Paleotopia: The Rules

Object of the Game

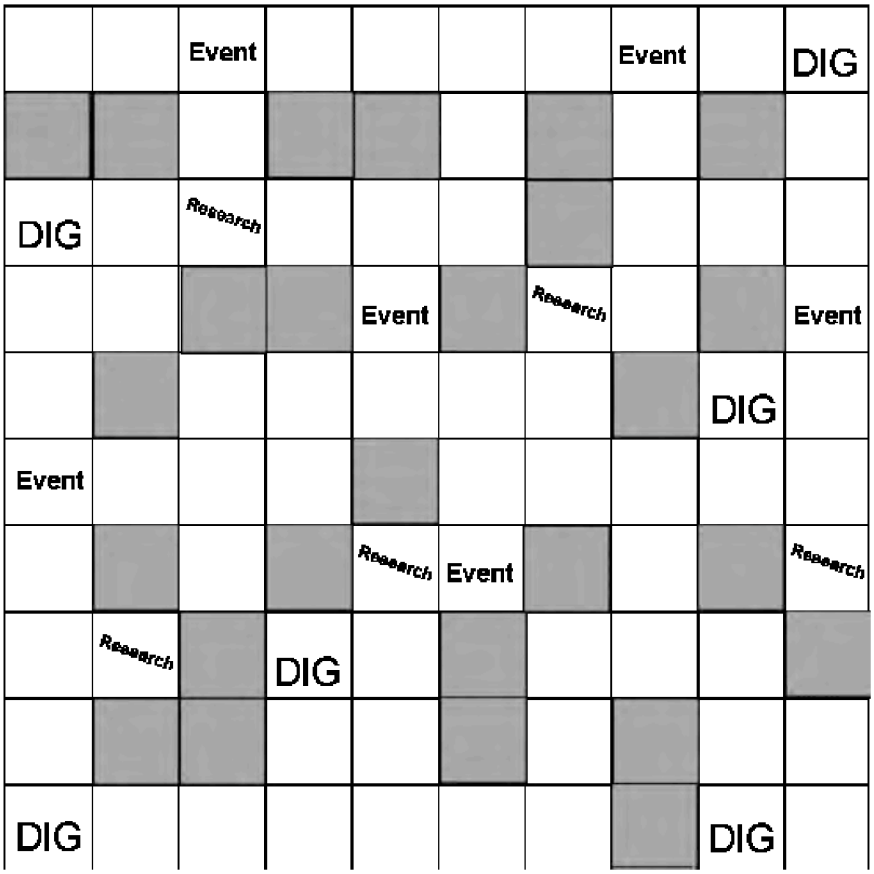
Alternative C
Go though the dig site, and find fossil specimens and the information about them. Players must match up 5 Specimen Cards with their correct Research Card and be the first to make it back to the University.

Game Materials

- 6 Playing Pieces.. Pieces are Paleo tools. Some typical are: shovels, brushes, toothbrushes, dental tools, jack hammers, bull dozers, ground penetrating radar, jeeps, gps mapping tools.
- 6-Sided Die or Spinner
- 25 Event Cards
- 50 Dig and Corresponding Research Cards

One Game Board.

Start



Time Required
The game may be played on a timed basis of 45-60 minutes or it may be played until the first player returns with 5 matched cards. If the game is timed, at the end of the time limit the player with the most matched cards wins.

The Rules
Alternative C
Players start at their University. They roll the die to move. They move the number of spaces indicated on the die and can take any route they want. (Since each space is a grid they can move in one of 4 directions—up, down, right and left. They can not rule diagonally.) They must go around any space another player occupies. As they move around the board and they land on a Dig or Research space they take an appropriate card. They can not take two Dig or Research cards in a row from the same space so they must move to another Dig or Research space for their next card. The goal is to match the correct Dig card with its matching Research Card. When they get 5 matching cards (or when the game ends) they maneuver back to the University. First one back to the University wins the game.

Design Process
We started the process by trying to create a game to go with a Paleontology video we were developing for another project. We wanted to create a game that would help players associate plants and animals with the type of landscapes and geological formations found in ancient time periods. We also wanted to create a game that would give players a sense of the issues involved in a paleo dig.

We reviewed Cardboard Cognition (http://edweb.sdsu.edu/courses/edtec670/Cardboard/BoardTOC.html), searched the Internet and went to a few teacher store and game stores looking for similar games. (This is still in process.) We were also referred to archeology game and activity sites. We found one game (Dig) that was a paleontology game focused on teaching dinosaur facts.

We wanted to make this game encompass more than dinosaurs and wanted to help students make inferences and connections rather than merely teach facts. We worked through the game design process (http://edweb.sdsu.edu/Courses/EDTEC670/boardgame/BoardGameDesign1.html) individually and then compared notes. We reworked the concept several times, and reworked the board design to align the structure of the game with the content we wanted to convey.

We showed this idea to friends, family and Professor Bernie Dodge for feedback. Bernie's feedback made us go back to the drawing board to redesign the board and rework the rules.

We learned how hard it is to create a board game that aligns content with the structure of the game. We also learned to be more flexible at the beginning of the

game design process so we don't paint ourselves into a corner. In addition our future games will probably not have as much content as this one. We discovered how hard it is to research for content and then place the content on game cards.

References

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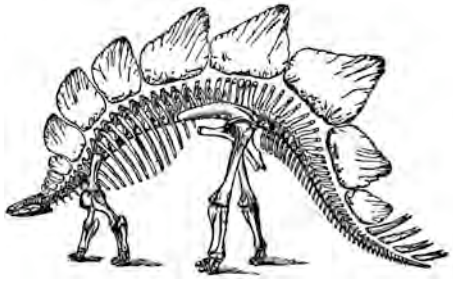
Start

		Event					Event		DIG
DIG		Research							
				Event		Research			Event
								DIG	
Event									
				Research	Event				Research
	Research		DIG						
DIG								DIG	

Dig (Front)



Research (Front)

A very large dinosaur of the late Jurassic period, this animal was a herbivore and had 17 bony plates embedded in its back.

Dig (Back)

Stegosaurus

Research (Back)

Late Jurassic

Stegosaurus

Dig (Front)

Research (Front)

A four legged reptile with short, sprawling, clawed legs, a long tail, and large jaws in a narrow but large skull. It was a meat eater, up to about 12 feet long and lived near water.

Dig (Back)

Ophiacodon

Research (Back)

Permian

Ophiacodon

Dig (Front)

Research (Front)

This ancient bird had a large head, toothed jaws, and long beak. It is the oldest-known bird that had a keeled breastbone (sternum) similar to that of modern birds.

Dig (Back)

Ichthyornis

Research (Back)

Cretaceous
Ichthyornis,

Dig (Front)

Research (Front)

A 30 ft long duck-billed dinosaur with crested head. It ate plants and lived in the late Cretaceous period.

Dig (Back)

Corythosaurus
(crested dinosaur)

Research (Back)

Cretaceous
Corythosaurus

Dig (Front)

Research (Front)

A member of the duck-billed ornithopods which grew to a large size, possessing a shovel-type mouth. This group of fossil reptiles have the honor of being the first dinosaurs excavated in the United States and lived during Late Cretaceous times...

Dig (Back)

Hadrosaur

Research (Back)

Late Cretaceous

Hadrosaur

Dig (Front)

Research (Front)

This flightless bird was the tallest bird that ever lived and could grow to 11 1/2 ft tall. It was slow-moving herbivore, ate seeds and fruit and swallowed stones that helped digest the food..

Dig (Back)

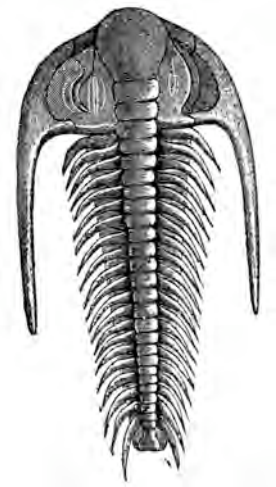
Dinornis Maximus

Research (Back)

Pleistocene to 1800 AD

Dinornis Maximus

Dig (Front)



Research (Front)

Early invertebrates with a segmented body and an exoskeleton (external). They were one of the dominant life forms of their era.

Dig (Back)

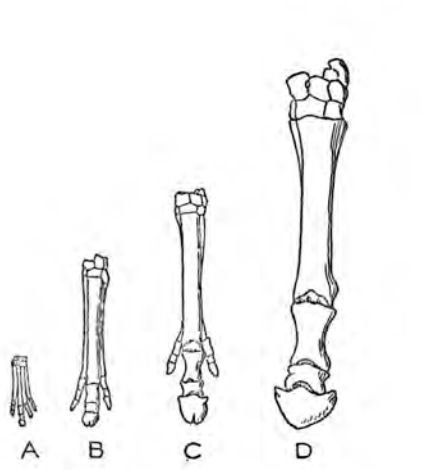
Trilobite

Research (Back)

Cambrian

Trilobite

Dig (Front)



Research (Front)

The evolution of the horses' hoof went from the four-toed Eohippus of the Eocene, the three functioinal toes of Mesohippus of the Oligocene, the reduced side toes of the Miocene Hipparion , and the modern one toed horse in the Pliocene-Pleistocene eras.

Dig (Back)

Horse foot evolution

Research (Back)

Horse foot evolution from the Eocene to the Pleistocene

Dig (Front)

Research (Front)

This early plant of the Devonian era was unique in that, although classified as a fern, it had both wood and fern-like reproduction.

Dig (Back)

fern tree

Research (Back)

Devonian

Fern tree

Dig (Front)

Research (Front)

An early fern of the Silurian-Devonian periods it is unusual in that it had a central stem and “radiating branches”.

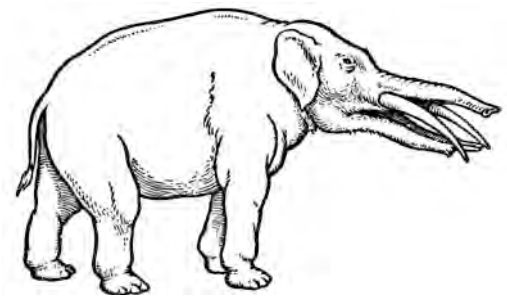
Dig (Back)

Oldhamia
(Early fern)

Research (Back)

Devonian-Silurian
Oldhamia
(Early fern)

Dig (Front)



Research (Front)

This four-tusked elephant ancestor was an early mastodon of the Miocene period.

Dig (Back)

Tetrabelodon
(long-jawed mastodon)

Research (Back)

Miocene
Tetrabelodon
(long-jawed mastodon)

Dig (Front)

Research (Front)

Although this is considered the earliest bird, it had reptilian features. The fact that it had feathers and a tail leads paleontologists to believe that this animal gives evidence to the belief that birds evolved from reptiles.

Dig (Back)

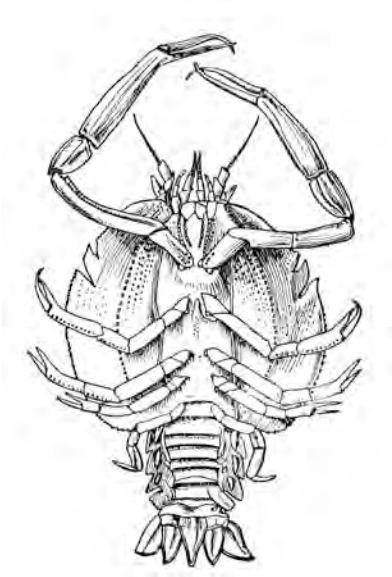
Archaeopteryx

Research (Back)

Jurassic

Archaeopteryx

Dig (Front)



Research (Front)

An arthropod of the Jurassic period this creature is an ancestor of modern lobsters.

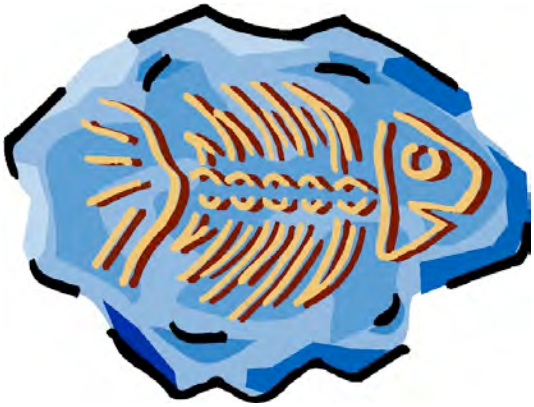
Dig (Back)

Eryma
(arthropod)

Research (Back)

Jurassic
Eryma
(arthropod)

Dig (Front)



Sorry, just a piece of ceramic tile mixed up in the dig.

Research (Front)

Dig (Back)

Dig (Front)

Research (Front)

This elephant ancestor lived about 25 million years ago and was know as a “shovel tusker”.

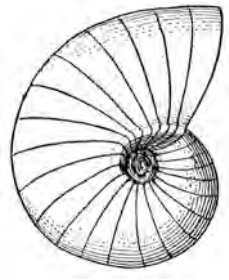
Dig (Back)

Platybelodon
(shovel tusker)

Research (Back)

Miocene
Platybelodon
(shovel tusker)

Dig (Front)



Research (Front)

This mollusk was a predator in ancient oceans and is now extinct. It is related to the modern day nautilus and squid.

Dig (Back)

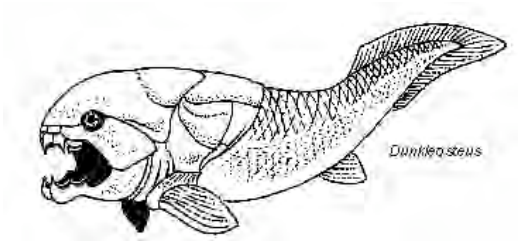
cephalopod

Research (Back)

Pennsylvanian

cephalopod

Dig (Front)



Research (Front)

This fish of the Devonian period grew to more than 20 feet in length and had thick bony armor plating around its head.

Dig (Back)

Arthrodires
(fish with bony armor plating)

Research (Back)

Devonian
Arthrodires
(fish with bony armor plating)

Dig (Front)

Research (Front)

This ancient jawless fish is related to today's manatee and sea cow.

Dig (Back)

dugong
(ancient jawless fish)

Research (Back)

dugong
(ancient jawless fish)

Dig (Front)

Research (Front)

Conifer trees became prominent in the Permian period.

Dig (Back)

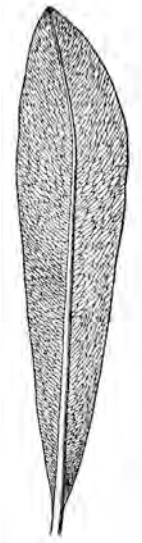
Conifer

Research (Back)

Permian

Conifer

Dig (Front)



Research (Front)

Fossils of this tongue shaped seed have been found throughout India, South America, southern Africa, Australia, and Antarctica. Because of it has been found in so many places throughout the southern hemisphere it has led scientists to deduce that there had once been a land bridge between these areas.

Dig (Back)

Glossopteris

Research (Back)

Permian

Glossopteris

Dig (Front)

Research (Front)

This coral flourished during the Devonian when the earth was warm with a green house effect and covered with oceans.

Dig (Back)

Heliophyllum
(coral)

Research (Back)

Devonian
Heliophyllum
(coral)

Event

Event

Event

Federal Historic Preservation Fund awards grant. Roll again.

Federal Historic Preservation Fund awards grant. Roll again.

Federal Historic Preservation Fund awards grant. Roll again.

Event

Bank loan allows you to hire more workers. Move 2 squares in any direction.

Event

Bank loan allows you to hire more workers. Move 2 squares in any direction.

Event

Bank loan allows you to hire more workers. Move 2 squares in any direction.

Event

Event

Event

University establishes $1 Million dollar endowment fund. Move 3 squares in any direction.

University establishes $1 Million dollar endowment fund. Move 3 squares in any direction.

University establishes $1 Million dollar endowment fund. Move 3 squares in any direction.

Event

Event

Event

Good weather
quickens
excavation
Move 1 square
in any direction

Good weather
quickens
excavation
Move 1 square
in any direction

Good weather
quickens
excavation
Move 1 square
in any direction

Event

Event

Event

Bad weather
delays excavation.
Lose a turn

Bad weather
delays excavation.
Lose a turn

Bad weather
delays excavation.
Lose a turn

Event

Event

Event

One of your research assistants joins the Peace Corps. Give up a research card (put on bottom of Research deck)

One of your research assistants joins the Peace Corps. Give up a research card (put on bottom of Research deck)

One of your research assistants joins the Peace Corps. Give up a research card (put on bottom of Research deck)

Event

YouÕre running low on funds. Lose a dig card. (place on bottom of dig deck)

Event

YouÕre running low on funds. Lose a dig card. (place on bottom of dig deck)

Event

YouÕre running low on funds. Lose a dig card. (place on bottom of dig deck)

Event

Event

Event

One of your papers is published. Draw a research card.

An eccentric old man arrives via helicopter and offers to fund your dig for another 3 years. Draw a research card.

Car company donates new hybrid SUV. Draw a research card.

Event

Event

Event

Grant proposal awards more funding. Draw an event card.

Grant proposal awards more funding. Draw an event card.

Grant proposal awards more funding. Draw an event card.