

COSMIC CALENDAR

The Cosmic Calendar is a way to imagine all of time (from the Big Bang to today) as if it happened in a single year. This helps us understand just how old the universe really is and how recently humans arrived on the scene.

By filling out this calendar, we can see where major events (like the birth of stars, the formation of Earth, the rise of dinosaurs, and the appearance of humans) would fall if the entire history of the universe were squeezed into one giant year. It shows us that all of human history is just a blink in the story of everything!

This idea isn't original to me. It first started with Carl Sagan and it's been used in many different ways by scientists and educators. The dates for this version were assembled using the Wikipedia article [here](#).

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Some clip art was created by “The Painted Crow”. It can be found [here](#).

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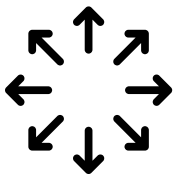
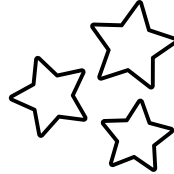

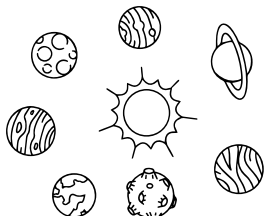
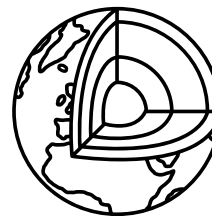
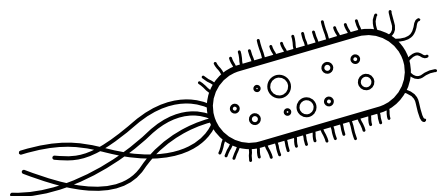
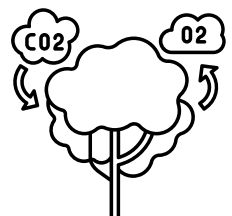
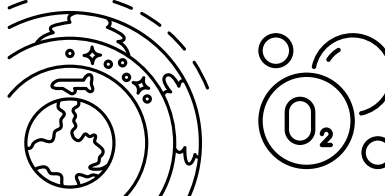
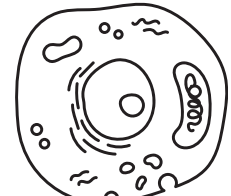
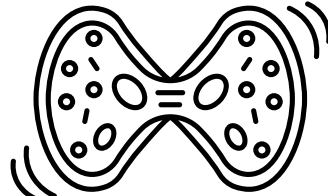
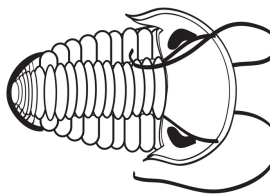
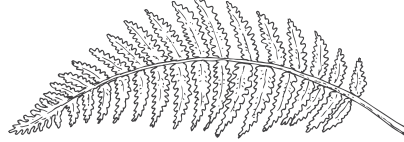

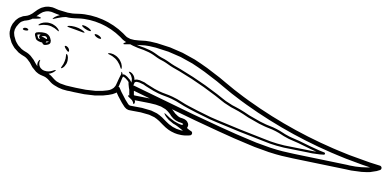


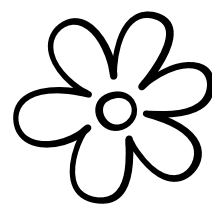

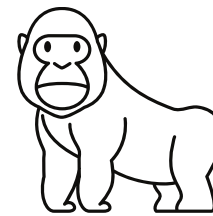



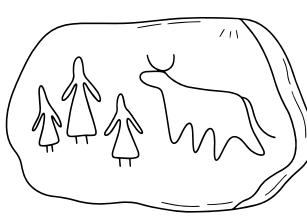
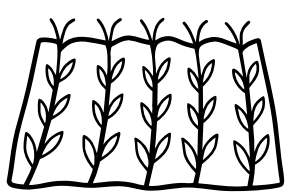
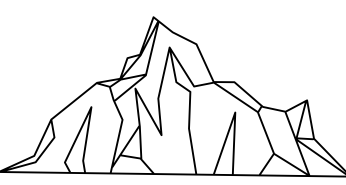
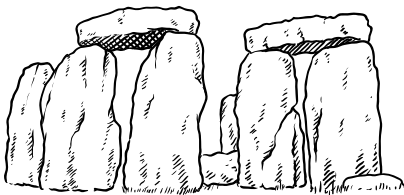
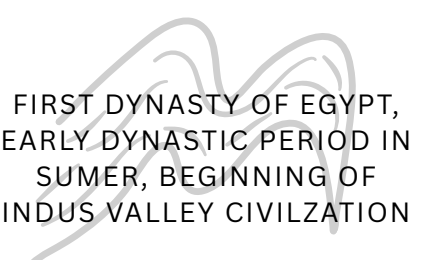
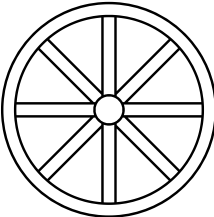
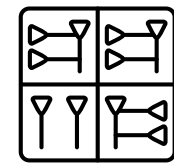
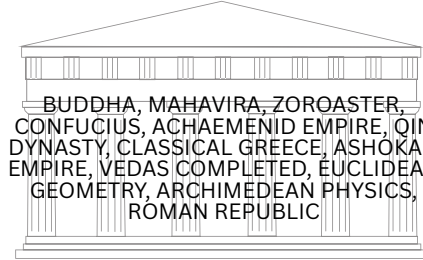
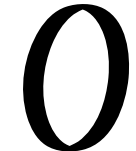
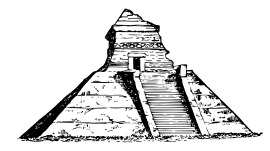


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Thank you for respecting the work that went into creating this!

| Date | Event | Approximate Real Date |
|---------------|---|-------------------------|
| Jan 1st | Big Bang | 13.8 billion years ago |
| Jan 1st | First Stars Form | ~13.6 billion years ago |
| March 1st | Milky Way galaxy forms | ~11 billion years ago |
| Sept 9th | Our Solar system forms | 4.57 billion years ago |
| Sept 14th | Earth forms | ~4.5 billion years ago |
| Sept 21st | Life begins on Earth (simple cells) | ~3.8 billion years ago |
| Sept 30th | Photosynthesis | ~3.4 billion years ago |
| Oct 29th | Oxygenation of Atmosphere | ~2.4 billion years ago |
| Nov 9th | Eukaryotes | ~2 billion years ago |
| Dec 5 | Multicellular life appears | ~800 million years ago |
| Dec 14th | Arthropods | ~550 million years ago |
| Dec 17th | Fish | ~530 million years ago |
| Dec 19th | Land Plants Ordovician–Silurian extinction events | ~450 million years ago |
| Dec 21st | Insects and Seeds | ~350 million years ago |
| Dec 22nd | Amphibians/Devonian Extinctions | ~330 million years ago |
| Dec 23rd | Reptiles | ~300 million years ago |
| Dec 25th | Permian–Triassic extinction event | ~230 million years ago |
| Dec 26th | Mammals, Triassic–Jurassic extinction event | ~201 million years ago |
| Dec 28th | Flowers | ~ 130 million years ago |
| Dec 30th 6:24 | Cretaceous–Paleogene extinction event non-avian dinosaurs go extinct; Primates | ~ 66 million years ago |

| Date | Event | Approximate Real Date |
|-------------------|--|-----------------------------------|
| Dec 31st 6:05 | Apes | ~ 28 million years ago |
| Dec 31st 14:24 | Hominids | ~ 12.3 million years ago |
| Dec 31st 23:44 | Domestication of Fire | ~ 400 thousand years ago |
| Dec 31st 23:52 | Humans | ~ 200 thousand years ago |
| Dec 31st 23:58 | Sculpture and Painting | ~ 35 thousand years ago |
| Dec 31st 23:59:32 | Agriculture | ~ 12 thousand years ago |
| Dec 31st 23:59:33 | End of the Last Ice Age | ~ 11.7 thousand years ago |
| Dec 31st 23:59:47 | Stonehenge Built | ~ 5.5 thousand years ago |
| Dec 31st 23:59:48 | First Dynasty of Egypt, Early Dynastic Period in Sumer, Beginning of Indus Valley Civilization | ~ 5 thousand years ago |
| Dec 31st 23:59:49 | Alphabet, Akkad, Wheel | ~ 4.5 thousand years ago |
| Dec 31st 23:59:49 | Code of Hammurabi, Middle Kingdom Egypt | ~ 4 thousand years ago |
| Dec 31st 23:59:54 | Buddha, Mahavira, Zoroaster, Confucius, Achaemenid Empire, Qin dynasty, Classical Greece, Ashokan Empire, Vedas completed, Euclidean geometry, Archimedean physics, Roman Republic | ~ 2.5 thousand years ago |
| Dec 31st 23:59:55 | Ptolemaic astronomy, Roman Empire, Jesus, invention of numeral 0, Gupta Empire | ~ 2 thousand years ago |
| Dec 31st 23:59:56 | Muhammad, Maya civilization, Song dynasty, Black Death, Byzantine Empire | ~ 1.5 thousand years ago |
| Dec 31st 23:59:58 | Mongol Empire, Crusades, Christopher Columbus Colonizes Renaissance in Europe | ~ 1 thousand years ago |
| Dec 31st 23:59:59 | Modern History; the last 437.5 years before present. 7 Years War, American and French Revolutions, Airplanes, World War 1 and 2, Computers, Spaceflight, First human landing on The Moon | ~ 500 years ago to Recent History |

OPTIONAL ICONS

| | | | | | | |
|---|---|---|---|--|--|--|
|  <p>BIG BANG</p> |  <p>FIRST STARS FORM</p> |  <p>MILKY WAY GALAXY FORMS</p> |  <p>OUR SOLAR SYSTEM FORMS</p> |  <p>EARTH FORMS</p> |  <p>LIFE BEGINS ON EARTH (SIMPLE CELLS)</p> |  <p>PHOTOSYNTHESIS</p> |
|  <p>OXYGENATION OF ATMOSPHERE</p> |  <p>EUKARYOTES</p> |  <p>MULTICELLULAR LIFE APPEARS</p> |  <p>ARTHROPODS</p> |  <p>LAND PLANTS ORDOVICIAN-SILURIAN EXTINCTION EVENTS</p> |  <p>INSECTS AND SEEDS</p> |  <p>AMPHIBIANS DEVONIAN EXTINCTIONS</p> |
|  <p>PERMIAN-TRIASSIC EXTINCTION EVENT</p> |  <p>MAMMALS, TRIASSIC-JURASSIC EXTINCTION EVENT</p> |  <p>FLOWERS</p> |  <p>CRETACEOUS-PALEOGENE EXTINCTION NON-AVIAN DINOSAURS GO EXTINCT; PRIMATES</p> |  <p>APES</p> |  <p>HOMINIDS</p> |  <p>DOMESTICATION OF FIRE</p> |
|  <p>HUMANS</p> |  <p>SCULPTURE AND PAINTING</p> |  <p>AGRICULTURE</p> |  <p>END OF THE LAST ICE AGE</p> |  <p>STONEHENGE BUILT</p> |  <p>FIRST DYNASTY OF EGYPT, EARLY DYNASTIC PERIOD IN SUMER, BEGINNING OF INDUS VALLEY CIVILIZATION</p> |  <p>ALPHABET, AKKAD, WHEEL</p> |
|  <p>CODE OF HAMMURABI MIDDLE KINGDOM EGYPT</p> |  <p>BUDDHA, MAHAVIRA, ZOROASTER, CONFUCIUS, ACHAEMENID EMPIRE, QIN DYNASTY, CLASSICAL GREECE, ASHOKAN EMPIRE, VEDAS COMPLETED, EUCLIDEAN GEOMETRY, ARCHIMEDEAN PHYSICS, ROMAN REPUBLIC</p> |  <p>PTOLEMAIC ASTRONOMY, ROMAN EMPIRE, JESUS, INVENTION OF NUMERAL 0, GUPTA EMPIRE</p> |  <p>MUHAMMAD, MAYA CIVILIZATION, SONG DYNASTY, BLACK DEATH, BYZANTINE EMPIRE</p> |  <p>MONGOL EMPIRE, CRUSADES, CHRISTOPHER COLUMBUS COLONIZES RENAISSANCE IN EUROPE</p> |  <p>MODERN HISTORY; THE LAST 4375 YEARS BEFORE PRESENT. 7 YEARS WAR, AMERICAN AND FRENCH REVOLUTIONS, AIRPLANES, WORLD WAR 1 AND 2, COMPUTERS, SPACEFLIGHT, FIRST HUMAN LANDING ON THE MOON</p> | |

COSMIC CALENDAR

| | JANUARY | | FEBRUARY | | MARCH | | APRIL | | MAY | | JUNE | | JULY | | AUGUST | | SEPTEMBER | | OCTOBER | | NOVEMBER | | DECEMBER | |
|----|---------|----|----------|----|-------|----|-------|----|-----|----|------|----|------|----|--------|----|-----------|----|---------|----|----------|----|----------|----|
| 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 | | 01 |
| 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 | | 02 |
| 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 | | 03 |
| 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 | | 04 |
| 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 | | 05 |
| 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 | | 06 |
| 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 | | 07 |
| 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 | | 08 |
| 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 | | 09 |
| 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 | | 10 |
| 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 | | 11 |
| 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 | | 12 |
| 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 | | 13 |
| 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 | | 14 |
| 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 | | 15 |
| 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 | | 16 |
| 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 | | 17 |
| 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 | | 18 |
| 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 | | 19 |
| 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 | | 20 |
| 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 | | 21 |
| 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 | | 22 |
| 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 | | 23 |
| 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 | | 24 |
| 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 | | 25 |
| 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 | | 26 |
| 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 | | 27 |
| 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 | | 28 |
| 29 | | | | 29 | | 29 | | 29 | | 29 | | 29 | | 29 | | 29 | | 29 | | 29 | | 29 | | 29 |
| 30 | | | | 30 | | 30 | | 30 | | 30 | | 30 | | 30 | | 30 | | 30 | | 30 | | 30 | | 30 |
| 31 | | | | 31 | | | | 31 | | | | | 31 | | | | | 31 | | | | | | 31 |

JANUARY

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

FEBRUARY

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| | | | | | | |

MARCH

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

A P R I L

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

M A Y

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

J U N E

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

J U L Y

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

AUGUST

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

S E P T E M B E R

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

OCTOBER

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

NOVEMBER

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | | | | | |

DECEMBER

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

DECEMBER 31ST (LAST DAY)

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | | | | |

DECEMBER 31ST 23:00 (LAST HOUR)

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | 32 | 33 | 34 | 35 |

| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 57 | 58 | 59 | 60 | | | |

DECEMBER 31ST 23:59 (LAST MINUTE)

| | | | | | | |
|----|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | 32 | 33 | 34 | 35 |

| | | | | | | |
|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| 36 | 37 | 38 | 39 | 40 | 41 | 42 |
| 43 | 44 | 45 | 46 | 47 | 48 | 49 |
| 50 | 51 | 52 | 53 | 54 | 55 | 56 |
| 57 | 58 | 59 | 60 | | | |