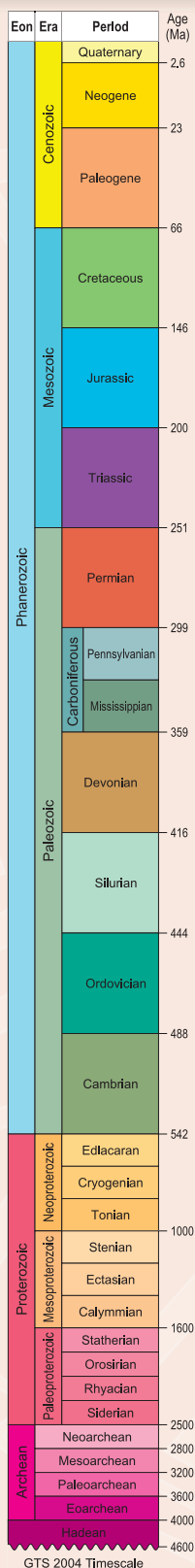




Australian Government
Geoscience Australia

create your own Geological TimeWalk



It is difficult to convey the immensity of time spanning Earth's history and the geological events and processes that have shaped the world we live in. To assist, Geoscience Australia established a 1.1km Geological TimeWalk on its grounds in Canberra in November 2009. The TimeWalk emphasises the importance of geological time in the understanding of the:

- formation of Earth
- evolution of the Australian continent
- evolution of life on Earth.

You can arrange to visit the Geological TimeWalk at Geoscience Australia or create your own Geological TimeWalk:

1. Download the information plaques and print in either A3 or A4 size (colour is recommended). Each plaque discusses a single geological time interval, and outlines the major geological, climatic and biological events which occurred.
2. Decide which layout and scale you would like to use to set-up your own TimeWalk (options follow).
3. Place plaques at recommended intervals.
4. Your TimeWalk is ready to use.

SUGGESTED ACTIVITIES

1. Before setting up your own TimeWalk, introduce the Timescale (see left) and ask your students to calculate the interval boundaries for each scale (answers follow).
2. Divide your students into groups. Give each group a Period to research and report on as your class completes the walk.
3. Develop a quiz relating to the information provided on the plaques.
4. Visit a museum or botanic garden to find out more about each Period and Australia's geological and evolutionary history.



FOR FURTHER INFORMATION:
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GEOLOGICAL TIMEWALK LAYOUTS

The tables below list measurements which have been calculated for the placement of each plaque depending on the physical space you have available. Options include:

- toilet roll (1000 sheets)
- 400m track
- 1km track.

Calculations for timemarkers have also been provided to mark every 100 million years.

Toilet roll

The calculations below are for a toilet roll of 1000 sheets, 1 sheet = 4.6 million years.

This activity works best indoors away from breezes. Trial a range of toilet paper for strength and durability beforehand!

Eon/Era/Period	Million years (Ma)	Sheet Number	Sheets per Interval
Hadean	4600	1	129
Eoarchean	4000	130	87
Paleoarchean	3600	217	87
Mesoarchean	3200	304	87
Neoarchean	2800	391	65
Paleoproterozoic	2500	456	196
Mesoproterozoic	1600	652	130
Neoproterozoic	1000	782	100
Cambrian	542	882	12
Ordovician	488	894	10
Silurian	444	904	6
Devonian	416	910	12
Carboniferous	359	922	13
Permian	299	935	10
Triassic	251	945	11
Jurassic	200	956	12
Cretaceous	146	968	17
Paleogene	66	985	10
Neogene and Quaternary	23	995	5





To include timemarkers every 100 million years, insert a marker every 21-22 sheets, as follows:

Marker	Sheet Number
4600ma	1
4500ma	22
4400ma	43
4300ma	65
4200ma	86
4100ma	108
4000ma	130
3900ma	152
3800ma	173
3700ma	195
3600ma	217
3500ma	239
3400ma	260
3300ma	282
3200ma	304
3100ma	326
3000ma	348
2900ma	370
2800ma	392
2700ma	414
2600ma	435
2500ma	457
2400ma	479
2300ma	500

Marker	Sheet Number
2200ma	522
2100ma	544
2000ma	565
1900ma	587
1800ma	609
1700ma	630
1600ma	652
1500ma	674
1400ma	695
1300ma	717
1200ma	739
1100ma	760
1000ma	782
900ma	804
800ma	825
700ma	847
600ma	869
500ma	891
400ma	913
300ma	935
200ma	956
100ma	978
0 (Today)	1000





400m track

The calculations below are for a 400m track.

Eon/Era/Period	Million years (Ma)	Distance from beginning of track (m)	Interval distance (m)
Hadean	4600	0	52
Eoarchean	4000	52	35
Paleoarchean	3600	87	35
Mesoarchean	3200	122	35
Neoarchean	2800	157	26
Paleoproterozoic	2500	183	78
Mesoproterozoic	1600	261	52
Neoproterozoic	1000	313	39
Cambrian	542	352	6
Ordovician	488	358	3.5
Silurian	444	361.5	2.5
Devonian	416	364	4.5
Carboniferous	359	368.5	5
Permian	299	373.5	4.5
Triassic	251	378	4.5
Jurassic	200	382.5	5
Cretaceous	146	387.5	7
Paleogene	66	394.5	4
Neogene and Quaternary	23	398.5	1.5





To include timemarkers every 100 million years, insert a marker at 8-9m intervals, as follows:

Marker	Distance (m)
4600ma	0
4500ma	9
4400ma	17.5
4300ma	26
4200ma	35
4100ma	43.5
4000ma	52
3900ma	61
3800ma	69.5
3700ma	78
3600ma	87
3500ma	96
3400ma	104.5
3300ma	113
3200ma	122
3100ma	130.5
3000ma	139
2900ma	148
2800ma	156.5
2700ma	165
2600ma	174
2500ma	183
2400ma	191.5
2300ma	200

Marker	Distance (m)
2200ma	209
2100ma	217.5
2000ma	226
1900ma	235
1800ma	243.5
1700ma	252
1600ma	261
1500ma	270
1400ma	278.5
1300ma	287
1200ma	296
1100ma	304.5
1000ma	313
900ma	322
800ma	330.5
700ma	339
600ma	348
500ma	357
400ma	365.5
300ma	374
200ma	383
100ma	391.5
0 (Today)	400





1km track

The calculations below are for a 1km track.

Eon/Era/Period	Million years (Ma)	Distance from beginning of track (m)	Interval distance (m)
Hadean	4600	0	130.5
Eoarchean	4000	130.5	87
Paleoarchean	3600	217.5	87
Mesoarchean	3200	304.5	87
Neoarchean	2800	391.5	65
Paleoproterozoic	2500	456.5	195.5
Mesoproterozoic	1600	652	130.5
Neoproterozoic	1000	782.5	99.5
Cambrian	542	882	12
Ordovician	488	894	9.5
Silurian	444	903.5	6
Devonian	416	909.5	12.5
Carboniferous	359	922	13
Permian	299	935	10.5
Triassic	251	945.5	11
Jurassic	200	956.5	12
Cretaceous	146	968.5	17.5
Paleogene	66	986	9
Neogene and Quaternary	23	995.5	4.5





To include timemarkers every 100 million years, insert markers at 21-22m intervals, as follows:

Marker	Distance (m)
4600ma	0
4500ma	21
4400ma	43
4300ma	65
4200ma	87
4100ma	108
4000ma	130.5
3900ma	152
3800ma	174
3700ma	195
3600ma	217.5
3500ma	239
3400ma	261
3300ma	282
3200ma	304.5
3100ma	326
3000ma	348
2900ma	369
2800ma	391
2700ma	413
2600ma	434
2500ma	456
2400ma	478
2300ma	500

Marker	Distance (m)
2200ma	522
2100ma	543.5
2000ma	565
1900ma	587
1800ma	609
1700ma	630.5
1600ma	652
1500ma	674
1400ma	695.5
1300ma	717.5
1200ma	739
1100ma	761
1000ma	782.5
900ma	804.5
800ma	826
700ma	848
600ma	869.5
500ma	891
400ma	913
300ma	935
200ma	956.5
100ma	978
0 (Today)	1000

