

# Take an imaginary trip through Earth's history

Pretend that you are traveling through the entire 4.6 billion year history of the Earth when you take a trip up to the Skydeck. Each floor you rise through represents 45 million years of geologic time.

4,600,000,000 Years

103rd floor: Skydeck and present day Chicago

102nd floor: Mammals take over

101st floor: Dinosaurs go extinct

99th floor: First flowering plants

98th floor: First dinosaurs / first mammals

97th floor: 95% of species go extinct

95th floor: First insects / first reptiles

94th floor: First amphibians

93rd floor: First fish / first land plants

91st floor: First animals with shells

89th floor: Complex, multicelled life

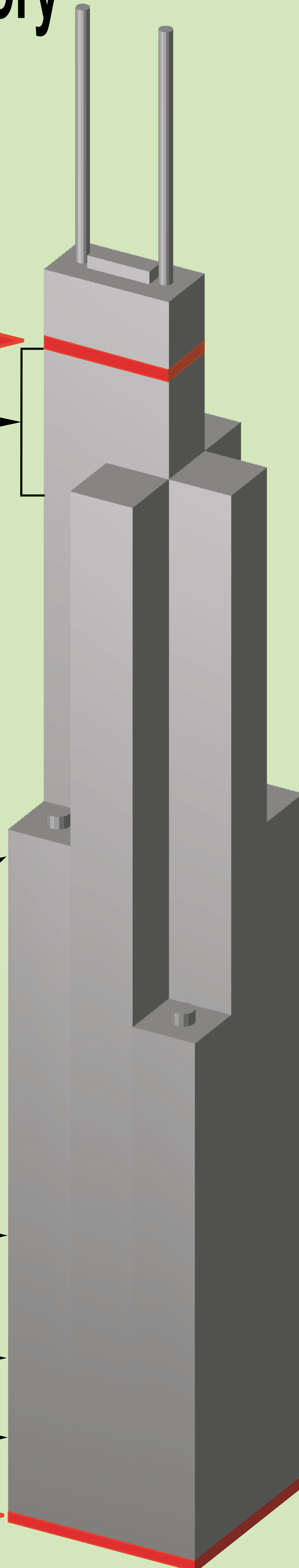
65th floor: Atmosphere becomes oxygen rich

25th floor: Oldest fossil microbes /  
algae / photosynthesis begins

14th floor: Oldest rock (3.96 billion years)

7th floor: Oldest mineral (4.28 billion years)

1st floor: Formation of Earth and Moon



# when you visit the Sears Tower . . . . .

Imagine that the 4.6 billion years of the Earth's history are represented by the height of the Sears Tower Skydeck above the ground.

As you enter the Sears Tower on the ground floor, you are 4.6 billion years in the past. The Moon has just been formed by a collision between the Earth and a Mars-sized planet, and you are standing on a sea of molten rock that is incapable of sustaining life.

Ascending to the Skydeck, you move 45 million years closer to the present day with each floor you traverse. The Earth cools rapidly, and a solid crust has formed by the time you reach the 7th floor. As you pass the 25th floor, bacteria and algae, the first primitive life forms, have made their appearance but the atmosphere is an unbreathable mix of methane, carbon dioxide and nitrogen.

Very little changes for the next 1.5 billion years until, at the 65th floor, the composition of the atmosphere rapidly becomes more oxygen rich as a result of biologic activity. But it isn't until the 89th floor that you see any multicelled life forms such as jelly fish and worms.

Things happen fast above this floor. At the 91st floor, you arrive at a time 540 million years in the past when the first animals with shells appear, and there is a great explosion in the diversity of life. Passing the 93rd floor, you see fish for the first time and notice that the land, which had previously been barren, has been invaded by plants and the ancestors of insects. The first amphibians make their appearance at the 94th floor, and the first reptiles at the 95th. Things are going along nicely until you reach the 97th floor when suddenly catastrophic global warming occurs and wipes out 95% of all species living 230 million years ago!!!

Ascending to the 98th floor, you notice that life is bouncing back from the worst extinction event in the Earth's history...but now the players are different. The world belongs to the recently evolved dinosaurs, although primitive mammals have also arrived and are managing to maintain a toe hold. At the 99th floor you catch your first scent of flowering plants and hear the sounds of bees, wasps and chirping birds.

Another catastrophe! A giant meteorite smashes into the middle of the 101st floor, killing the dinosaurs and 50% of all species living 65 million years ago. But it isn't bad for everyone. In the absence of dinosaurs, mammals and birds diversify and dominate the 102nd floor.

Finally you reach your objective. As you look out from the 103rd floor Skydeck, you see that the world has been completely taken over by Man, a newcomer that has evolved in just the last two feet immediately beneath you, and you realize that the entire 6,000 years of human civilization can be represented by a stack of paper no more than four sheets high.