	Create Nested Lists - Solution	https://tynker.com/code/project/636b89adbfd6810b57516a32
Post Class Project	Navigating the Zoo's Website	https://tynker.com/code/project/63616abed1eb3f57a610bab2
Teacher Reference: Post Class Project Solution	Navigating the Zoo's Website - Solution	https://tynker.com/code/project/6360affd3fecc5668d45f872

