

DWA_02.8 Knowledge Check_DWA2

1. What do ES5, ES6 and ES2015 mean - and what are the differences between them?

- These are different versions of the ECMAScript standard.
- ES2015 is another name for the ES6 version, or more accurately it is the date suffixed version. This is used purely to reflect the year in which the version was released.
- ES5 was released in 2009 and was one of the earlier versions of ECMAScript. It supports primitive data types and is widely supported by web browsers.
- The main differences between ES5 and ES6 are:
 - ES5 uses var for variable declaration while ES6 makes use of let and const.
 - With ES6 variables declared using let and const are block-scoped.
 - ES6 has higher performance than ES5
 - ES6 introduced arrow functions.

2. What are JScript, ActionScript and ECMAScript - and how do they relate to JavaScript?

- JScript was Microsoft's reverse engineered version of JavaScript, which they created because at the time Javascript was exclusively safe-guarded by the Netscape team.
 - ActionScript is another JavaScript knock-off language that was created by Macromedia.
 - ECMAScript is the single standardized language, that was adopted in 1997, which was a union of what was previously known as JavaScript and JScript. (this is still most commonly referred to as JavaScript today as the name ECMAScript never quite caught on.)
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3. What is an example of a JavaScript specification - and where can you find it?

- Below is an example of a JavaScript specification:

22.1.1 The String Constructor

The String `constructor`:

- is `%String%`.
 - is the initial value of the `"String"` property of the `global object`.
 - creates and initializes a new String object when called as a `constructor`.
 - performs a type conversion when called as a function rather than as a `constructor`.
 - is designed to be subclassable. It may be used as the value of an `extends` clause of a class definition. Subclass constructors that intend to inherit the specified String behaviour must include a `super` call to the String `constructor` to create and initialize the subclass instance with a `[[StringData]]` internal slot.
- Official JavaScript specifications can be found in the ECMA 262 document.
 - The latest version of this document is available on TC39's official website or on the TC39 github repository page (<https://github.com/tc39>).
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4. What are v8, SpiderMonkey, Chakra and Tamarin? Do they run JavaScript differently?

- These are some of the most well-known JavaScript compilers.
- **V8**: Developed by Google, V8 is an open-source, high-performance JavaScript and WebAssembly engine written in C++. It's used in Google Chrome and Node.js among others.
- **SpiderMonkey**: SpiderMonkey is Mozilla's JavaScript and WebAssembly Engine. It's used in Firefox, Servo, and various other projects. SpiderMonkey is written in C++, Rust, and JavaScript.
- **Chakra**: Chakra is a JavaScript engine developed by Microsoft. It was used in the Microsoft Edge Legacy web browser and is a fork of the same-named JScript engine used in Internet Explorer. Chakra is written in C++.
- **Tamarin**: Tamarin is a discontinued open-source virtual machine with just-in-time compilation (JIT) support intended to implement the 4th edition of the ECMAScript (ES4) language standard. Tamarin's source code originates from ActionScript Virtual Machine 2 (AVM2) developed by Adobe Systems.
- Each of these engines has its own way of parsing and executing JavaScript code, which can lead to differences in performance and compatibility. However, they all aim to adhere to the ECMAScript standard.

[references]:

1. Google Developers. (2021). V8 JavaScript Engine. Retrieved from <https://v8.dev/>
2. Mozilla Developer Network. (2021). SpiderMonkey. Retrieved from <https://developer.mozilla.org/en-US/docs/Mozilla/Projects/SpiderMonkey>
3. Microsoft Docs. (2021). Chakra (JScript9) JavaScript engine. Retrieved from [https://docs.microsoft.com/en-us/previous-versions/windows/internet-explorer/ie-developer/scripting-articles/hh673549\(v=vs.94\)](https://docs.microsoft.com/en-us/previous-versions/windows/internet-explorer/ie-developer/scripting-articles/hh673549(v=vs.94))
4. Adobe Systems Incorporated. (2008). Tamarin Project. Retrieved from <https://www-archive.mozilla.org/projects/tamarin/>
5. ECMAScript. (2021). ECMAScript® 2021 Language Specification. Retrieved from <https://www.ecma-international.org/publications-and-standards/standards/ecma-262/>

5. Show a practical example using caniuse.com and the MDN compatibility table.

The screenshot shows the MDN Web Docs page for the `AbortController` API. The page includes a sidebar with navigation links, a main content area with a compatibility table, and a right sidebar with additional information.

The compatibility table example shows the following data:

	Chrome	Edge	Firefox	Opera	Safari	Chrome Android	Firefox for Android	Opera Android	Safari on iOS	Samsung Internet	WebView Android	Deno	Node.js
<code>AbortController</code>	66	16	57	53	12.1	66	57	47	12.2	9.0	66	1.0	15.0.0
<code>AbortController()</code> constructor	66	16	57	53	12.1	66	57	47	12.2	9.0	66	1.0	15.0.0
<code>abort</code>	66	16	57	53	12.1	66	57	47	12.2	9.0	66	1.0	15.0.0
<code>signal</code>	66	16	57	53	12.1	66	57	47	12.2	9.0	66	1.0	15.0.0


Tip: you can click/tap on a cell for more information.


caniuse.com/search=img

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HTML element: 

Usage % of all users 78.03%

Global

Current aligned

Usage relative

Date relative

Filtered All

Chrome	Edge	Safari	Firefox	Opera	IE	Chrome for Android	Safari on iOS	Samsung Internet	Opera Mini	Opera Mobile	UC Browser for Android	Android Browser	Firefox for Android	QQ Browser	Baidu Browser	KaiOS Browser
4-123	12-123	3.1-17.3	32-124	10-12.1	6-10		3.2-17.3	4-23		12-12.1		2.1-4.3				
124	124	17.4	125	109	11	124	17.4	24	all	80	15.5	4.4-4.4.4	124	125	14.9	13.52
125-127		17.5-TP	126-128				17.5									2.5


Notes



Test on a real browser

Sub-features

Feedback

See full reference on [MDN Web Docs](#).

Support data for this feature provided by:
 MDN browser-compat-data

SVG in HTML   - LS

Usage % of all users 98.25% + 0.04% = 98.29%

Global

Current aligned

Usage relative

Date relative

Filtered All

Method of displaying SVG images in HTML using ``.