

Geologic Timeline CAPI

Object	Property	CAPI name	Type (Valid Values)	Read/Write	Student Interface Element	Default	Notes	Warnings
Control	Enable/disable tooltips	Tooltip	true/false	rw	none	true	Controls whether or not the event name and time appear when a pin is hovered over.	
	Show/hide event reset button	ShowResetEventsButton	true/false	rw	none	false	This reset removes currently active events from timeline and places them all back in the bank.	
	Enable/disable zoom	Zoom.Disabled	true/false	rw	none	false		
	Minimum value to display on timeline	Zoom.Min Years	integer (-15,000,000,000 to +15,000,000,000)	rw	none	-15,000,000,000		
	Maximum value to display on timeline	Zoom.Max Years	integer (-15,000,000,000 to +15,000,000,000)	rw	none	+15,000,000,000		
	Show/hide zoom reset button	ShowResetZoomButton	true/false	rw	none	false	Resets zoom to display - 15,000,000,000 years to +15,000,000,000 years	

	Show/hide minimap of timeline	Minimap.visible	true/false	rw	none	true	The minimap shows the full range of the timeline with shading for the portion of time the timeline is zoomed in on	
	Enable/disable minimap of timeline	Minimap.disabled	true/false	rw	none	false		
	Display the correct time for events user has placed on timeline on current screen	showCorrect	true/false	rw	none	true	Turns on correct pins for all events placed on the timeline.	This CAPI should not be used as it triggers when an incorrect trap state fires showing the correct location of events prematurely. Use the showCorrect for each individual event instead.
EventsToUse	Add/remove astro events to use	Cosmic	array (c1 to c22)	rw	none	all events	See below CAPI table for ID key for events	
	Add/remove geologic events to use	Geological	array (g1 to g6)	rw	none	all events	See below CAPI table for ID key for events	
	Add/remove biological events to use	Biological	array (b1 to b12)	rw	none	all events	See below CAPI table for ID key for events	

	Add/remove anthropogenic events to use	Anthropologic	array (a1 to a17; no item a15)	rw	none	all events	Item a15 has been removed from the sim. See below CAPI table for ID key for events	
	Add/remove special events to use	Special	array (s1 to s2)	rw	none	all events	See below CAPI table for ID key for events	
[no category]	Enable/disable cosmic category of events	cosmic.Enabled	true/false	rw	none	true		
	Enable/disable geologic category of events	geological.Enabled	true/false	rw	none	true		
	Enable/disable biologic category of events	biological.Enabled	true/false	rw	none	true		
	Enable/disable anthropologic category of events	anthropologic.Enabled	true/false	rw	none	true		
	Enable/disable special category of events	special.Enabled	true/false	rw	none	true		

cosmic.cosmicEvents geological.geologicEvents biological.biologicalEvents anthropologic.anthropologicEvents special.specialEvents	Unique ID for event	Event[ID].index	integer	r	none	(automatic)	These are the same numbers used in the arrays in the EventsToUse category but without the letter prefix.	
	Unique name for event	Event[ID].name	string	r	none	(automatic)	These are the names for the events as they appear on the ID key below.	
	Actual date of event	Event[ID].date	float	r	none	(automatic)	These are the actual dates for the events as they appear on the ID key below.	
	Show uncertainty ranges	Event[ID].showRanges	true/false	rw	none	true	For events in which the exact date is unknown, the uncertainty range displays as a gray box under the pin. The ID key below lists which events have uncertainty ranges and what those ranges are.	

	Enable/disable click and drag ability of event	Event[ID].enabled	true/false	rw	none	true	Disabling the event removes it from the bank. If the event happens to be sitting on the timeline and it is disabled, the event will be removed from the timeline.	
	Date user placed event at on timeline	Event[ID].userDate	float	rw	click and drag object	(automatic)		
	Reports if event has been placed on timeline	Event[ID].isPlaced	true/false	r	none	(automatic)		
	Reports if event is placed at correct time	Event[ID].isCorrect	true/false	r	none	(automatic)		
	Show second pin with correct location of event on timeline	Event[ID].showCorrect	true/false	rw	none	true	This displays a smaller, secondary pin on the timeline while maintaining the location of the student's pin so they can see the discrepancy between their date and the "actual" date.	Use this CAPI instead of the global showCorrect that is listed under Control.

	Difference between user date and actual date of event	Event[ID].discrepancy	float	r	none	(automatic)	This becomes active when showCorrect is set to true. Upon hover over, the difference between the user date and actual date are displayed.	
	Forces primary pin to display in correct location on timeline	Event[ID].forceCorrect	true/false	rw	none	true	This moves the larger, student placed pin to the correct location on the timeline and locks it in place.	
	Locks primary pin into current place on timeline	Event[ID].locked	true/false	rw	none	true		

Event ID Key

Cosmic Events (pins have a white outline)

Index	Event	Canonical Time of Event [time_actual]	Range
c1	Big Bang	13,800,000,000 years ago	0 years
c2	Cosmic Microwave Background Forms	13,799,620,000 years ago	0 years
c3	First Stars Form	13,700,000,000 years ago	0 years
c4	Milky Way Galaxy forms	13,000,000,000 years ago	0 years
c5	Peak Star Formation	10,300,000,000 years ago	0 years
c6	Andromeda Galaxy forms	10,000,000,000 years ago	0 years
c7	Spiral Arms Form in Milky Way	8,750,000,000 years ago	0 years
c8	Alpha Centauri Binary Star System Forms	6,000,000,000 years ago	0 years
c9	Solar Nebula Begins to Form	4,600,000,000 years ago	0 years
c10	First Solid Material Forms in Solar System	4,569,700,000 years ago	0 years
c11	Formation of Earth	4,550,000,000 years ago	0 years
c12	Moon Forming Impact	4,470,000,000 years ago	0 years
c13	Late Heavy Bombardment	3,800,000,000 years ago	3,800,000,000 to 4,000,000,000 years ago
c14	Betelgeuse Becomes a Main Sequence Star	16,500,000 years ago	11,000,000 to 22,000,000 years ago

c15	Betelgeuse Becomes a Red Giant	2,000,000 years ago	1,500,000 to 2,500,000 years ago
c16	Crab Nebula Forms	1054 CE	0 years
c17	Supernova in Large Magellanic Cloud	1987 CE	0 years
c18	Discovery of First Exoplanet around Sun-like star	1995 CE	0 years
c19	Betelgeuse Goes Supernova	100,000 years from now	0 to 200,000 years from now
c20	Milky Way and Andromeda Galaxies Collide	3,000,000,000 years from now	0 years
c21	Sun Becomes a Red Giant (Death of the Earth)	5,450,000,000 years from now	0 years
c22	Sun Becomes a White Dwarf	5,520,000,000 years from now	0 years

Geologic Events (pins have a sky blue outline)

Index	Event	Canonical Time of Event [time_actual]	Range
g1	Oldest Evidence for Oceans and Continents	4,300,000,000 years ago	4,300,000,000 to 4,400,000,000 years ago
g2	Rise of Oxygen	2,450,000,000 years ago	2,450,000,000 to 2,500,000,000 years ago
g3	Snowball Earth	680,000,000 years ago	680,000,000 to 715,000,000 years ago
g4	Ice Ages Begin	2,588,000 years ago	0 years
g5	Last Glacial Maximum	20,000 years ago	20,000 to 26,500 years ago
g6	Evaporation of the Oceans	1,500,000,000 years from now	1,500,000,000 to 2,000,000,000 years from now

Biological Events (pins have a blue-green outline)

Index	Event	Canonical Time of Event [time_actual]	Range
b1	Oldest Evidence for Life	3,850,000,000 years ago	3,700,000,000 to 4,280,000,000 years ago
b2	Oldest Stromatolites	3,700,000,000 years ago	3,700,000,000 to 3,500,000,000 years ago
b3	Oldest Bacterial Fossils	3,500,000,000 years ago	3,500,000,000 to 3,300,000,000 years ago
b4	Oldest Eukaryote Fossil	1,780,000,000 years ago	1,780,000,000 to 1,300,000,000 years ago
b5	Oldest Animal Fossils (Ediacara)	575,000,000 years ago	575,000,000 to 595,000,000 years ago
b6	Cambrian Explosion	542,000,000 years ago	0 years
b7	Oldest Land Plant Fossils	472,000,000 years ago	0 years
b8	Oldest Land Animal Fossils	428,000,000 years ago	0 years
b9	Permian Triassic Extinction	250,000,000 years ago	0 years
b10	Oldest Dinosaur Fossil	243,000,000 years ago	0 years
b11	Dinosaur Extinction	65,000,000 years ago	0 years
b12	Biosphere Collapses	900,000,000 years from now	900,000,000 to 1,500,000,000 years from now

Anthropologic Events (pins have a reddish purple outline)

Index	Event	Canonical Time of Event [time_actual]	Range
a1	Earliest Stone Tool Use by Human Ancestors	3,390,000 years ago	0 years
a2	Agriculture Invented	11,000 years ago	0 years
a3	Rome Founded	753 BCE	0 years
a4	Roman Empire Collapsed	476 CE	0 years
a5	Renaissance	1400 CE	0 years
a6	Industrial Revolution	1780 CE	0 years
a7	First Radio Broadcast	1906 CE	0 years
a8	First Satellite	1957 CE	0 years
a9	First Human in Space	1961 CE	0 years
a10	First Human Steps on an Extraterrestrial Body	1969 CE	0 years
a11	Arecibo Message Broadcast	1974 CE	0 years
a12	Voyagers 1 and 2 Launched	1977 CE	0 years
a13	Hubble Space Telescope Launched	1990 CE	0 years
a14	Voyager 1 Left Solar System	2012 CE	0 years
a15	First Reused Rocket Launched	2017 CE	0 years
a16	Arecibo Message Reaches M13	25,000 years from now	0 years
a17	Voyager 1 Reaches AC + 79 3888	40,000 years from now	0 years