

Esc Exit current screen  
Bring up menu

F1 Domestic advisor

F2 Financial advisor

F3 Civics advisor

F4 Foreign advisor

F5 Military advisor  
Quick Save

F6 Technology advisor

F7 Religion advisor  
Corporation

F8 Victory  
Quick Load

F9 Demograph

F10 Capital City

F11 Toggle  
Globe View

F12 Civlopedia

1 2 3 4 5 6 7 8 9 0

Bind selected unit or group to that number Save a production queue (in city screen)

Tab Chat to team  
Chat to all  
Chat/Event log

Q Quarry  
Retire

W Watermill  
Winery Windmill  
Whaling Boat  
Worldbuilder

E Explore  
(automated)  
Espionage Screen

R Road  
Railroad  
Road to mode  
Rebase mode  
Toggle flag res

T Cottage  
grid

Y Toggle  
tile yields

U Unload  
(off ship)

I Farm  
Remove  
interface  
Minimize  
interface

O Offshore Platform  
Change perspective  
Options Menu

P Ping map  
Pasture  
Plantation  
Pillage  
Sea Patrol

\ Cycle to previous  
selected unit

Caps A Automate Worker  
Force move units  
w. queued orders

S Sentry  
Air Strike  
Mark tile  
Save game

D Change player  
name, e-mail

F Fortify Fish nets  
Forest Preserve  
Satellite view  
Fort  
Flying cam mode

G Go-to mode  
all units  
same type units

H Camp

J Workshop

K Lumbermill  
Load (onto ship)  
Load game

Enter Cycle units  
Advance to next turn  
Exit City Screen  
Force turn to end

Shift (+LMB on item in city screen)  
add item to the end  
of production queue

Z

X Center on unit  
Remove  
forest/jungle  
Activate all units  
of the same type

V Build city  
Bombard  
Air bomb mode  
Toggle bare map

B Trade network  
(automated)

N Mine  
Toggle music

M

< Cycle  
to prev. unit  
(same tile)

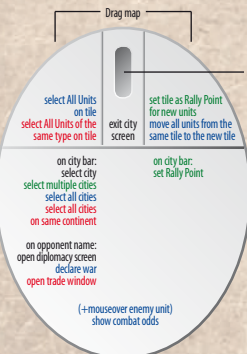
> Cycle  
to next unit  
(same tile)

? Cycle  
through active  
Workers

Ctrl (+LMB on item in city screen)  
add item to the beginning  
of production queue

Alt (+LMB on item in city screen)  
produce item  
indefinitely

Space Skip turn



Insert Open nearest  
friendly city screen

Home Cycle  
through cities

Pg Up Camera  
zoom in

Prt Screen Take  
screenshot

Scroll Lock Voice chat to team  
to all  
in Diplo Screen

Pause Pause game

Delete Delete unit

End Cycle  
through cities

Pg Down Camera  
zoom out

7 Move unit ↖

8 Move unit ↑

9 Move unit ↗

4 Cycle cities  
(in city screen)  
Move unit ↙

5 Center on unit

6 Cycle cities  
(in city screen)  
Move unit ↘

1 Move unit ↖

2 Move unit ↓

3 Move unit ↗

## SCREENS

Esc Exit current screen  
Bring up Menu

F1 Domestic Advisor screen

F2 Financial Advisor screen

F3 Civics Advisor screen

F4 Foreign Advisor screen

F5 Military Advisor screen

F6 Technology Advisor screen

F7 Religion Advisor screen

F8 Corporation Advisor screen

F9 Victory screen

F10 Demographic screen

F11 Capital City screen

F12 Toggle Globe View screen

F12 Civlopedia screen

Ctrl E Espionage screen

Ctrl W Access Worldbuilder

Ctrl O Options Menu

## CITY SCREEN

Insert Open nearest friendly city

↔ Cycle cities

MW Cycle cities

Alt LMB +item: produce indefinitely

Ctrl LMB +item: add to begin. of queue

Shift LMB +item: add to end of queue

Enter Exit city screen

MMB Exit city screen

## GAMEPLAY

Alt Q Retire

Pause Pause game

Enter Next turn

Space Skip turn

Ctrl L Load Game

Ctrl S Save Game

Shift F8 Quick Load

Shift F5 Quick Save

Ctrl M Toggle music

LMB Take screenshot

Prt Scr +city bar: select city

Shift LMB +city bar: select multiple cities

Alt LMB +city bar: select all cities

Ctrl LMB on the same continent

Shift RMB +city bar: set Rally Point

LMB drag map

LMB +opponent name: diplomacy

Alt LMB +opponent name: declare war

Ctrl LMB +opponent name: trade

## UNIT ACTIONS

B Build City (Settlers)

Bombard

W Wait

F Fortify

S Sentry / Air Strike (Air units)

E Explore (auto)

Shift P Pillage

G Go-to Mode

Shift G Go-to Mode (all units)

Ctrl G Go-to Mode (same type units)

L Load (onto ship)

U Unload (off ship)

Ctrl P Sea Patrol

Alt R Rebase mode

Del Delete unit

LMB Select unit

Alt LMB Select all units on tile

Ctrl LMB Select same type units on tile

Ctrl C Activate all same type units

Ctrl A Force all units with  
queued orders to move

NumPad 5 Center on unit

NumPad Move unit

RMB Move unit to selected tile

Alt RMB Set Rally Point

, or MW Cycle units in the same tile

\ Cycle to prev. selected unit

/ Cycle through active workers

Alt MO +enemy unit: combat odds

## WORKER BUILDS

A Automate

R Road/Railroad

Alt R Road-to Mode

T Cottage

I Farm

M Mine

L Lumbermill

K Workshop

Q Quarry

H Camp

F Fishing nets

Shift P Offshore Platform

Shift P Pasture/Plantation

Shift W Winery, Windmill,  
Watermill, Whaling Boat

Shift F Forest Preserve

Ctrl F Fort

Alt C Clear Forest/Jungle

N Trade Network (auto)

Shift Ctrl C Improve nearest city

CAMERA

PgUp/PgDn Zoom in/out

MW Zoom in/out

Shift ↔ Rotate

Ctrl ↔ Lock 45° clockwise

Ctrl ↔ Lock 45° counterclockwise

Alt F Satellite view

Ctrl F Flying mode\*

Alt O Change perspective

LMB left mouse button MMB middle mouse button RMB right mouse button MW mouse wheel MO mouseover

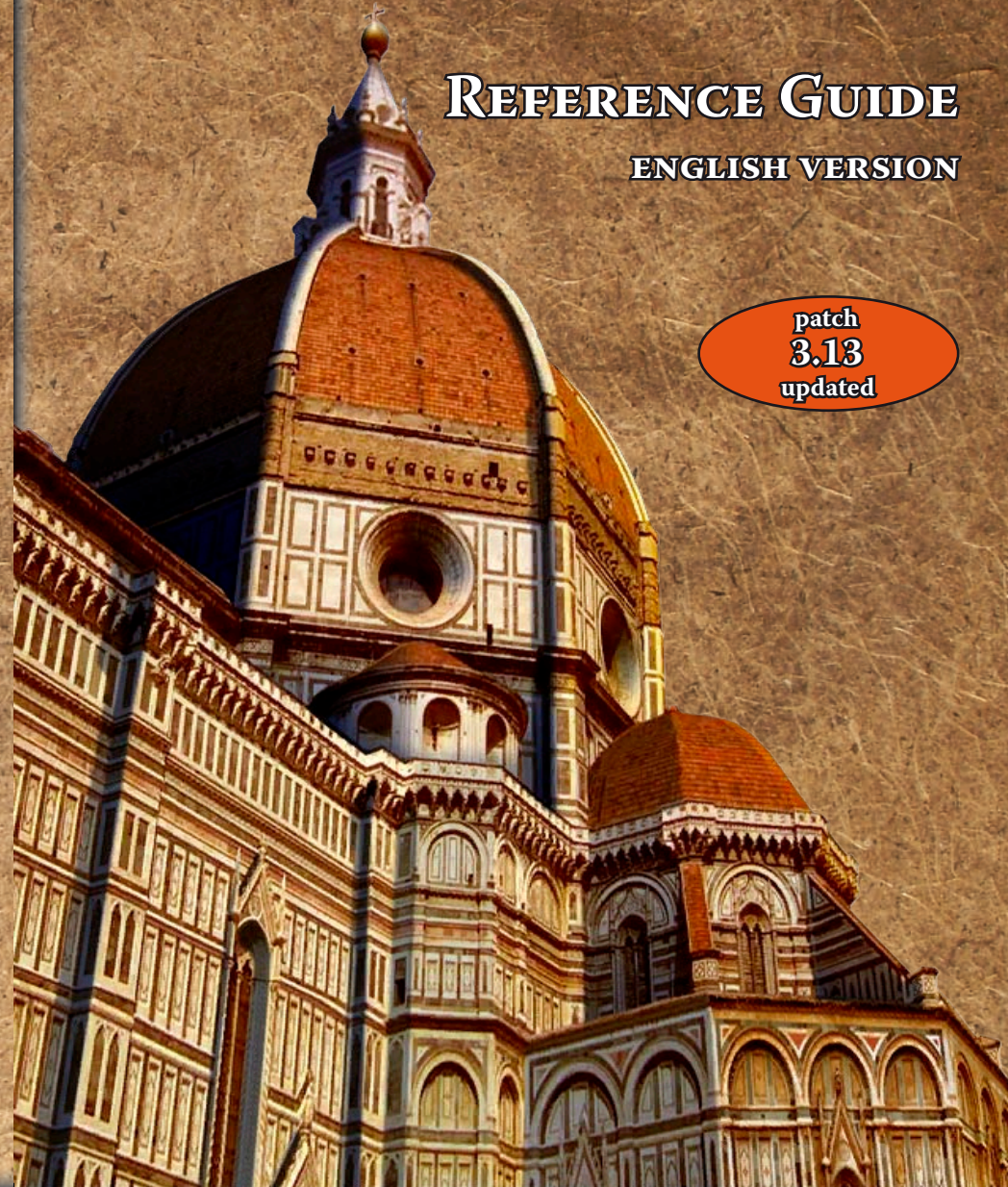
\* must be enabled in INI file

# SID MEIER'S CIVILIZATION IV BEYOND THE SWORD

## REFERENCE GUIDE

ENGLISH VERSION

patch  
3.13  
updated





# CIVILIZATION IV: Beyond the Sword

## Reference Guide

English version

assembling and graphic layout  
Anion  
(contact: civman@o2.pl)

revision and proofreading  
Jason77024

5<sup>th</sup> edition  
(updated 7<sup>th</sup> April 2008)

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LLAMACAT • LORD ODEN • LUDWIG II • MARIOFLAG • MARKM • MNF • MR GREENFINCH • OTAKUJBSKI • PHOTITHEMALFEAS  
PIKKIS • RABBIT WHITE • RINCE • SEBSTER • SNEAKY • VEDOREUS • VIRULENT • ZAGNUT



| World Size                                   | Base features*                        | Some modifiers   |   |   |  |
|--|---------------------------------------|--|---|---|--|
| <b>Duel</b><br>960 tiles<br>24 H × 40 W      | 2 players default<br>4 target cities  | prereq. buildings** ×1.00<br>research cost ×1.00<br>trade profit ×0.80 | war weariness ×1.50<br>can draft up to 2 units per turn | distance maint. ×0.50<br>no. cities maint. ×0.45<br>colony maint. ×0.67<br>corporation maint. ×4.00 |  |
| <b>Tiny</b><br>1664 tiles<br>32 H × 52 W     | 3 players default<br>4 target cities  | prereq. buildings ×1.00<br>research cost ×1.10<br>trade profit ×0.70   | war weariness ×1.30<br>can draft up to 3 units per turn | distance maint. ×0.60<br>no. cities maint. ×0.40<br>colony maint. ×0.60<br>corporation maint. ×2.00 |  |
| <b>Small</b><br>2560 tiles<br>40 H × 64 W    | 5 players default<br>5 target cities  | prereq. buildings ×1.25<br>research cost ×1.20<br>trade profit ×0.60   | war weariness ×1.10<br>can draft up to 4 units per turn | distance maint. ×0.70<br>no. cities maint. ×0.35<br>colony maint. ×0.52<br>corporation maint. ×1.50 |  |
| <b>Standard</b><br>4368 tiles<br>52 H × 84 W | 7 players default<br>5 target cities  | prereq. buildings ×1.50<br>research cost ×1.30<br>trade profit ×0.50   | war weariness ×0.90<br>can draft up to 5 units per turn | distance maint. ×0.80<br>no. cities maint. ×0.30<br>colony maint. ×0.45<br>corporation maint. ×1.00 |  |
| <b>Large</b><br>6656 tiles<br>64 H × 104 W   | 9 players default<br>6 target cities  | prereq. buildings ×1.75<br>research cost ×1.40<br>trade profit ×0.40   | war weariness ×0.70<br>can draft up to 6 units per turn | distance maint. ×0.90<br>no. cities maint. ×0.25<br>colony maint. ×0.37<br>corporation maint. ×0.75 |  |
| <b>Huge</b><br>10,240 tiles<br>80 H × 128 W  | 11 players default<br>6 target cities | prereq. buildings ×2.00<br>research cost ×1.50<br>trade profit ×0.30   | war weariness ×0.50<br>can draft up to 7 units per turn | distance maint. ×1.00<br>no. cities maint. ×0.20<br>colony maint. ×0.30<br>corporation maint. ×0.50 |  |

\* Based on XML code; more **players** possible in Custom Games; **target cities** determines how many "largest cities" get the happiness bonus from Representation civic and how far apart the map generator tries to set start positions.

\*\* Some Buildings and National Wonders require specific number of other buildings to be built (see: pages 24–29, 32).

| Game Length                   | Multiplier* | Other modifiers   |  |  |  |
|-------------------------------|-------------|---|--|--|--|
| <b>Marathon</b><br>1500 turns | ×3.00**     | Anarchy length ×2.00<br>Golden Age length ×2.00<br>Barbarians ×4.00 | Hurry effect ×0.33<br>Hurry anger length ×3.00 | Inflation ×0.10<br>Victory delay ×3.00 |  |
| <b>Epic</b><br>750 turns      | ×1.50       | Anarchy length ×1.50<br>Golden Age length ×1.25<br>Barbarians ×1.50 | Hurry effect ×0.66<br>Hurry anger length ×1.50 | Inflation ×0.20<br>Victory delay ×1.50 |  |
| <b>Normal</b><br>500 turns    | ×1.00       | Anarchy length ×1.00<br>Golden Age length ×1.00<br>Barbarians ×1.00 | Hurry effect ×1.00<br>Hurry anger length ×1.00 | Inflation ×0.30<br>Victory delay ×1.00 |  |
| <b>Quick</b><br>330 turns     | ×0.67       | Anarchy length ×0.67<br>Golden Age length ×0.80<br>Barbarians ×0.67 | Hurry effect ×1.50<br>Hurry anger length ×0.67 | Inflation ×0.45<br>Victory delay ×0.67 |  |

\* Based on XML code; affects the following: city growth rate (food), unit training (hammers), building, wonder, and project construction (hammers), tech research (beakers); building improvements (turns), improvement upgrades (turns), city culture points, Great People Birth Rate points, and Great Work effects.

\*\* except for unit training cost (×2.00).



|           | Base bonuses   | Tribal Village Results*  | Modifiers   | Others  |
|-----------|--|--|---|---|
| Settler   | +4 health<br>+6 happy<br>24 free units<br>+2 AI attitude<br>3 free techs:<br>Wheel, Agriculture, Mining                | 20% technology, high gold<br>10% low gold<br>10% Settler, Worker, Warrior<br>5% Scout, experience, healing, maps<br>no barbarians                      | research $\times 0.60$<br>unit cost $\times 0.20$<br>distance maint. $\times 0.45$<br>civic upkeep $\times 0.50$<br>inflation $\times 0.60$<br>AI costs $\times 1.60$ | 25% animal attack probability<br>animal strength: -70%<br>barbarians in 50 turns**<br>barb. city creation prob.: 40%<br>5 free wins vs. barbarians<br>barbarian strength: -40%  |
| Chieftain | +3 health<br>+5 happy<br>18 free units<br>+1 AI attitude<br>2 free techs:<br>Wheel, Agriculture                        | 20% high gold<br>15% technology<br>10% low gold<br>10% Settler, Worker, Warrior<br>5% Scout, experience, healing, maps<br>5% barbarians (only weak)    | research $\times 0.75$<br>unit cost $\times 0.30$<br>distance maint. $\times 0.55$<br>civic upkeep $\times 0.60$<br>inflation $\times 0.70$<br>AI costs $\times 1.30$ | 50% animal attack probability<br>animal strength: -60%<br>barbarians in 45 turns**<br>barb. city creation prob.: 50%<br>4 free wins vs. barbarians<br>barbarian strength: -30%  |
| Warlord   | +2 health<br>+4 happy<br>12 free units<br>1 free tech: Wheel   | 15% gold (high or low)<br>15% technology<br>10% Warrior, maps<br>5% Settler, Worker, Scout<br>5% experience, healing<br>5% barbarians (strong or weak) | research $\times 0.90$<br>unit cost $\times 0.40$<br>distance maint. $\times 0.65$<br>civic upkeep $\times 0.70$<br>inflation $\times 0.80$<br>AI costs $\times 1.10$ | 75% animal attack probability<br>animal strength: -50%<br>barbarians in 40 turns***<br>barb. city creation prob.: 50%<br>3 free wins vs. barbarians<br>barbarian strength: -20% |
| Noble     | +2 health<br>+4 happy<br>8 free units<br>-1 AI attitude  | 20% low gold<br>15% high gold<br>10% Warrior, technology, exp., maps<br>5% Scout, healing<br>5% strong barbarians<br>10% weak barbarians               | research $\times 1.00$<br>unit cost $\times 0.50$<br>distance maint. $\times 0.75$<br>civic upkeep $\times 0.80$<br>inflation $\times 0.90$<br>AI costs $\times 1.00$ | 85% animal attack probability<br>animal strength: -40%<br>barbarians in 35 turns***<br>barb. city creation prob.: 60%<br>2 free wins vs. barbarians<br>barbarian strength: -10% |
| Prince    | +2 health<br>+4 happy<br>6 free units<br>-1 AI attitude  | 20% low gold<br>10% Warrior, technology, experience,<br>high gold, maps<br>5% Scout, healing<br>5% strong barbarians<br>15% weak barbarians            | research $\times 1.10$<br>unit cost $\times 0.60$<br>distance maint. $\times 0.85$<br>civic upkeep $\times 0.90$<br>inflation $\times 0.95$<br>AI costs $\times 0.95$ | 90% animal attack probability<br>animal strength: -30%<br>barbarians in 30 turns***<br>barb. city creation prob.: 60%<br>1 free win vs. barbarians<br>barbarian strength: -5%   |
| Monarch   | +2 health<br>+4 happy<br>4 free units<br>-1 AI attitude<br>AI starts with 1 Archer extra                               | 20% low gold<br>10% Warrior, technology,<br>experience, maps<br>5% Scout, healing, high gold<br>10% strong barbarians<br>15% weak barbarians           | research $\times 1.15$<br>unit cost $\times 0.70$<br>distance maint. $\times 0.90$<br>civic upkeep $\times 0.95$<br>inflation $\times 1.00$<br>AI costs $\times 0.90$ | 90% animal attack probability<br>animal strength: -20%<br>barbarians in 25 turns***<br>barb. city creation prob.: 70%   |
| Emperor   | +2 health<br>+4 happy<br>3 free units<br>-1 AI attitude<br>AI starts with: 2 Archers,<br>2 Scouts, and 1 Settler       | 25% low gold<br>10% technology, maps<br>5% Warrior, Scout, experience,<br>healing, high gold<br>15% weak barbarians<br>15% strong barbarians           | research $\times 1.20$<br>unit cost $\times 0.80$<br>distance maint. $\times 0.95$<br>civic upkeep $\times 1.00$<br>inflation $\times 1.00$<br>AI costs $\times 0.85$ | 90% animal attack probability<br>animal strength: -10%<br>barbarians in 20 turns***<br>barb. city creation prob.: 70%   |
| Immortal  | +2 health<br>+4 happy<br>2 free units<br>-1 AI attitude<br>AI starts with: 3 Archers,<br>2 Scouts, 1 Worker, 1 Settler | 25% low gold<br>10% technology, maps<br>5% Warrior, Scout, experience,<br>healing<br>15% weak barbarians<br>20% strong barbarians                      | research $\times 1.25$<br>unit cost $\times 0.90$<br>distance maint. $\times 1.00$<br>civic upkeep $\times 1.00$<br>inflation $\times 1.00$<br>AI costs $\times 0.80$ | 90% animal attack probability<br>animal strength: -5%<br>barbarians in 15 turns***<br>barb. city creation prob.: 80%  |
| Deity     | +2 health<br>+4 happy<br>1 free unit<br>-1 AI attitude<br>AI starts with: 4 Archers,<br>2 Scouts, 1 Worker, 2 Settlers | 25% low gold<br>10% technology<br>5% Warrior, Scout, experience,<br>healing, maps<br>10% weak barbarians<br>30% strong barbarians                      | research $\times 1.30$<br>unit cost $\times 1.00$<br>distance maint. $\times 1.00$<br>civic upkeep $\times 1.00$<br>inflation $\times 1.00$<br>AI costs $\times 0.60$ | 90% animal attack probability<br>barbarians in 10 turns***<br>barb. city creation prob.: 80%  |

\* Based on XML code; represents probabilities of results from Tribal Villages.

\*\* Based on XML code; represents AI cost modifiers for: growth rate, unit training, city production (Wonders never less than  $\times 1.00$ ).

\*\*\* The first barbarian city is founded five turns after they first appear.

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| Civilization   | Free Techs               | Unique Unit                      | Uniq. Building                    | Leaders                            | Traits   |
|--|--------------------------|----------------------------------|-----------------------------------|------------------------------------|--|
|  <b>American Empire</b>     | Fishing<br>Agriculture   | Navy Seal<br>(Marine)            | Mall<br>(Supermarket)             | Lincoln<br>Roosevelt<br>Washington | <i>Philosophical, Charismatic<br/>Industrious, Organized<br/>Expansive, Charismatic</i>  |
|  <b>Arabian Empire</b>      | Mysticism<br>Wheel       | Camel Archer<br>(Knight)         | Madrasa<br>(Library)              | Saladin                            | <i>Spiritual, Protective</i>   |
|  <b>Aztec Empire</b>        | Mysticism<br>Hunting     | Jaguar<br>(Swordsman)            | Sacrificial Altar<br>(Courthouse) | Montezuma                          | <i>Aggressive, Spiritual</i>   |
|  <b>Babylonian Empire</b>   | Wheel<br>Agriculture     | Bowman<br>(Archer)               | Garden<br>(Colosseum)             | Hammurabi                          | <i>Aggressive, Organized</i>   |
|  <b>Byzantine Empire</b>    | Mysticism<br>Wheel       | Cataphract<br>(Knight)           | Hippodrome<br>(Theatre)           | Justinian I                        | <i>Spiritual, Imperialistic</i>  |
|  <b>Carthaginian Empire</b> | Fishing<br>Mining        | Numid. Cavalry<br>(Horse Archer) | Cothon<br>(Harbor)                | Hannibal                           | <i>Financial, Charismatic</i>  |
|  <b>Celtic Empire</b>       | Mysticism<br>Hunting     | Gallic Warrior<br>(Swordsman)    | Dun<br>(Walls)                    | Boudica<br>Brennus                 | <i>Aggressive, Charismatic<br/>Spiritual, Charismatic</i>                                |
|  <b>Chinese Empire</b>      | Agriculture<br>Mining    | Cho-Ko-Nu<br>(Crossbowman)       | Pavilion<br>(Theatre)             | Mao Zedong<br>Qin Shi Huang        | <i>Expansive, Protective<br/>Industrious, Protective</i>                                 |
|  <b>Dutch Empire</b>        | Fishing<br>Agriculture   | East Indiaman<br>(Galleon)       | Dike<br>(Levee)                   | Willem van Oranje                  | <i>Creative, Financial</i>   |
|  <b>Egyptian Empire</b>     | Wheel<br>Agriculture     | War Chariot<br>(Chariot)         | Obelisk<br>(Monument)             | Hatshepsut<br>Ramesses II          | <i>Spiritual, Creative<br/>Spiritual, Industrious</i>                                    |
|  <b>English Empire</b>     | Fishing<br>Mining        | Redcoat<br>(Rifleman)            | Stock Exchange<br>(Bank)          | Churchill<br>Elizabeth<br>Victoria | <i>Charismatic, Protective<br/>Philosophical, Financial<br/>Financial, Imperialistic</i> |
|  <b>Ethiopian Empire</b>  | Hunting<br>Mining        | Oromo Warrior<br>(Musketman)     | Stele<br>(Monument)               | Zara Yaqob                         | <i>Creative, Organized</i>   |
|  <b>French Empire</b>     | Wheel<br>Agriculture     | Musketeer<br>(Musketman)         | Salon<br>(Observatory)            | De Gaulle<br>Louis XIV<br>Napoleon | <i>Industrious, Charismatic<br/>Industrious, Creative<br/>Organized, Charismatic</i>     |
|  <b>German Empire</b>     | Hunting<br>Mining        | Panzer<br>(Tank)                 | Assembly Plant<br>(Factory)       | Bismarck<br>Frederick              | <i>Expansive, Industrious<br/>Philosophical, Organized</i>                               |
|  <b>Greek Empire</b>      | Fishing<br>Hunting       | Phalanx<br>(Axeman)              | Odeon<br>(Colosseum)              | Alexander<br>Pericles              | <i>Philosophical, Aggressive<br/>Philosophical, Creative</i>                             |
|  <b>Holy Roman Empire</b> | Mysticism<br>Hunting     | Landsknecht<br>(Pikeman)         | Rathaus<br>(Courthouse)           | Charlemagne                        | <i>Protective, Imperialistic</i>   |
|  <b>Incan Empire</b>      | Mysticism<br>Agriculture | Quechua<br>(Warrior)             | Terrace<br>(Granary)              | Huayna Capac                       | <i>Industrious, Financial</i>  |



## Culture

### Buildings

- Broadcast Tower +50% culture
- Buddhist Stupa / Christian Cathedral / Confucian Academy / Hindu Mandir / Islamic Mosque / Jewish Synagogue / Taoist Pagoda +50% culture
- Stele\* +25% culture
- Pavilion\* +25% culture
- Academy +4 culture
- Madrasa\* +4 culture
- Military Academy +3 culture
- Theatre / Pavilion\* +3 culture
- University / Seowon\* +3 culture
- Library +2 culture
- Monasteries (until Scientific Method) +2 culture
- Temples +1 culture
- Castle +1 culture
- Monument / Obelisk\* / Totem Pole\* / Stele\* (until Astronomy) +1 culture
- Hippodrome\* / Odeon\* +3 culture
- Terrace\* +2 culture

### Wonders

- Hermitage +100% culture
- Broadway, Hollywood, Rock 'n' Roll each +50% culture
- Sistine Chapel +10 culture
- per Specialist extra +2 culture
- each State Religion building extra +5 culture
- Mausoleum of Maussollos, Notre Dame, Parthenon, Statue of Zeus, Taj Mahal, Versailles each +10 culture



## Great People Birth Rate

### Buildings

- Forum\* as unique bonus +25% GP points

### Wonders

- Parthenon (until Scientific Method) all cities +50% GP points
- National Epic +100% GP points
- any World Wonder +2 GP points
- any National Wonder +1 GP point
- all Religion Shrines +1 GP point
- all Corporation HQs +1 GP point

### Technologies

- Music free Great Artist for first to discover
- Fusion free Great Engineer for first to discover

- Angkor Wat, Great Library, Hagia Sophia, Oracle, Shwedagon Paya, Spiral Minaret, Stonehenge, Temple of Artemis, University of Sankore each +8 culture
- Chichen Itza, Colossus, Eiffel Tower, Globe Theatre, Great Lighthouse, Hanging Gardens, Pyramids, Statue of Liberty each +6 culture
- Cristo Redentor +5 culture
- Apostolic Palace, Forbidden Palace, Heroic Epic, Moai Statues, Mt. Rushmore, National Epic, Oxford University each +4 culture
- all Religion Shrines +4 culture
- National Park +3 culture
- Great Wall, Red Cross each +2 culture
- all Corporation HQs +2 culture

### Corporations

- Civilized Jewelers Inc every Gems, Gold, Silver +4 culture
- Creative Constructions every Aluminum, Copper, Iron, Marble, Stone +3 culture
- Sid's Sushi Co every Clam, Crab, Fish, Rice +2 culture

### Technologies

- Drama can adjust culture rate
- Music can build Culture

### Civics

- Free Speech all cities +100% culture

### Leader traits

- Creative trait all cities +2 culture

### Others

- Buildings older than 1000 years will generate double culture





## Trade Routes

## Buildings

- **Airport** +1 Trade Route
- **Castle** (until **Economics**) +1 Trade Route
- **Harbor / Cothon** +50% Trade Route commerce also **Cothon** +1 Trade Route
- **Customs House / Feitoria** +100% commerce from intercontinental foreign Trade Routes

## Wonders

- **Great Lighthouse** (until **Corporation**) all coastal cities +2 Trade Routes
- **Temple of Artemis** (until **Scientific Method**) +100% Trade Route commerce in host city

## Technologies

- **Currency** all cities +1 Trade Route
- **Corporation** all cities +1 Trade Route

## Civics

- **Free Market** all cities +1 Trade Route
- **Mercantilism** no foreign Trade Routes

## Military Experience (XP)



## Buildings

- **Barracks / Ikhanda** new **Land Units** +3 XP
- **Stable** (until **Advanced Flight**) new **Mounted Units** +2 XP
- **Ger** (until **Advanced Flight**) new **Mounted Units** +4 XP
- **Drydock** new **Naval Units** +4 XP
- **Airport** new **Air Units** +3 XP
- **Citadel** as unique bonus new **Siege Weapons** +5 XP
- **Totem Pole** as unique bonus new **Archery Units** +3 XP
- **Dun** as unique bonus new **Land Units** free **Guerilla I**
- **Trading Post** as unique bonus new **Naval Units** free **Navigation I**

## Wonders

- **West Point** all new units +4 XP
- **Pentagon** in all cities all new units +2 XP
- **Red Cross** all new units free **Medic I**
- **Great Wall** inside borders +100% Great General Emergence

## Technologies

- **Gunpowder** enables **Pinch**
- **Military Science** enables **Blitz**, **Commando**
- **Refrigeration** +1 move for **Naval Units**

## Civics

- **Vassalage** all new units +2 XP
- **Theocracy** all cities with **State Religion** all new units +2 XP
- **Nationhood** can draft up to 3 units per turn

## Leader traits

- Aggressive trait all **Melee** and **Gunpowder Units** free **Combat I**
- Charismatic trait -25% XP needed for unit promotions
- Imperialistic trait +100% Great General Emergence
- Protective trait all **Archery** and **Gunpowder Units** free **City Garrison I** and **Drill I**



## City Defense

## Buildings

- **Walls / Dun** +50% city defense also -50% bombardment damage, except **Gunpowder Units**
- **Castle / Citadel** +50% city defense also -25% bombardment damage, except **Gunpowder Units**
- **Bomb Shelter** -50% damage from **Nukes**
- **Bunker** -50% damage from **Air Units**
- **Hospital** heals units +10% extra per turn

## Wonders

- **Chichen Itza** (until **Rifling**) in all cities +25% city defense
- **SDI** in all cities +75% chance of intercepting **Nukes**
- **Great Wall** prevents Barbarians from entering borders
- **Statue of Zeus** enemies suffer +100% War Weariness

## Technologies

- **Communism, Fascism** enables Permanent Alliances
- **Military Tradition** enables Defensive Pacts

## Espionage



## Buildings

- **Scotland Yard** +100% espionage
- **Intelligence Agency** +50% and per turn +8 espionage
- **Security Bureau** +8 espionage also +50% defense against espionage, helps thwart rival spies
- **Jail / Mausoleum** +50% and per turn +4 espionage
- **Castle** (until **Economics**) +25% espionage
- **Courthouse / Rathaus** / **Sacrificial Altar** / **Ziggurat** per turn +2 espionage

## Civics

- **Nationhood** all cities +25% espionage

| Civilization                  | Free Techs             | Unique Unit                         | Uniq. Building                 | Leaders                          | Traits  |
|-------------------------------|------------------------|-------------------------------------|--------------------------------|----------------------------------|---|
| <b>Indian Empire</b>          | Mysticism<br>Mining    | Fast Worker<br>(Worker)             | Mausoleum<br>(Jail)            | Asoka<br>Gandhi                  | <i>Spiritual, Organized<br/>Philosophical, Spiritual</i>                                |
| <b>Japanese Empire</b>        | Fishing<br>Wheel       | Samurai<br>(Maceman)                | Shale Plant<br>(Coal Plant)    | Tokugawa                         | <i>Aggressive, Protective</i>   |
| <b>Khmer Empire</b>           | Hunting<br>Mining      | Ballista Elephant<br>(War Elephant) | Baray<br>(Aqueduct)            | Suryavarman II                   | <i>Expansive, Creative</i>  |
| <b>Korean Empire</b>          | Mysticism<br>Mining    | Hwacha<br>(Catapult)                | Seowon<br>(University)         | Wang Kon                         | <i>Financial, Protective</i>  |
| <b>Malinese Empire</b>        | Wheel<br>Mining        | Skirmisher<br>(Archer)              | Mint<br>(Forge)                | Mansa Musa                       | <i>Spiritual, Financial</i>   |
| <b>Maya Empire</b>            | Mysticism<br>Mining    | Holkan<br>(Spearman)                | Ball Court<br>(Colosseum)      | Pacal II                         | <i>Expansive, Financial</i>   |
| <b>Mongolian Empire</b>       | Wheel<br>Hunting       | Keshik<br>(Horse Archer)            | Ger<br>(Stable)                | Genghis Khan<br>Kublai Khan      | <i>Aggressive, Imperialistic<br/>Aggressive, Creative</i>                               |
| <b>Native American Empire</b> | Fishing<br>Agriculture | Dog Soldier<br>(Axeman)             | Totem Pole<br>(Monument)       | Sitting Bull                     | <i>Philosophical, Protective</i>  |
| <b>Ottoman Empire</b>         | Wheel<br>Agriculture   | Janissary<br>(Musketman)            | Hammam<br>(Aqueduct)           | Mehmed II<br>Suleiman            | <i>Expansive, Organized<br/>Philosophical, Imperialistic</i>                            |
| <b>Persian Empire</b>         | Agriculture<br>Hunting | Immortal<br>(Chariot)               | Apothecary<br>(Grocer)         | Cyrus<br>Darius I                | <i>Charismatic, Imperialistic<br/>Financial, Organized</i>                              |
| <b>Portuguese Empire</b>      | Fishing<br>Mining      | Carrack<br>(Caravel)                | Feitoria<br>(Customs House)    | Joao II                          | <i>Expansive, Imperialistic</i>   |
| <b>Roman Empire</b>           | Fishing<br>Mining      | Praetorian<br>(Swordsman)           | Forum<br>(Market)              | Augustus Caesar<br>Julius Caesar | <i>Industrious, Imperialistic<br/>Organized, Imperialistic</i>                          |
| <b>Russian Empire</b>         | Hunting<br>Mining      | Cossack<br>(Cavalry)                | Research Inst.<br>(Laboratory) | Catherine<br>Peter<br>Stalin     | <i>Creative, Imperialistic<br/>Philosophical, Expansive<br/>Aggressive, Industrious</i> |
| <b>Spanish Empire</b>         | Mysticism<br>Fishing   | Conquistador<br>(Cuirassier)        | Citadel<br>(Castle)            | Isabella                         | <i>Spiritual, Expansive</i>   |
| <b>Sumerian Empire</b>        | Wheel<br>Agriculture   | Vulture<br>(Axeman)                 | Ziggurat<br>(Courthouse)       | Gilgamesh                        | <i>Creative, Protective</i>   |
| <b>Viking Empire</b>          | Fishing<br>Hunting     | Berserker<br>(Maceman)              | Trading Post<br>(Lighthouse)   | Ragnar                           | <i>Aggressive, Financial</i>  |
| <b>Zulu Empire</b>            | Agriculture<br>Hunting | Impi<br>(Spearman)                  | Ikhanda<br>(Barracks)          | Shaka                            | <i>Aggressive, Expansive</i>  |



## Leaders, Traits, and Favourites

**Alexander**  
*Greek Empire*

Philosophical, Aggressive  
fav. civic: Vassalage  
fav. religion: none

**Asoka**  
*Indian Empire*

Spiritual, Organized  
fav. civic: Free Religion  
fav. religion: Buddhism

**Augustus Caesar**  
*Roman Empire*

Imperialistic, Industrious  
fav. civic: Representation  
fav. religion: none

**Bismarck**  
*German Empire*

Expansive, Industrious  
fav. civic: Nationhood  
fav. religion: Christianity

**Boudica**  
*Celtic Empire*

Charismatic, Aggressive  
fav. civic: Universal Suffrage  
fav. religion: none

**Brennus**  
*Celtic Empire*

Spiritual, Charismatic  
fav. civic: Organized Religion  
fav. religion: none

**Catherine**  
*Russian Empire*

Creative, Imperialistic  
fav. civic: Hereditary Rule  
fav. religion: Christianity

## AI behaviour\*

favors: military, growth  
builds wonders: sometimes  
trains units: very often  
aggression level: very high  
espionage level: normal  
tech trading: averse, 30%

favors: religion, science  
builds wonders: very often  
trains units: sometimes  
aggression level: medium  
espionage level: medium  
tech trading: moderate, 20%

favors: production, military  
builds wonders: very often  
trains units: moderate  
aggression level: medium  
espionage level: normal  
tech trading: willing, 40%

favors: military  
builds wonders: often  
trains units: often  
aggression level: medium  
espionage level: high  
tech trading: averse, 70%

favors: military, growth  
builds wonders: very rarely  
trains units: often  
aggression level: very high  
espionage level: low  
tech trading: moderate, 30%

favors: military, religion  
builds wonders: very rarely  
trains units: often  
aggression level: high  
espionage level: intensive  
tech trading: averse, 40%

favors: culture, military  
builds wonders: often  
trains units: moderate  
aggression level: high  
espionage level: very high  
tech trading: willing, 20%

relation factor: 0  
peace probability (%): 0/20/80/100  
attack courage: very high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 6  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 2  
peace probability (%): 0/40/100/100  
attack courage: very high  
will raze city: rarely  
refuses to talk delay: long  
warmonger respect: 1

relation factor: 0  
peace probability (%): 20/70/100/100  
attack courage: very high  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

relation factor: 2  
peace probability (%): 0/20/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 2



## Wealth

(commerce, gold and maintenance)

## Resources and Improvements

- **Gold** +1 commerce, with **Mine** extra +6 commerce
- **Gems** +1 commerce, with **Mine** extra +5 commerce
- **Incense** +1 commerce, with **Plantation** extra +5 commerce
- **Silver** +1 commerce, with **Mine** extra +4 commerce
- **Dye** +1 commerce, with **Plantation** extra +4 commerce
- **Silk** +1 commerce, with **Plantation** extra +3 commerce
- **Fur** +1 commerce, with **Camp** extra +3 commerce
- **Spices** +1 commerce, with **Plantation** extra +2 commerce
- **Wine** +1 commerce, with **Winery** extra +2 commerce
- **Uranium** with **Mine** +3 commerce
- **Sugar** +1 commerce, with **Plantation** extra +1 commerce
- **Marble** with **Quarry** +2 commerce
- **Horse, Sheep** each with **Pasture** +1 commerce
- **Oil** with **Well / Offshore Platform** +1 commerce
- **Ivory** with **Camp** +1 commerce
- **Whale** with **Whaling Boat** +1 commerce
- **Aluminum** with **Mine** +1 commerce
- **Cottage, Hamlet, Village, Town** +1, +2, +3, +4 commerce
- **Windmill** +1 commerce

## Buildings

- **Bank** +50% gold
- **Stock Exchange\*** +65% gold
- **Grocer / Apothecary\*, Market / Forum\*** each +25% gold
- **Mall\*** +20% gold
- **Mint\*** +10% gold
- **Feitoria\*** water tiles +1 commerce
- **Courthouse / Sacrificial Altar\* / Ziggurat\*** -50% maintenance
- **Rathaus\*** -75% maintenance
- **Ikhand\*** -20% maintenance

## Wonders

- **Colossus (until Astronomy)** all cities water tiles +1 commerce
- **Wall Street** +100% gold
- **Spiral Minaret (until Computers)** each **State Religion** building +2 gold
- all **Corporation HQs** each city with corp. branch office +4 gold
- all **Religion Shrines** each city with **State Religion** +1 gold
- **Forbidden Palace, Versailles** reduces maintenance in nearby cities

- **Kremlin (until Fiber Optics)** -33% hurry production cost
- **Mausoleum of Maussollos** +50% Golden Age length
- **Taj Mahal** starts Golden Age

## Corporations

- **Civilized Jewelers Inc** every **Gems, Gold, Silver** +1 gold

## Technologies

- **Electricity** **Windmill** +1 commerce  
**Watermill** +2 commerce  
**Village, Town** +1 commerce
- **Printing Press** enables gold trade via diplomacy
- **Currency** can build **Wealth**

- **Sailing** enables trade on coast and rivers
- **Astronomy** enables trade on Ocean

## Civics

- **Free Speech** **Town** +2 commerce
- **Environmentalism** **Windmill, Forest Preserve** +2 commerce  
also causes +25% **Corporations** maintenance cost
- **Bureaucracy** the Capital +50% gold
- **Emancipation** **Cottage, Hamlet, Village** +100% growth
- **State Property** no maintenance cost from distance to **Palace**
- **Vassalage** increases the number of units not requiring support costs
- **Free Market** -25% **Corporations** maintenance cost

## Leader traits

- Financial trait all plots with at least 2 commerce +1 commerce
- Organized trait -50% **Civic upkeep**

## Food and Growth



## Resources and Improvements

- **Pig** +1 food, with **Pasture** extra +3 food
- **Fish** +1 food, with **Fishing Boat** extra +3 food
- **Clam, Crab** each +1 food, with **Fishing Boat** extra +2 food
- **Sheep** +1 food, with **Pasture** extra +2 food
- **Banana** +1 food, with **Plantation** extra +2 food
- **Corn, Wheat** each +1 food, with **Farm** extra +2 food
- **Rice** +1 food, with **Farm** extra +1 food
- **Deer** +1 food, with **Camp** extra +2 food
- **Whale** +1 food
- **Wine** with **Winery** +1 food
- **Farm** without resources +1 food, with irrigation extra +1 food
- **Windmill** +1 food

## Buildings

- **Lighthouse / Trading Post\*** on every water tile +1 food
- **Supermarket / Mall\*** per turn +1 food
- **Baray\*** per turn +1 food
- **Granary / Terrace\*** doubles city growth rate

## Wonders

- **Hanging Gardens** all cities +1 population

## Corporations

- **Cereal Mills** every **Corn, Rice, Wheat** +0.75 food
- **Sid's Sushi Co** every **Clam, Crab, Fish, Rice** +0.5 food

## Technologies

- **Biology** can build **Farm** without irrigation, **Farm** +1 food
- **Civil Service** **Farms** spread irrigation

## Civics

- **State Property** **Workshop, Watermill** +1 food

\* All data based on XML code;  
**build wonders** refers to World Wonders (scale: extreme, very often, often, sometimes, rarely, very rarely, never);  
**trains units** refers to military unit training probability at peace (scale: extreme, very often, often, moderate, sometimes, rarely);  
**aggression level** refers to war planning probability (scale: very high, high, medium, low, quite low, very low);  
**espionage level** refers to espionage activity (scale: extreme, very high, high, intensive, normal, medium, moderate, low, very low, minimal);  
**tech trading** refers to technology trading behaviour (scale: averse - requires higher AI attitude, averse, moderate, willing, most willing), number is the percentage of rival civs who must know a technology before the leader is willing to trade it away. (average);  
**relation factor** (scale: 0-10, leaders with similar value are more likely to get along with each other, with very different value are more likely to hate each other);  
**peace probability** (percentages are for Annoyed / Cautious / Pleased / Friendly relations. Each round, every AI will run a Declaration of War check against every other civilization. This check involves an evaluation of relative military strengths, defensive pacts, logistical considerations (shared borders, ocean crossings), existing conflicts, etc. The Peace Probability percentages above indicate the likelihood that an AI will ignore a decision to declare war due to diplomatic factors. Note: While a decision to go to war is immediate, the actual declaration may take a dozen turns or more);  
*[thanks for the explanation to ori, CFC]*





## Production

### Resources and Improvements

- **Aluminum, Coal, Copper, Iron** each +1 hammer with **Mine** extra +3 hammers
- **Oil** +1 hammer with **Well / Offshore Platform** extra +2 hammers
- **Horse** +1 hammer, with **Pasture** extra +2 hammers
- **Stone** +1 hammer, with **Quarry** extra +2 hammers
- **Marble** +1 hammer, with **Quarry** extra +1 hammer
- **Ivory** +1 hammer, with **Camp** extra +1 hammer
- **Whale** with **Whaling Boat** +2 hammers
- **Cow** with **Pasture** +2 hammers
- **Gems, Gold, Silver** with **Mine** +1 hammer
- **Mine** without resources +2 hammers
- **Lumbermill, Watermill, Workshop** each +1 hammer
- **Lumbermill, Mine, Quarry** with **Railroad** extra +1 hammer

### Buildings

- **Forge / Mint\*** +25% hammers
- **Factory / Assembly Plant\*** +25% hammers with **Power** +50% hammers
- **Coal Plant / Hydro Plant / Nuclear Plant** provides **Power**
- **Shale Plant\*** provides **Power**, +10% hammers
- **Levee / Dike\*** river tiles +1 hammer

**Dike\*** unique bonus: also water tiles +1 hammer

- **Drydock** +50% **Water Units** production
- **Laboratory / Research Institute\*** +50% spaceship production

### Wonders

- **Ironworks** with **Coal** +50% hammers with **Iron** +50% hammers
- **Three Gorges Dam** provides **Power** for all cities on continent
- **Angkor Wat (until Computers)** all cities every **Priest** +1 hammer
- **Moai Statues** water tiles +1 hammer
- **Heroic Epic** +100% military unit production
- **Space Elevator** +50% spaceship production
- **Eiffel Tower** all cities free **Broadcast Tower**
- **Stonehenge (until Astronomy)** all cities free **Monument**
- **Mausoleum of Maussollos** +50% **Golden Age** length
- **Taj Mahal** starts **Golden Age**

### Corporations

- **Mining Inc** every **Copper, Coal, Iron, Gold, Silver** +1 hammer
- **Creative Constructions** every **Aluminum, Copper, Iron, Marble, Stone** +0.5 hammer

### Technologies

- **Mathematics** Forest chops yield +50% hammers
- **Chemistry, Guilds** each tech **Workshop** +1 hammer
- **Replaceable Parts** **Windmill, Watermill** +1 hammer
- **Bronze Working** enables Forest chopping

### Civics

- **State Property** all cities +10% hammers
- **Bureaucracy** the Capital +50% hammers
- **Caste System** **Workshop** +1 hammer

- **Universal Suffrage** **Town** +1 hammer can spend gold to finish production
- **Organized Religion** all cities with **State Religion** +25% building production +25% military unit production
- **Police State** can sacrifice population to finish production
- **Slavery**

### Leader traits

- **Aggressive trait** +100% **Barracks** and **Drydock** production
- **Creative trait** +100% **Library, Theatre, and Colosseum** production
- **Expansive trait** +100% **Granary** and **Harbor** production +25% **Worker** production (hammers only)
- **Imperialistic trait** +50% **Settler** production (hammers only)
- **Industrious trait** +100% **Forge** production +50% **Wonder** production
- **Organized trait** +100% **Courthouse, Factory, and Lighthouse** production
- **Philosophical trait** +100% **University** production
- **Protective trait** +100% **Walls** and **Castle** production
- **Spiritual trait** +100% **Temple** production +100% **Cristo Redentor** production

## Science



### Buildings

- **Academy** +50% science
- **Laboratory / Research Institute\*, Library / Madrasa\*, Observatory / Salon\*, University** each +25% science
- **Seowon\*** +35% science
- **Monasteries (until Scientific Method)** +10% science

### Wonders

- **Internet** grants all techs possessed by 2+ known civs
- **Oxford University** +100% science
- **University of Sankore (until Computers)** all **State Religion** buildings per turn +2 beakers 1 free tech

### Corporations

- **Aluminium Co** every consumed **Coal** per turn +3 beakers
- **Standard Ethanol** every consumed **Corn, Rice, Sugar** per turn +2 beakers

### Technologies

- **Alphabet** enables technology trading can build Research
- **Liberalism** 1 free technology for first to discover

### Civics

- **Free Religion** all cities +10% science
- **Representation** all cities per **Specialist** +3 beakers

## Diplomatic attitudes\*\*

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -4  
worse/better rank difference: -2/0

base: 1, share war: +1 (max. +2)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +7)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: 0/3

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +3)  
different religion: 0  
close cultural borders: max. -4  
worse/better rank difference: -1/+1

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +3)  
different religion: 0  
close cultural borders: max. -4  
worse/better rank difference: -1/0

base: 0, share war: +1 (max. +5)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -3  
worse/better rank difference: -1/0

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +6)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: -2/0

base: 1, share war: +1 (max. +2)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -4  
worse/better rank difference: -2/0

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: annoyed  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: annoyed  
open borders: furious

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: none  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: pleased  
open borders: furious

declare war: annoyed, declare war on X: pleased  
stop trading: cautious, stop trading with X: cautious  
adopt civic: pleased, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: pleased, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: pleased  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: cautious  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: pleased

declare war: annoyed, declare war on X: cautious  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: pleased  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: friendly  
stop trading: annoyed, stop trading with X: annoyed  
adopt civic: annoyed, convert religion: cautious  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: annoyed

**attack courage** refers to AI combat odds (extreme - more AI attacks at lower combat odds, very high, high, normal);  
**razing city probability** (scale: never - 0%, almost never - 5%, very rarely - 10%, rarely - 20%, sometimes - 25%, often - 50%, very often - 75%);  
**refuses to talk delay** (scale: short, moderate, medium, long, very long);  
**warmonger respect** refers to a bonus on relations between two leaders - the smaller of both values is the modifier (scale: 0-2).

\*\* Based on XML code; represents the diplomatic consequences of your religion and civics choices, as well as random events.

**base** - attitude at first contact, modified by Difficulty Level (see: page 74);

**different religion** - there are no limits for negative attitudes, in game time could be more than values given;

**other considerations** (the same for all leaders): open borders, bonus trade, defensive pact: +2 each; lost war: -1

\*\*\* Based on XML code (scale: friendly, pleased, cautious, annoyed, furious).

Also (for all leaders) **demand tribute** or **give help** at or below cautious will be refused.

Alexander

Asoka

Augustus Caesar

Bismarck

Boudica

Brennus

Catherine



## Leaders, Traits, and Favourites



**Charlemagne**  
Holy Roman Empire  
Imperialistic, Protective  
fav. civic: Vassalage  
fav. religion: Christianity



**Churchill**  
English Empire  
Charismatic, Protective  
fav. civic: Nationhood  
fav. religion: Christianity



**Cyrus**  
Persian Empire  
Charismatic, Imperialistic  
fav. civic: Vassalage  
fav. religion: none



**Darius I**  
Persian Empire  
Organized, Financial  
fav. civic: Free Religion  
fav. religion: none



**De Gaulle**  
French Empire  
Industrious, Charismatic  
fav. civic: Nationhood  
fav. religion: Christianity



**Elizabeth**  
English Empire  
Philosophical, Financial  
fav. civic: Free Religion  
fav. religion: Christianity



**Frederick**  
German Empire  
Philosophical, Organized  
fav. civic: Universal Suffrage  
fav. religion: Christianity



**Gandhi**  
Indian Empire  
Spiritual, Philosophical  
fav. civic: Universal Suffrage  
fav. religion: Hinduism



**Genghis Khan**  
Mongolian Empire  
Aggressive, Imperialistic  
fav. civic: Police State  
fav. religion: none

## AI behaviour\*

favours: military, religion  
builds wonders: rarely  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: willing, 30%

favours: military, gold  
builds wonders: very rarely  
trains units: moderate  
aggression level: medium  
espionage level: high  
tech trading: willing, 30%

favours: military, growth  
builds wonders: very often  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: moderate, 30%

favours: gold, growth  
builds wonders: very often  
trains units: often  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 30%

favours: production, growth  
builds wonders: very rarely  
trains units: moderate  
aggression level: high  
espionage level: intensive  
tech trading: moderate, 40%

favours: gold, culture  
builds wonders: sometimes  
trains units: sometimes  
aggression level: quite low  
espionage level: intensive  
tech trading: willing, 40%

favours: production  
builds wonders: sometimes  
trains units: sometimes  
aggression level: medium  
espionage level: medium  
tech trading: moderate, 30%

favours: culture  
builds wonders: very rarely  
trains units: rarely  
aggression level: very low  
espionage level: minimal  
tech trading: willing, 20%

favours: military  
builds wonders: very rarely  
trains units: very often  
aggression level: very high  
espionage level: normal  
tech trading: averse, 40%

relation factor: 6  
peace probability (%): 20/60/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

relation factor: 6  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

relation factor: 3  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

relation factor: 0  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: short  
warmonger respect: 2

relation factor: 9  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

relation factor: 10  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

relation factor: 0  
peace probability (%): 10/50/90/100  
attack courage: very high  
will raze city: very often  
refuses to talk delay: long  
warmonger respect: 2



## Health

## Resources

• access to Banana, Clam, Corn, Cow, Crab, Deer, Fish, Pig, Rice, Sheep, Wheat each +1 health

## Buildings

• Hospital +3 health  
• Aqueduct / Baray\* / Hammam\* +2 health  
• Garden\* +2 health  
• Apothecary\* +2 health  
• Granary / Terrace\* with Corn, Rice, Wheat each +1 health  
• Grocer / Apothecary\* with Banana, Spices, Sugar, Wine each +1 health  
• Supermarket / Mall\* with Cow, Deer, Pig, Sheep each +1 health  
• Harbor / Cothon\* with Clam, Crab, Fish each +1 health  
• Public Transportation +1 health  
with Oil extra +1 health  
with Environmentalism extra +2 health  
• Recycling Center no unhealthiness from city buildings  
• Airport, Drydock, Forge / Mint\*, Laboratory / Research Institute\* each +1 unhealthiness  
• Factory / Assembly Plant\* +1 unhealthiness  
with Oil and Coal addtl. (each) +2 unhealthiness  
• Coal Plant / Shale Plant\* +2 unhealthiness  
• Industrial Park +2 unhealthiness  
with Oil and Coal each extra +1 unhealthiness

## Wonders

• Hanging Gardens each city +1 health  
• National Park removes Coal, no unhealthiness from population  
• Ironworks +2 unhealthiness

## Technologies

• Genetics +3 health  
• Future Tech each +1 health  
• Ecology can scrub Fallout  
• Iron Working can remove Jungle

## Civics

• Environmentalism +6 health

## Leader traits

• Expansive trait +2 health

## Happiness



## Resources

• access to Dye, Fur, Gems, Gold, Hit Movies, Hit Musicals, Hit Singles, Incense, Ivory, Silk, Silver, Spices, Sugar, Whale, Wine each +1 happy  
• Forest Preserve each +1 happy

## Buildings

• all Temples +1 happy  
• Buddhist Stupa / Christian Cathedral / Confucian Academy / Hindu Mandir / Islamic Mosque / Jewish Synagogue / Taoist Pagoda when its Religion is a State Religion +2 happy  
with Incense extra +1 happy  
• Colosseum / Ball Court\* / Garden\* +1 happy  
per 20% culture rate extra +1 happy  
Ball Court\* addtl. bonus: +2 happy  
• Odeon\* +2 happy  
per 20% culture rate extra +1 happy  
with Hit Singles extra +1 happy  
• Theatre / Pavilion\* with Dye +1 happy  
per 10% culture rate extra +1 happy  
• Hippodrome\* +1 happy  
per 5% culture rate extra +1 happy  
with Horse extra +1 happy  
• Forge / Mint\* with Gems, Gold, Silver each +1 happy  
• Market / Forum\* with Fur, Ivory, Silk, Whale each +1 happy  
• Mall\* with Hit Movies, Hit Musicals, Hit Singles each +1 happy  
• Broadcast Tower with Hit Movies, Hit Musicals, Hit Singles +1 happy  
per 10% culture rate extra +1 happy  
• Hammam\* +2 happy  
• Mausoleum\* +2 happy  
• Jail / Mausoleum\* -25% war weariness  
• Sacrificial Altar\* -50% anger duration from sacrificing population

## Wonders

• Globe Theatre no unhappiness  
• Notre Dame all cities on that continent +2 happy  
• Broadway, Hollywood, Rock'n' Roll each +1 happy  
• Mt. Rushmore all cities on that continent -25% war weariness

## Technologies

• Future Tech each +1 happy

## Civics

• Representation in 5 largest cities\*\* +3 happy  
• Hereditary Rule per Military Unit in city +1 happy  
• Free Religion per religion in city +1 happy  
• Nationhood: Barracks / Ikhandas\* +2 happy  
• Police State -50% war weariness

## Leader traits

• Charismatic trait all cities +1 happy  
• Charismatic trait: Broadcast Tower +1 happy  
Monument / Obelisk\* / Stele\* / Totem Pole\* +1 happy

\* unique building  
\*\* for standard map, number depends on map size



## Specialists and Bonuses

## Relevant Buildings

|   |  |   |
|---|--|---|
|    | <b>Artist</b><br>+1 beaker, +4 culture<br>+3 Great People Birth Rate   | free: Salon* (1)<br>Theatre / Pavilion* (2), Odeon* (2), Broadcast Tower (2), Globe Theatre (3)   |
|    | <b>Engineer</b><br>+2 hammers<br>+3 Great People Birth Rate  | free: Industrial Park (1)<br>Forge / Mint* (1), Factory (2), Assembly Plant* (4), Industrial Park (2), Ironworks (3)  |
|    | <b>Merchant</b><br>+3 gold<br>+3 Great People Birth Rate   | Grocer / Apothecary* (2), Market / Forum* (2), Wall Street (3)  |
|    | <b>Priest</b><br>+1 hammer, +1 gold<br>+3 Great People Birth Rate  | free: Temple of Artemis (1)<br>Buddhist Stupa (2), Christian Cathedral (2), Confucian Academy (2), Hindu Mandir (2), Islamic Mosque (2), Jewish Synagogue (2), Taoist Pagoda (2), Madrasa* (2), Obelisk* (2), all Temples (1), Angkor Wat (3), all Shrines (3)                                    |
|    | <b>Scientist</b><br>+3 beakers<br>+3 Great People Birth Rate   | free: Research Institute* (2), Great Library (2)<br>Library / Madrasa* (2), Observatory / Salon* (1), Laboratory / Research Institute* (1), National Park (1 per <b>Forest Preserve</b> ), Oxford University (3)  |
|    | <b>Spy</b><br>+1 beaker, +4 espionage<br>+3 Great People Birth Rate  | Courthouse / Rathaus* / Sacrificial Altar* / Ziggurat* (1), Jail / Mausoleum* (2), Intelligence Agency (2), Security Bureau (2), Kremlin (2)  |
|    | <b>Citizen</b><br>+1 hammer<br><i>can be turned into non-Great Specialist</i>                                  | —   |
|    | <b>Great Artist</b><br>+3 gold, +12 culture<br><i>Great Artist settled in a city</i>                           | free: first to discover <b>Music</b> (1)<br>to increase <b>Great Artist</b> probability, build: Broadway, Globe Theatre, Hermitage, Heroic Epic, Hollywood, Mausoleum of Maussollos, Mt. Rushmore, National Epic, Notre Dame, Parthenon, Rock 'n' Roll, Sistine Chapel, Statue of Zeus, Taj Mahal |
|   | <b>Great Engineer</b><br>+3 hammers, +3 beakers<br><i>Great Engineer settled in a city</i>                     | free: first to discover <b>Fusion</b> (1)<br>to increase <b>Great Engineer</b> probability, build: Cristo Redentor, Hagia Sophia, Hanging Gardens, Ironworks, Pyramids, Three Gorges Dam  |
|  | <b>Great Merchant</b><br>+1 food, +6 gold<br><i>Great Merchant settled in a city</i>                           | free: first to discover <b>Economics</b> (1)<br>to increase <b>Great Merchant</b> probability, build: Colossus, Eiffel Tower, Great Lighthouse, Statue of Liberty, Temple of Artemis, United Nations, Versailles, Wall Street   |
|  | <b>Great Military Instructor</b><br>+2 XP for all new military units<br><i>Great General settled in a city</i> | free: first to discover <b>Fascism</b> (1), combat victories  |
|  | <b>Great Prophet</b><br>+2 hammers, +5 gold<br><i>Great Prophet settled in a city</i>                          | to increase <b>Great Prophet</b> probability, build: Angkor Wat, Apostolic Palace, Chichen Itza, Moai Statues, Oracle, Shwedagon Paya, Spiral Minaret, Stonehenge   |
|  | <b>Great Scientist</b><br>+1 hammer, +6 beakers<br><i>Great Scientist settled in a city</i>                    | free: first to discover <b>Physics</b> (1)<br>to increase <b>Great Scientist</b> probability, build: Great Library, Red Cross, Space Elevator, University of Sankore, National Park, Oxford University  |
|  | <b>Great Spy</b><br>+3 beakers, +12 espionage<br><i>Great Spy settled in a city</i>                            | free: first to discover <b>Communism</b> (1)<br>to increase <b>Great Spy</b> probability, build: Forbidden Palace, Great Wall, Kremlin, Pentagon, Scotland Yard, West Point   |

\* unique building

## Diplomatic attitudes\*\*

base: 0, share war: +1 (max. +2)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +6)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/0

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: 0/2

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -1/+1

base: -1, share war: +1 (max. +6)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +3)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -2/+2

base: 1, share war: +1 (max. +2)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -3  
worse/better rank difference: 0/+1

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+2

base: 2, share war: +1 (max. +2)  
favourite civic: +1 (max. +6)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+1

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -4  
worse/better rank difference: -1/+2

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: annoyed  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: furious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: friendly  
open borders: furious

technology: furious  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: cautious  
open borders: furious

technology: none  
strategic bonus: annoyed  
happiness bonus: none  
health bonus: none  
maps: none  
open borders: none

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: pleased  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: cautious  
permanent alliance: cautious  
vassal state: pleased

declare war: pleased, declare war on X: cautious  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: cautious, stop trading with X: cautious  
adopt civic: pleased, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: annoyed

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: annoyed

declare war: annoyed, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

Charlemagne

Churchill

Cyrus

Darius I

De Gaulle

Elizabeth

Frederick

Gandhi

Genghis Khan



## Leaders, Traits, and Favourites

|   |  |  |   |
|---|--|--|---|
|    | <b>Gilgamesh</b><br><i>Sumerian Empire</i><br>Protective, Creative<br>fav. civic: Hereditary Rule<br>fav. religion: none             | favors: military, culture<br>builds wonders: very often<br>trains units: often<br>aggression level: high<br>espionage level: normal<br>tech trading: willing, 20%        | relation factor: 2<br>peace probability (%): 10/60/90/100<br>attack courage: very high<br>will raze city: never<br>refuses to talk delay: medium<br>warmonger respect: 2        |
|    | <b>Hammurabi</b><br><i>Babylonian Empire</i><br>Organized, Aggressive<br>fav. civic: Bureaucracy<br>fav. religion: none              | favors: culture<br>builds wonders: very often<br>trains units: often<br>aggression level: medium<br>espionage level: normal<br>tech trading: moderate, 40%               | relation factor: 8<br>peace probability (%): 20/70/100/100<br>attack courage: normal<br>will raze city: never<br>refuses to talk delay: long<br>warmonger respect: 1            |
|    | <b>Hannibal</b><br><i>Carthaginian Empire</i><br>Financial, Charismatic<br>fav. civic: Free Market<br>fav. religion: none            | favors: military, gold<br>builds wonders: very rarely<br>trains units: often<br>aggression level: high<br>espionage level: normal<br>tech trading: moderate, 30%         | relation factor: 2<br>peace probability (%): 20/70/100/100<br>attack courage: very high<br>will raze city: very rarely<br>refuses to talk delay: medium<br>warmonger respect: 2 |
|    | <b>Hatshepsut</b><br><i>Egyptian Empire</i><br>Spiritual, Creative<br>fav. civic: Organized Religion<br>fav. religion: none          | favors: culture, religion<br>builds wonders: very often<br>trains units: sometimes<br>aggression level: medium<br>espionage level: normal<br>tech trading: moderate, 30% | relation factor: 9<br>peace probability (%): 20/70/100/100<br>attack courage: normal<br>will raze city: never<br>refuses to talk delay: moderate<br>warmonger respect: 0        |
|    | <b>Huayna Capac</b><br><i>Incan Empire</i><br>Industrious, Financial<br>fav. civic: Hereditary Rule<br>fav. religion: none           | favors: gold, production<br>builds wonders: very often<br>trains units: moderate<br>aggression level: high<br>espionage level: medium<br>tech trading: averse, 30%       | relation factor: 2<br>peace probability (%): 10/50/90/100<br>attack courage: normal<br>will raze city: very rarely<br>refuses to talk delay: medium<br>warmonger respect: 2     |
|   | <b>Isabella</b><br><i>Spanish Empire</i><br>Spiritual, Expansive<br>fav. civic: Theocracy<br>fav. religion: Christianity             | favors: religion<br>builds wonders: sometimes<br>trains units: moderate<br>aggression level: medium<br>espionage level: high<br>tech trading: averse, 60%                | relation factor: 6<br>peace probability (%): 10/50/90/100<br>attack courage: normal<br>will raze city: sometimes<br>refuses to talk delay: long<br>warmonger respect: 1         |
|  | <b>Joao II</b><br><i>Portuguese Empire</i><br>Imperialistic, Expansive<br>fav. civic: Hereditary Rule<br>fav. religion: Christianity | favors: science, military<br>builds wonders: sometimes<br>trains units: moderate<br>aggression level: medium<br>espionage level: intensive<br>tech trading: willing, 40% | relation factor: 6<br>peace probability (%): 20/70/100/100<br>attack courage: normal<br>will raze city: never<br>refuses to talk delay: medium<br>warmonger respect: 1          |
|  | <b>Julius Caesar</b><br><i>Roman Empire</i><br>Organized, Imperialistic<br>fav. civic: Representation<br>fav. religion: none         | favors: military, production<br>builds wonders: sometimes<br>trains units: often<br>aggression level: high<br>espionage level: normal<br>tech trading: averse, 40%       | relation factor: 4<br>peace probability (%): 10/50/90/100<br>attack courage: high<br>will raze city: never<br>refuses to talk delay: medium<br>warmonger respect: 1             |
|  | <b>Justinian I</b><br><i>Byzantine Empire</i><br>Spiritual, Imperialistic<br>fav. civic: Theocracy<br>fav. religion: Christianity    | favors: religion, military<br>builds wonders: often<br>trains units: very often<br>aggression level: high<br>espionage level: intensive<br>tech trading: willing, 30%    | relation factor: 4<br>peace probability (%): 30/80/100/100<br>attack courage: high<br>will raze city: never<br>refuses to talk delay: long<br>warmonger respect: 1              |

## AI behaviour\*

## Labor Civics

## Economy Civics

## Religion Civics

| Civics   | Upkeep | Effects  | Who likes it?                                    |
|--|--------|--|--|
| <br><b>Caste System</b><br><i>req. Code of Laws</i>       | medium | <ul style="list-style-type: none"> <li>unlimited <b>Artists, Scientists, and Merchants</b></li> <li>+1 hammer from <b>Workshop</b></li> </ul>  | Wang Kon   |
| <br><b>Emancipation</b><br><i>req. Democracy</i>          | low    | <ul style="list-style-type: none"> <li>+100% growth for <b>Cottage, Village, and Hamlet</b></li> <li>unhappiness penalty for civilizations without Emancipation</li> </ul>   | Lincoln  |
| <br><b>Decentralisation</b>                               | low    | —  | —  |
| <br><b>Mercantilism</b><br><i>req. Banking</i>            | medium | <ul style="list-style-type: none"> <li>1 free <b>Specialist</b> per city</li> <li>no foreign Trade Routes</li> <li>foreign <b>Corporations</b> have no effect</li> </ul>   | Roosevelt, Tokugawa                              |
| <br><b>Free Market</b><br><i>req. Economy</i>             | medium | <ul style="list-style-type: none"> <li>-25% maintenance cost for <b>Corporations</b></li> <li>+1 Trade Route per city</li> </ul>   | Hannibal, Mansa Musa                             |
| <br><b>State Property</b><br><i>req. Communism</i>        | low    | <ul style="list-style-type: none"> <li>no maintenance cost from distance to <b>Palace</b></li> <li><b>Corporations</b> have no effect</li> <li>+10% hammers in all cities</li> <li>+1 food from <b>Workshop</b> and <b>Watermill</b></li> </ul>            | Mao Zedong, Stalin                               |
| <br><b>Environmentalism</b><br><i>req. Medicine</i>       | medium | <ul style="list-style-type: none"> <li>+25% maintenance cost for <b>Corporations</b></li> <li>+6 health in all cities</li> <li>+2 commerce from <b>Windmill</b> and <b>Forest Preserve</b></li> <li>+2 health from <b>Public Transportation</b></li> </ul> | Sitting Bull                                     |
| <br><b>Paganism</b>                                      | low    | —  | —  |
| <br><b>Organized Religion</b><br><i>req. Monotheism</i> | high   | <ul style="list-style-type: none"> <li>can build <b>Missionaries</b> without <b>Monastery</b></li> <li>+25% building production in cities with <b>State Religion</b></li> </ul>  | Brennus, Hatshepsut, Ramesses II, Suryavarman II |
| <br><b>Theocracy</b><br><i>req. Theology</i>            | medium | <ul style="list-style-type: none"> <li>+2 XP for all new units in cities with <b>State Religion</b></li> <li>no spread of non-State Religions</li> </ul>   | Isabella, Justinian I, Saladin, Zara Yaqob       |
| <br><b>Pacifism</b><br><i>req. Philosophy</i>           | none   | <ul style="list-style-type: none"> <li>+100% Great People Birth Rate in cities with <b>State Religion</b></li> <li>+1 commerce support cost per military unit</li> </ul>   | —  |
| <br><b>Free Religion</b><br><i>req. Liberalism</i>      | low    | <ul style="list-style-type: none"> <li>no State Religion</li> <li>+1 happy per Non-State Religion in city</li> <li>+10% science in all cities</li> </ul>   | Asoka, Darius I, Elizabeth, Willem van Oranje    |

\* for Small and Standard map, number depends on map size (see: page 75, "Base features" column – target cities)



| Civics   | Upkeep | Effects   | Who likes it?  |                   |
|--|--------|---|--|-------------------|
|  <b>Despotism</b><br><i>req. Monarchy</i>           | low    | —   | —  | Government Civics |
|  <b>Hereditary Rule</b><br><i>req. Monarchy</i>     | low    | • +1 happy per <b>military unit</b> stationed in a city   | Catherine, Gilgamesh, Huayna Capac, Joao II, Louis XIV, Pacal II, Ragnar, Suleiman |                   |
|  <b>Representation</b><br><i>req. Constitution</i>  | medium | • +3 science per <b>Specialist</b><br>• +3 happy in 5 largest cities*   | Augustus Caesar, Julius Caesar, Napoleon, Pericles, Victoria                       |                   |
|  <b>Police State</b><br><i>req. Fascism</i>         | high   | • +25% <b>military unit</b> production<br>• -50% war weariness  | Genghis Khan, Montezuma, Shaka   |                   |
|  <b>Universal Suffrage</b><br><i>req. Democracy</i> | medium | • +1 hammer from <b>Town</b><br>• can spend gold to finish production in a city                                       | Boudica, Frederick, Gandhi   |                   |
|  <b>Barbarism</b>                                   | low    | —   | —  | Legal Civics      |
|  <b>Vassalage</b><br><i>req. Feudalism</i>          | high   | • +2 XP for all new units<br>• increases the number of units not requiring support costs (number depends on map size) | Alexander, Charlemagne, Cyrus, Mehmed II   |                   |
|  <b>Bureaucracy</b><br><i>req. Civil Service</i>    | high   | • Capital city produces +50% hammers and gold   | Hammurabi, Kublai Khan, Peter, Qin Shi Huang                                       |                   |
|  <b>Nationhood</b><br><i>req. Nationalism</i>      | none   | • can draft 3 units (1 per city) per turn<br>• +25% espionage in all cities<br>• +2 happy from <b>Barracks</b>        | Bismarck, Churchill, De Gaulle   |                   |
|  <b>Free Speech</b><br><i>req. Liberalism</i>     | low    | • +100% culture in all cities<br>• +2 commerce from <b>Town</b>   | Washington   |                   |
|  <b>Tribalism</b>                                 | low    | —   | —  | Labor Civics      |
|  <b>Slavery</b><br><i>req. Bronze Working</i>     | medium | • can sacrifice population to finish production in a city (causes unhappiness)  | —  |                   |
|  <b>Serfdom</b><br><i>req. Feudalism</i>          | low    | • Workers build Improvements 50% faster   | —  |                   |

| Diplomatic attitudes**  | Diplomatic relationship at or below which trades will be refused***  |   |
|---|--|---|
| base: 0, share war: +1 (max. +3)<br>favourite civic: +1 (max. +4)<br>same religion: +1 (max. +4)<br>different religion: -1<br>close cultural borders: max. -3<br>worse/better rank difference: -2/0   | technology: furious<br>strategic bonus: cautious<br>happiness bonus: annoyed<br>health bonus: annoyed<br>maps: annoyed<br>open borders: annoyed  | declare war: pleased, declare war on X: cautious<br>stop trading: pleased, stop trading with X: cautious<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: pleased    |
| base: 0, share war: +1 (max. +3)<br>favourite civic: +1 (max. +4)<br>same religion: +1 (max. +5)<br>different religion: -1<br>close cultural borders: max. -2<br>worse/better rank difference: 0/+1   | technology: annoyed<br>strategic bonus: cautious<br>happiness bonus: annoyed<br>health bonus: annoyed<br>maps: annoyed<br>open borders: annoyed  | declare war: cautious, declare war on X: annoyed<br>stop trading: pleased, stop trading with X: cautious<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: pleased    |
| base: 0, share war: +1 (max. +3)<br>favourite civic: +1 (max. +2)<br>same religion: +1 (max. +4)<br>different religion: -1<br>close cultural borders: max. -3<br>worse/better rank difference: -1/0   | technology: annoyed<br>strategic bonus: cautious<br>happiness bonus: annoyed<br>health bonus: furious<br>maps: annoyed<br>open borders: annoyed  | declare war: cautious, declare war on X: cautious<br>stop trading: cautious, stop trading with X: annoyed<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: pleased   |
| base: 1, share war: +1 (max. +3)<br>favourite civic: +1 (max. +2)<br>same religion: +1 (max. +5)<br>different religion: -2<br>close cultural borders: max. -2<br>worse/better rank difference: -1/+2  | technology: furious<br>strategic bonus: cautious<br>happiness bonus: furious<br>health bonus: furious<br>maps: furious<br>open borders: furious  | declare war: cautious, declare war on X: cautious<br>stop trading: cautious, stop trading with X: cautious<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: cautious |
| base: 0, share war: +1 (max. +3)<br>favourite civic: +1 (max. +4)<br>same religion: +1 (max. +5)<br>different religion: -2<br>close cultural borders: max. -3<br>worse/better rank difference: -1/+1  | technology: annoyed<br>strategic bonus: cautious<br>happiness bonus: furious<br>health bonus: furious<br>maps: cautious<br>open borders: annoyed | declare war: pleased, declare war on X: cautious<br>stop trading: cautious, stop trading with X: cautious<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: cautious  |
| base: -1, share war: +1 (max. +2)<br>favourite civic: +1 (max. +3)<br>same religion: +1 (max. +6)<br>different religion: -2<br>close cultural borders: max. -3<br>worse/better rank difference: -1/+1 | technology: annoyed<br>strategic bonus: cautious<br>happiness bonus: annoyed<br>health bonus: annoyed<br>maps: pleased<br>open borders: annoyed  | declare war: cautious, declare war on X: pleased<br>stop trading: cautious, stop trading with X: cautious<br>adopt civic: cautious, convert religion: pleased<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: pleased    |
| base: 0, share war: +1 (max. +2)<br>favourite civic: +1 (max. +3)<br>same religion: +1 (max. +3)<br>different religion: -1<br>close cultural borders: max. -2<br>worse/better rank difference: 0/+2   | technology: annoyed<br>strategic bonus: cautious<br>happiness bonus: annoyed<br>health bonus: annoyed<br>maps: pleased<br>open borders: annoyed  | declare war: cautious, declare war on X: annoyed<br>stop trading: pleased, stop trading with X: annoyed<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: cautious    |
| base: 0, share war: +1 (max. +3)<br>favourite civic: +1 (max. +3)<br>same religion: +1 (max. +3)<br>different religion: -1<br>close cultural borders: max. -4<br>worse/better rank difference: -1/0   | technology: annoyed<br>strategic bonus: cautious<br>happiness bonus: furious<br>health bonus: annoyed<br>maps: pleased<br>open borders: annoyed  | declare war: cautious, declare war on X: pleased<br>stop trading: cautious, stop trading with X: cautious<br>adopt civic: cautious, convert religion: cautious<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: pleased   |
| base: 1, share war: +1 (max. +3)<br>favourite civic: +1 (max. +4)<br>same religion: +1 (max. +6)<br>different religion: -2<br>close cultural borders: max. -2<br>worse/better rank difference: -2/0   | technology: furious<br>strategic bonus: cautious<br>happiness bonus: furious<br>health bonus: furious<br>maps: annoyed<br>open borders: furious  | declare war: pleased, declare war on X: cautious<br>stop trading: cautious, stop trading with X: annoyed<br>adopt civic: cautious, convert religion: friendly<br>defensive pact: pleased<br>permanent alliance: pleased<br>vassal state: pleased    |

Gilgamesh  
Hammurabi  
Hannibal  
Hatshepsut  
Huayna Capac  
Isabella  
Joao II  
Julius Caesar  
Justinian I



# Leaders, Traits, and Favourites



**Kublai Khan**  
Mongolian Empire  
Aggressive, Creative  
fav. civic: Bureaucracy  
fav. religion: Buddhism



**Lincoln**  
American Empire  
Philosophical, Charismatic  
fav. civic: Emancipation  
fav. religion: Christianity



**Louis XIV**  
French Empire  
Industrious, Creative  
fav. civic: Hereditary Rule  
fav. religion: Christianity



**Mansa Musa**  
Malinese Empire  
Spiritual, Financial  
fav. civic: Free Market  
fav. religion: Islam



**Mao Zedong**  
Chinese Empire  
Expansive, Protective  
fav. civic: State Property  
fav. religion: none



**Mehmed II**  
Ottoman Empire  
Expansive, Organized  
fav. civic: Vassalage  
fav. religion: Islam



**Montezuma**  
Aztec Empire  
Aggressive, Spiritual  
fav. civic: Police State  
fav. religion: none



**Napoleon**  
French Empire  
Organized, Charismatic  
fav. civic: Representation  
fav. religion: Christianity



**Pacal II**  
Maya Empire  
Financial, Expansive  
fav. civic: Hereditary Rule  
fav. religion: none

## AI behaviour\*

favours: military, culture  
builds wonders: often  
trains units: moderate  
aggression level: high  
espionage level: normal  
tech trading: moderate, 30%

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 2

favours: science, growth  
builds wonders: often  
trains units: moderate  
aggression level: quite low  
espionage level: intensive  
tech trading: moderate, 30%

relation factor: 9  
peace probability (%): 40/80/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

favours: culture, military  
builds wonders: extremely  
trains units: often  
aggression level: medium  
espionage level: high  
tech trading: averse, 30%

relation factor: 1  
peace probability (%): 0/20/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 2

favours: gold, religion  
builds wonders: sometimes  
trains units: moderate  
aggression level: very low  
espionage level: very low  
tech trading: most willing, 0%

relation factor: 9  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: moderate  
warmonger respect: 0

favours: growth, production  
builds wonders: very rarely  
trains units: moderate  
aggression level: medium  
espionage level: very high  
tech trading: averse, 50%

relation factor: 1  
peace probability (%): 0/30/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favours: military, culture  
builds wonders: sometimes  
trains units: extreme  
aggression level: high  
espionage level: intensive  
tech trading: averse, 40%

relation factor: 2  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 1

favours: military, religion  
builds wonders: never  
trains units: very often  
aggression level: very high  
espionage level: moderate  
tech trading: averse, 50%

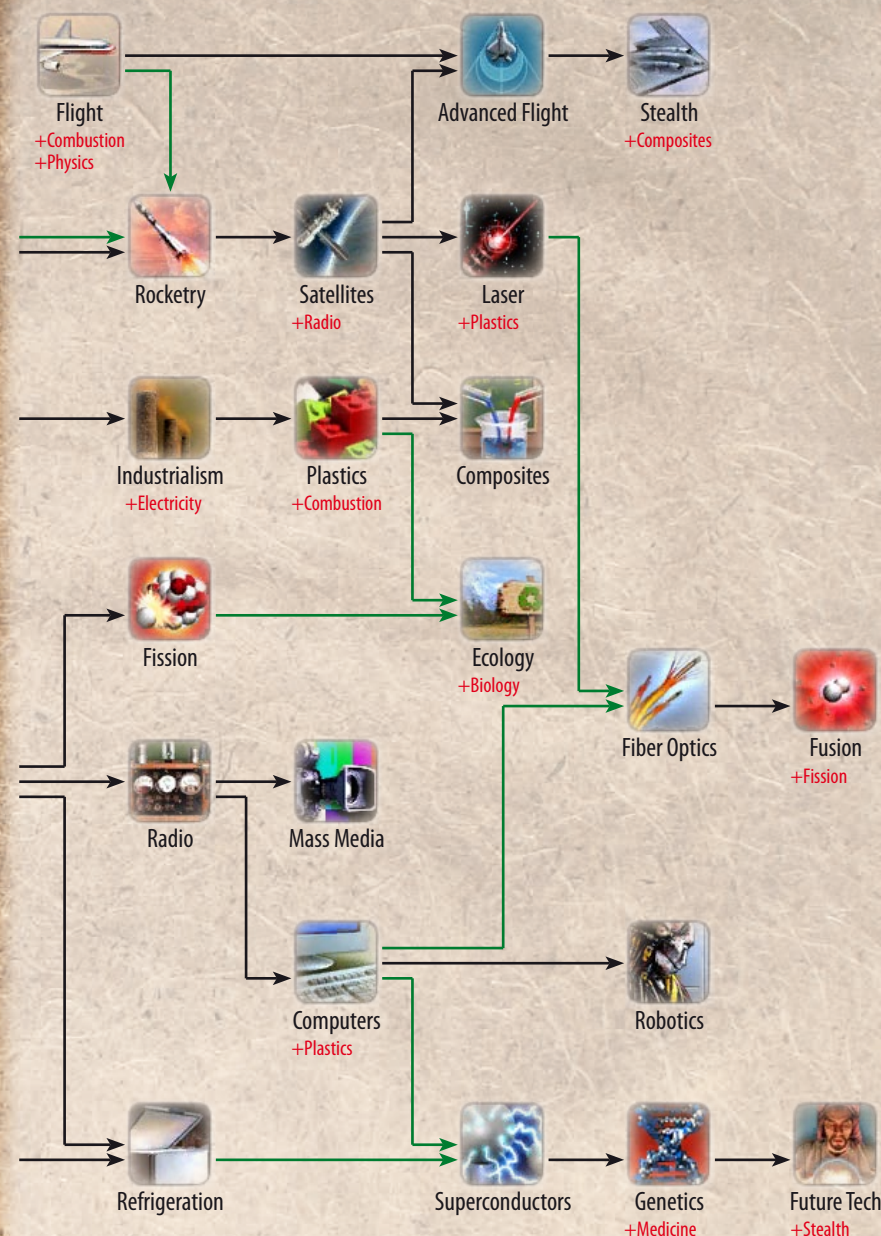
relation factor: 0  
peace probability (%): 0/30/80/100  
attack courage: very high  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

favours: military, gold  
builds wonders: very rarely  
trains units: extreme  
aggression level: high  
espionage level: normal  
tech trading: moderate, 60%

relation factor: 0  
peace probability (%): 10/50/90/100  
attack courage: extreme  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 2

favours: culture, growth  
builds wonders: very often  
trains units: moderate  
aggression level: quite low  
espionage level: normal  
tech trading: averse, 50%

relation factor: 2  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: very rarely  
refuses to talk delay: moderate  
warmonger respect: 0







## Diplomatic attitudes\*\*

base: 0, share war: +1 (max. +3)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +4)  
 different religion: 0  
 close cultural borders: max. -3  
 worse/better rank difference: 0/+3

base: 1, share war: +1 (max. +4)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +2)  
 different religion: 0  
 close cultural borders: max. -2  
 worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +2)  
 favourite civic: +1 (max. +3)  
 same religion: +1 (max. +4)  
 different religion: -2  
 close cultural borders: max. -4  
 worse/better rank difference: -2/+1

base: 1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +6)  
 different religion: -2  
 close cultural borders: max. -2  
 worse/better rank difference: 0/+4

base: 0, share war: +1 (max. +3)  
 favourite civic: +1 (max. +6)  
 same religion: +1 (max. +2)  
 different religion: 0  
 close cultural borders: max. -2  
 worse/better rank difference: 0/0

base: -1, share war: +1 (max. +4)  
 favourite civic: +1 (max. +4)  
 same religion: +1 (max. +4)  
 different religion: -2  
 close cultural borders: max. -2  
 worse/better rank difference: 0/+3

base: -1, share war: +1 (max. +4)  
 favourite civic: +1 (max. +2)  
 same religion: +1 (max. +2)  
 different religion: -2  
 close cultural borders: max. -4  
 worse/better rank difference: -3/0

base: -1, share war: +1 (max. +4)  
 favourite civic: +1 (max. +5)  
 same religion: +1 (max. +4)  
 different religion: 0  
 close cultural borders: max. -3  
 worse/better rank difference: -1/+1

base: 1, share war: +1 (max. +3)  
 favourite civic: +1 (max. +5)  
 same religion: +1 (max. +5)  
 different religion: -2  
 close cultural borders: max. -2  
 worse/better rank difference: -1/+2

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: furious  
 strategic bonus: annoyed  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: cautious  
 open borders: annoyed

technology: furious  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: annoyed  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: annoyed  
 open borders: annoyed

technology: furious  
 strategic bonus: annoyed  
 happiness bonus: none  
 health bonus: none  
 maps: annoyed  
 open borders: none

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: annoyed  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: furious  
 maps: annoyed  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: pleased  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: annoyed  
 health bonus: annoyed  
 maps: pleased  
 open borders: annoyed

technology: annoyed  
 strategic bonus: cautious  
 happiness bonus: furious  
 health bonus: furious  
 maps: cautious  
 open borders: annoyed

declare war: cautious, declare war on X: pleased  
 stop trading: cautious, stop trading with X: annoyed  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: cautious

declare war: pleased, declare war on X: annoyed  
 stop trading: cautious, stop trading with X: annoyed  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: cautious, declare war on X: pleased  
 stop trading: cautious, stop trading with X: cautious  
 adopt civic: pleased, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: annoyed

declare war: annoyed, declare war on X: pleased  
 stop trading: pleased, stop trading with X: furious  
 adopt civic: annoyed, convert religion: annoyed  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: annoyed

declare war: cautious, declare war on X: pleased  
 stop trading: annoyed, stop trading with X: cautious  
 adopt civic: pleased, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: annoyed, declare war on X: cautious  
 stop trading: cautious, stop trading with X: annoyed  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: annoyed, declare war on X: pleased  
 stop trading: annoyed, stop trading with X: cautious  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: cautious, declare war on X: pleased  
 stop trading: annoyed, stop trading with X: cautious  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

declare war: pleased, declare war on X: pleased  
 stop trading: pleased, stop trading with X: cautious  
 adopt civic: cautious, convert religion: cautious  
 defensive pact: pleased  
 permanent alliance: pleased  
 vassal state: pleased

Kublai Khan

Lincoln

Louis XIV

Mansa Musa

Mao Zedong

Mehmed II

Montezuma

Napoleon

Pacal II



## Leaders, Traits, and Favourites



### Pericles

Greek Empire

Philosophical, Creative  
fav. civic: Representation  
fav. religion: none



### Peter

Russian Empire

Philosophical, Expansive  
fav. civic: Bureaucracy  
fav. religion: Christianity



### Qin Shi Huang

Chinese Empire

Industrious, Protective  
fav. civic: Bureaucracy  
fav. religion: Taoism



### Ragnar

Viking Empire

Financial, Aggressive  
fav. civic: Hereditary Rule  
fav. religion: none



### Ramesses II

Egyptian Empire

Spiritual, Industrious  
fav. civic: Organized Religion  
fav. religion: none



### Roosevelt

American Empire

Industrious, Organized  
fav. civic: Mercantilism  
fav. religion: Christianity



### Saladin

Arabian Empire

Protective, Spiritual  
fav. civic: Theocracy  
fav. religion: Islam



### Shaka

Zulu Empire

Aggressive, Expansive  
fav. civic: Police State  
fav. religion: none



### Sitting Bull

Native American Empire

Philosophical, Protective  
fav. civic: Environmentalism  
fav. religion: none

## AI behaviour\*

favors: production, science  
builds wonders: very often  
trains units: moderate  
aggression level: low  
espionage level: normal  
tech trading: willing, 10%

relation factor: 6  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

favors: science, growth  
builds wonders: often  
trains units: often  
aggression level: high  
espionage level: high  
tech trading: willing, 10%

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: very high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favors: production, growth  
builds wonders: often  
trains units: sometimes  
aggression level: quite low  
espionage level: medium  
tech trading: averse, 30%

relation factor: 2  
peace probability (%): 0/30/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 2

favors: military  
builds wonders: very rarely  
trains units: extreme  
aggression level: very high  
espionage level: normal  
tech trading: averse, 30%

relation factor: 0  
peace probability (%): 0/50/90/100  
attack courage: extreme  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

favors: culture, production  
builds wonders: extremely  
trains units: sometimes  
aggression level: medium  
espionage level: normal  
tech trading: willing, 60%

relation factor: 6  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

favors: production, gold  
builds wonders: sometimes  
trains units: sometimes  
aggression level: quite low  
espionage level: high  
tech trading: willing, 30%

relation factor: 8  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 0

favors: military, religion  
builds wonders: very rarely  
trains units: often  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 40%

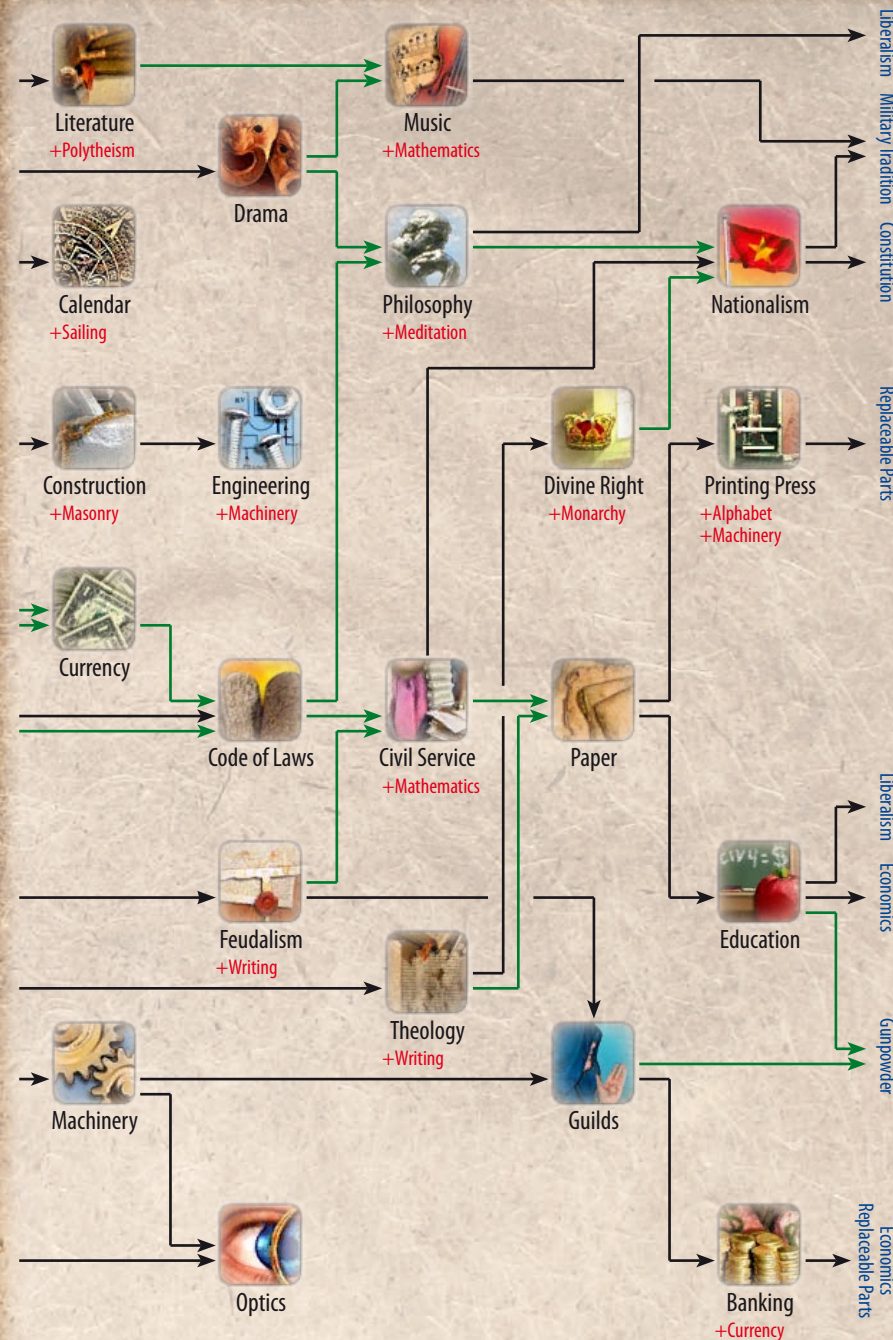
relation factor: 4  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 1

favors: military  
builds wonders: very rarely  
trains units: extreme  
aggression level: very high  
espionage level: normal  
tech trading: averse, 50%

relation factor: 2  
peace probability (%): 0/40/90/100  
attack courage: very high  
will raze city: often  
refuses to talk delay: long  
warmonger respect: 2

favors: military, growth  
builds wonders: never  
trains units: very often  
aggression level: medium  
espionage level: high  
tech trading: averse, 80%

relation factor: 8  
peace probability (%): 50/90/100/100  
attack courage: very high  
will raze city: rarely  
refuses to talk delay: very long  
warmonger respect: 0







green paths mean that only one of these prerequisite techs is required  
paths marked as black and techs marked as red are obligatory

## Diplomatic attitudes\*\*

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/0

base: 0, share war: +1 (max. +2)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -3  
worse/better rank difference: -2/+2

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +4)  
different religion: -1  
close cultural borders: max. -4  
worse/better rank difference: -1/0

base: -1, share war: +1 (max. +3)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +5)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -1/+2

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +6)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+2

base: 1, share war: +1 (max. +3)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +3)  
different religion: 0  
close cultural borders: max. -3  
worse/better rank difference: -1/+2

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +1)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: 0/+2

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +3)  
different religion: 0  
close cultural borders: max. -4  
worse/better rank difference: -2/0

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +2)  
same religion: +1 (max. +2)  
different religion: 0  
close cultural borders: max. -4  
worse/better rank difference: 0/0

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: furious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: annoyed  
maps: cautious  
open borders: furious

technology: furious  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: furious  
maps: pleased  
open borders: annoyed

technology: cautious  
strategic bonus: pleased  
happiness bonus: pleased  
health bonus: annoyed  
maps: pleased  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: pleased  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: cautious  
open borders: annoyed

technology: cautious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: furious  
open borders: annoyed

declare war: pleased, declare war on X: annoyed  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: annoyed, declare war on X: pleased  
stop trading: cautious, stop trading with X: cautious  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: cautious  
vassal state: pleased

declare war: cautious, declare war on X: pleased  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: cautious  
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vassal state: pleased

declare war: pleased, declare war on X: annoyed  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

Pericles

Peter

Qin Shi Huang

Ragnar

Ramesses II

Roosevelt

Saladin

Shaka

Sitting Bull



## Leaders, Traits, and Favourites



**Stalin**  
*Russian Empire*  
Industrious, Aggressive  
fav. civic: State Property  
fav. religion: none



**Suleiman**  
*Ottoman Empire*  
Imperialistic, Philosophical  
fav. civic: Hereditary Rule  
fav. religion: Islam



**Suryavarmn II**  
*Khmer Empire*  
Expansive, Creative  
fav. civic: Organized Religion  
fav. religion: Buddhism



**Tokugawa**  
*Japanese Empire*  
Protective, Aggressive  
fav. civic: Mercantilism  
fav. religion: Buddhism



**Victoria**  
*English Empire*  
Imperialistic, Financial  
fav. civic: Representation  
fav. religion: Christianity



**Wang Kon**  
*Korean Empire*  
Financial, Protective  
fav. civic: Caste System  
fav. religion: Confucianism



**Washington**  
*American Empire*  
Expansive, Charismatic  
fav. civic: Free Speech  
fav. religion: Christianity



**Willem van Oranje**  
*Dutch Empire*  
Creative, Financial  
fav. civic: Free Religion  
fav. religion: Christianity



**Zara Yaqob**  
*Ethiopian Empire*  
Creative, Organized  
fav. civic: Theocracy  
fav. religion: Christianity

## AI behaviour\*

favors: military, production  
builds wonders: often  
trains units: often  
aggression level: high  
espionage level: extreme  
tech trading: averse, 80%

relation factor: 2  
peace probability (%): 10/50/90/100  
attack courage: high  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 1

favors: culture, military  
builds wonders: sometimes  
trains units: often  
aggression level: high  
espionage level: medium  
tech trading: moderate, 40%

relation factor: 4  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: almost never  
refuses to talk delay: medium  
warmonger respect: 1

favors: gold, culture  
builds wonders: very often  
trains units: often  
aggression level: high  
espionage level: normal  
tech trading: moderate, 50%

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: medium  
warmonger respect: 1

favors: science, military  
builds wonders: sometimes  
trains units: often  
aggression level: high  
espionage level: very low  
tech trading: averse, 100%

relation factor: 1  
peace probability (%): 10/50/90/100  
attack courage: normal  
will raze city: sometimes  
refuses to talk delay: long  
warmonger respect: 2

favors: gold, growth  
builds wonders: often  
trains units: moderate  
aggression level: medium  
espionage level: intensive  
tech trading: moderate, 30%

relation factor: 8  
peace probability (%): 0/20/80/100  
attack courage: normal  
will raze city: never  
refuses to talk delay: long  
warmonger respect: 0

favors: gold, science  
builds wonders: sometimes  
trains units: moderate  
aggression level: high  
espionage level: intensive  
tech trading: moderate, 20%

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: normal  
will raze city: very rarely  
refuses to talk delay: moderate  
warmonger respect: 0

favors: military, growth  
builds wonders: sometimes  
trains units: moderate  
aggression level: medium  
espionage level: high  
tech trading: moderate, 30%

relation factor: 8  
peace probability (%): 20/70/100/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

favors: gold, science  
builds wonders: sometimes  
trains units: moderate  
aggression level: high  
espionage level: normal  
tech trading: willing, 15%

relation factor: 4  
peace probability (%): 10/50/80/100  
attack courage: high  
will raze city: never  
refuses to talk delay: medium  
warmonger respect: 0

favors: growth, religion  
builds wonders: sometimes  
trains units: often  
aggression level: medium  
espionage level: normal  
tech trading: moderate, 30%

relation factor: 6  
peace probability (%): 10/50/90/100  
attack courage: high  
will raze city: almost never  
refuses to talk delay: medium  
warmonger respect: 1

## Tech



**Robotics**  
Modern Era

Beakers\*\* 8000

Prereq. Techs Computers

Can build *Mechanized Infantry\**, *Missile Cruiser*,  
*Stealth Destroyer\**, *Stealth Bomber\**,  
*Space Elevator (W)\**

## Effects

—



**Rocketry**  
Modern Era

Beakers\*\* 5000

Prereq. Techs Artillery or Flight,  
Rifling

Can build *SAM Infantry*, *Attack Submarine\**,  
*Guided Missile\**, *Tactical Nuke\**, *ICBM\**,  
*Aluminum Co (C)\**, *Apollo Program (TP)*

—



**Sailing**  
Ancient Era

Beakers\*\* 100

Prereq. Techs Fishing

Can build *Galley*, *Trireme\**,  
*Lighthouse*, *Trading Post*, *Great Lighthouse (W)\**, *Moai Statues (NW)*

enables trade on coast  
enables trade on rivers



**Satellites**  
Modern Era

Beakers\*\* 6000

Prereq. Techs Rocketry, Radio

Can build *Space Ship Docking Bay*,  
*Space Elevator (W)\**

reveals World Map



**Scientific Method**  
Industrial Era

Beakers\*\* 2400

Prereq. Techs Astronomy  
or Chemistry,  
Printing Press

Can build *Forest Preserve*

reveals *Oil*  
obsoletes *Monasteries*,  
*Great Library (W)*, *Parthenon (W)*,  
*Temple of Artemis (W)*



**Stealth**  
Future Era

Beakers\*\* 8000

Prereq. Techs Composites,  
Advanced Flight

Can build *Stealth Destroyer\**, *Stealth Bomber\**

—



**Steam Power**  
Industrial Era

Beakers\*\* 3200

Prereq. Techs Chemistry,  
Replaceable Parts

Can build *Ironclad\**,  
*Levee*, *Dike*

reveals *Coal*  
obsoletes *Workers* build improv. +50% faster  
obsoletes *Hagia Sophia (W)*



**Steel**  
Industrial Era

Beakers\*\* 2800

Prereq. Techs Iron Working,  
Chemistry

Can build *Cannon*, *Ironclad\**,  
*Drydock*, *Ironworks (NW)*

—



**Superconductors**  
Modern Era

Beakers\*\* 6500

Prereq. Techs Refrigeration  
or Computers

Can build *Laboratory*, *Research Institute*,  
*Space Ship Thrusters*

—



**Theology**  
Medieval Era

Beakers\*\* 500

Prereq. Techs Writing,  
Monotheism

Can build *Hagia Sophia (W)*, *Apostolic Palace (W)*

enables *Theocracy*  
first to discover founds *Christianity*



**Wheel**  
Ancient Era

Beakers\*\* 60

Prereq. Techs —

Can build *Road*,  
*Chariot*, *War Chariot*, *Immortal*

—



**Writing**  
Ancient Era

Beakers\*\* 120

Prereq. Techs Animal Husbandry  
or Priesthood  
or Pottery

Can build *Library*, *Madrasa*

enables Open Borders

W — World Wonder NW — National Wonder C — Corporation WP — World Project TP — Team Project

\* other tech(s) also required

\*\* Assumes **Duel** Map Size, **Noble** Difficulty Level, and **Normal** Game Speed. Factors for other conditions are:

— Map Size: **Tiny** ×1.10, **Small** ×1.20, **Standard** ×1.30, **Large** ×1.40, **Huge** ×1.50

— Difficulty Level: **Settler** ×0.60, **Chieftain** ×0.75, **Warlord** ×0.90, **Prince** ×1.10, **Monarch** ×1.15, **Emperor** ×1.20,

**Immortal** ×1.25, **Deity** ×1.30

— Game Speed: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×3.00 (!)

Example: Wheel on Huge/Emperor/Marathon will cost 324 beakers (60×1.50×1.20×3.00) instead of 60.



| Tech  | Beakers** | Prereq. Techs                             | Can build   | Effects   |
|---|-----------|---|---|---|
|  <b>Mysticism</b><br>Ancient Era               | 50        | —   | Monument, Obelisk, Stele, Totem Pole, Stonehenge (W)  | —   |
|  <b>Nationalism</b><br>Renaissance Era         | 1800      | Divine Right or Philosophy, Civil Service | Hermitage (NW), Taj Mahal (W)   | enables <b>Nationhood</b>   |
|  <b>Optics</b><br>Medieval Era                 | 600       | Machinery, Compass                        | Caravel, Carrack, Whaling Boat  | +1 sight across water   |
|  <b>Paper</b><br>Medieval Era                  | 600       | Civil Service or Theology                 | University of Sankore (W)   | enables Map Trading   |
|  <b>Philosophy</b><br>Medieval Era             | 800       | Code of Laws or Drama, Meditation         | Angkor Wat (W)  | enables <b>Pacifism</b><br>first to discover founds <b>Taoism</b>           |
|  <b>Physics</b><br>Industrial Era              | 4000      | Astronomy, Scientific Method              | Airship   | first to discover receives <b>Great Scientist</b><br>reveals <b>Uranium</b> |
|  <b>Plastics</b><br>Modern Era                 | 7000      | Combustion, Industrialism                 | Offshore Platform, Hydro Plant, Three Gorges Dam (W), Standard Ethanol (C)*   | obsoletes <b>Fur</b>  |
|  <b>Polytheism</b><br>Ancient Era              | 100       | Mysticism                                 | Parthenon (W), Temple of Artemis (W)  | first to discover founds <b>Hinduism</b>                                    |
|  <b>Pottery</b><br>Ancient Era                 | 80        | Agriculture or Fishing, Wheel             | Cottage, Granary, Terrace   | —   |
|  <b>Priesthood</b><br>Ancient Era             | 60        | Meditation or Polytheism                  | Buddhist Temple, Christian Temple, Confucian Temple, Hindu Temple, Islamic Temple, Jewish Temple, Taoist Temple, Ziggurat, Oracle (W) | —   |
|  <b>Printing Press</b><br>Renaissance Era    | 1600      | Machinery, Alphabet, Paper                | —   | +1 commerce from <b>Hamlet</b><br>+1 commerce from <b>Town</b>              |
|  <b>Radio</b><br>Modern Era                  | 6000      | Electricity                               | Submarine, Attack Submarine*, Bomber*, Guided Missile*, Eiffel Tower (W), Rock 'n' Roll (W), Cristo Redentor (W)                      | —   |
|  <b>Railroad</b><br>Industrial Era           | 4500      | Steam Power, Steel                        | Machine Gun, Railroad, Mining Inc (C)*  | —   |
|  <b>Refrigeration</b><br>Modern Era          | 4000      | Biology, Electricity                      | Supermarket, Mall, Cereal Mills (C)*  | +1 move for <b>Water Units</b>  |
|  <b>Replaceable Parts</b><br>Renaissance Era | 1800      | Banking, Printing Press                   | Lumbermill  | +1 hammer from <b>Windmill</b><br>+1 hammer from <b>Watermill</b>           |
|  <b>Rifling</b><br>Renaissance Era           | 2400      | Gunpowder, Replaceable Parts              | Rifleman, Redcoat, Infantry*, Marine*, Navy SEAL*, Paratrooper*, Tank*, Panzer*, Mechanized Infantry*, Cavalry*, Cossack*             | obsoletes <b>Walls</b> , <b>Chichen Itza (W)</b>                            |

## Diplomatic attitudes\*\*

base: -1, share war: +1 (max. +3)  
favourite civic: +1 (max. +6)  
same religion: +1 (max. +2)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -3/0

base: 0, share war: +1 (max. +5)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +2)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: -1/+1

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +5)  
different religion: -2  
close cultural borders: max. -3  
worse/better rank difference: -2/0

base: -1, share war: +1 (max. +4)  
favourite civic: +1 (max. +5)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -3  
worse/better rank difference: 0/+1

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +3)  
same religion: +1 (max. +4)  
different religion: 0  
close cultural borders: max. -2  
worse/better rank difference: -1/0

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +3)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+3

base: 0, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +5)  
different religion: -1  
close cultural borders: max. -2  
worse/better rank difference: 0/+1

base: 0, share war: +1 (max. +4)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +1)  
different religion: 0  
close cultural borders: max. -1  
worse/better rank difference: +1/-1

base: 2, share war: +1 (max. +3)  
favourite civic: +1 (max. +4)  
same religion: +1 (max. +7)  
different religion: -2  
close cultural borders: max. -2  
worse/better rank difference: -1/+2

## Diplomatic relationship at or below which trades will be refused\*\*\*

technology: cautious  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: pleased  
open borders: furious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: cautious  
open borders: annoyed

technology: cautious  
strategic bonus: pleased  
happiness bonus: cautious  
health bonus: cautious  
maps: friendly  
open borders: cautious

technology: annoyed  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: annoyed  
health bonus: furious  
maps: annoyed  
open borders: annoyed

technology: annoyed  
strategic bonus: cautious  
happiness bonus: furious  
health bonus: annoyed  
maps: annoyed  
open borders: annoyed

technology: furious  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: furious  
open borders: annoyed

technology: furious  
strategic bonus: annoyed  
happiness bonus: furious  
health bonus: furious  
maps: annoyed  
open borders: annoyed

declare war: cautious, declare war on X: pleased  
stop trading: annoyed, stop trading with X: cautious  
adopt civic: pleased, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: annoyed, declare war on X: pleased  
stop trading: pleased, stop trading with X: cautious  
adopt civic: cautious, convert religion: annoyed  
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vassal state: cautious

declare war: cautious, declare war on X: pleased  
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permanent alliance: pleased  
vassal state: pleased

declare war: cautious, declare war on X: cautious  
stop trading: pleased, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

declare war: pleased, declare war on X: cautious  
stop trading: cautious, stop trading with X: annoyed  
adopt civic: cautious, convert religion: cautious  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: pleased, declare war on X: cautious  
stop trading: pleased, stop trading with X: furious  
adopt civic: cautious, convert religion: annoyed  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: pleased

declare war: annoyed, declare war on X: pleased  
stop trading: cautious, stop trading with X: cautious  
adopt civic: annoyed, convert religion: pleased  
defensive pact: pleased  
permanent alliance: pleased  
vassal state: cautious

Stalin

Suleiman

Suryavarman II

Tokugawa

Victoria

Wang Kon

Washington

Willem van

Oranje

Zara Yaqob



## Traits and their effects

## Who has it?

**Ag****Aggressive**

- free **Combat I** promotion for all **Melee** and **Gunpowder Units**
- double production speed of **Barracks** and **Drydock**

|              |     |             |     |          |     |
|--------------|-----|-------------|-----|----------|-----|
| Alexander    | +Ph | Hammurabi   | +Or | Shaka    | +Ex |
| Boudica      | +Ch | Kublai Khan | +Cr | Stalin   | +In |
| Genghis Khan | +Im | Montezuma   | +Sp | Tokugawa | +Pr |
|              |     | Ragnar      | +Fi |          |     |

**Ch****Charismatic**

- +1 happy in all cities
- -25% XP needed for unit promotions
- +1 happy from **Monument** and **Broadcast Tower**

|           |     |           |     |            |     |
|-----------|-----|-----------|-----|------------|-----|
| Boudica   | +Ag | Cyrus     | +Im | Lincoln    | +Ph |
| Brennus   | +Sp | De Gaulle | +In | Napoleon   | +Or |
| Churchill | +Pr | Hannibal  | +Fi | Washington | +Ex |

**Cr****Creative**

- +2 culture in all cities
- double production speed of **Library**, **Theatre**, and **Colosseum**

|            |     |             |     |                   |     |
|------------|-----|-------------|-----|-------------------|-----|
| Catherine  | +Im | Kublai Khan | +Ag | Suryavarma II     | +Ex |
| Gilgamesh  | +Pr | Louis XIV   | +In | Willem van Oranje | +Fi |
| Hatshepsut | +Sp | Pericles    | +Ph | Zara Yaqob        | +Or |

**Ex****Expansive**

- +2 health in all cities
- 25% faster production of **Worker**
- double production speed of **Granary** and **Harbor**

|          |     |            |     |               |     |
|----------|-----|------------|-----|---------------|-----|
| Bismarck | +In | Mao Zedong | +Pr | Shaka         | +Ag |
| Isabella | +Sp | Mehmed II  | +Or | Suryavarma II | +Cr |
| Joao II  | +Im | Pacal II   | +Fi | Washington    | +Ch |
|          |     | Peter      | +Ph |               |     |

**Fi****Financial**

- +1 commerce on tiles with at least 2 commerce

|           |     |              |     |                   |     |
|-----------|-----|--------------|-----|-------------------|-----|
| Darius I  | +Or | Huayna Capac | +In | Victoria          | +Im |
| Elizabeth | +Ph | Mansa Musa   | +Sp | Wang Kon          | +Pr |
| Hannibal  | +Ch | Pacal II     | +Ex | Willem van Oranje | +Cr |
|           |     | Ragnar       | +Ag |                   |     |

**Im****Imperialistic**

- +100% Great General Emergence
- 50% faster production of **Settler**

|                 |     |               |     |             |     |
|-----------------|-----|---------------|-----|-------------|-----|
| Augustus Caesar | +In | Cyrus         | +Ch | Justinian I | +Sp |
| Catherine       | +Cr | Genghis Khan  | +Ag | Suleiman    | +Ph |
| Charlemagne     | +Pr | Joao II       | +Ex | Victoria    | +Fi |
|                 |     | Julius Caesar | +Or |             |     |

**In****Industrious**

- +50% Wonder production
- double production speed of **Forge**

|                 |     |               |     |            |     |
|-----------------|-----|---------------|-----|------------|-----|
| Augustus Caesar | +Im | Huayna Capac  | +Fi | Rameses II | +Sp |
| Bismarck        | +Ex | Louis XIV     | +Cr | Roosevelt  | +Or |
| De Gaulle       | +Ch | Qin Shi Huang | +Pr | Stalin     | +Ag |

**Or****Organized**

- -50% Civic upkeep
- double production speed of **Lighthouse**, **Factory**, and **Courthouse**

|           |     |               |     |            |     |
|-----------|-----|---------------|-----|------------|-----|
| Asoka     | +Sp | Hammurabi     | +Ag | Napoleon   | +Ch |
| Darius I  | +Fi | Julius Caesar | +Im | Roosevelt  | +In |
| Frederick | +Ph | Mehmed II     | +Ex | Zara Yaqob | +Cr |

**Ph****Philosophical**

- +100% Great People Birth Rate
- double production speed of **University**

|           |     |          |     |              |     |
|-----------|-----|----------|-----|--------------|-----|
| Alexander | +Ag | Gandhi   | +Sp | Peter        | +Ex |
| Elizabeth | +Fi | Lincoln  | +Ch | Sitting Bull | +Pr |
| Frederick | +Or | Pericles | +Cr | Suleiman     | +Im |

**Pr****Protective**

- free **City Garrison I** and **Drill I** promotions for all **Archery** and **Gunpowder Units**
- double production speed of **Walls** and **Castle**

|             |     |               |     |              |     |
|-------------|-----|---------------|-----|--------------|-----|
| Churchill   | +Ch | Mao Zedong    | +Ex | Sitting Bull | +Ph |
| Charlemagne | +Im | Qin Shi Huang | +In | Tokugawa     | +Ag |
| Gilgamesh   | +Cr | Saladin       | +Sp | Wang Kon     | +Fi |

**Sp****Spiritual**

- no anarchy
- double production speed of **Temple**
- double production speed of **Cristo Redentor (W)**

|         |     |             |     |            |     |
|---------|-----|-------------|-----|------------|-----|
| Asoka   | +Or | Hatshepsut  | +Cr | Montezuma  | +Ag |
| Brennus | +Ch | Isabella    | +Ex | Rameses II | +In |
| Gandhi  | +Ph | Justinian I | +Im | Saladin    | +Pr |
|         |     | Mansa Musa  | +Fi |            |     |

W World Wonder

## Tech

## Beakers\*\*

## Prereq. Techs

## Can build

## Effects

**Laser**

Modern Era

7000

Plastics, Satellites

Mobile SAM, Mobile Artillery\*  
SDI (TP)

—

**Liberalism**

Renaissance Era

1400

Philosophy,  
Education

—

first to discover receives a free  
technology  
enables **Free Speech**, **Free Religion****Literature**

Classical Era

200

Polytheism,  
AestheticsHeroic Epic (NW), National Epic (NW),  
Great Library (W)

—

**Machinery**

Medieval Era

700

Metal Casting

Windmill, Watermill  
Maceman\*, Samurai\*, Berserker\*,  
Crossbowman\*, Cho-Ko-Nu\*

—

**Masonry**

Ancient Era

80

Mysticism  
or MiningQuarry, Walls, Dun, Aqueduct\*,  
Hammam\*, Baray\*, Pyramids (W),  
Great Lighthouse (W)\*, Great Wall (W)

—

**Mass Media**

Modern Era

3600

Radio

Broadcast Tower, Hollywood (W),  
United Nations (W),  
Civilized Jewelers Inc (C)\*obsoletes **Apostolic Palace (W)****Mathematics**

Classical Era

250

Writing

Fort  
Aqueduct\*, Hammam\*, Baray\*,  
Hanging Gardens (W)+50% hammers from chopping  
Forest**Medicine**

Industrial Era

4500

Optics, Biology

Hospital, Red Cross (NW),  
Sid's Sushi Co (C)\*enables **Environmentalism****Meditation**

Ancient Era

80

Mysticism

Buddhist Monastery, Christian Monastery,  
Confucian Monastery, Hindu Monastery,  
Islamic Monastery, Jewish Monastery,  
Taoist Monasteryfirst to discover founds **Buddhism****Metal Casting**

Classical Era

450

Pottery,  
Bronze WorkingTireme\*  
Workshop  
Forge, Mint, Colossus (W)

—

**Military Science**

Renaissance Era

2000

Chemistry

Grenadier, Ship of the Line\*  
Military Academyenables **Blitz**, **Commando****Military Tradition**

Renaissance Era

2000

Music,  
NationalismConquistador\*, Cuirassier\*,  
Cavalry\*, Cossack\*  
West Point (NW)

enables Defensive Pacts

**Mining**

Ancient Era

50

—

Mine

—

**Monarchy**

Classical Era

300

Priesthood  
or Monotheism

Winery

enables **Hereditary Rule****Monotheism**

Ancient Era

120

Masonry,  
Polytheism

—

enables **Organized Religion**  
first to discover founds **Judaism****Music**

Medieval Era

600

Literature  
or Drama,  
MathematicsBuddhist Stupa, Christian Cathedral,  
Confucian Academy, Hindu Mandir,  
Islamic Mosque, Jewish Synagogue,  
Taoist Pagoda, Sistine Chapel (W)first to discover receives  
**Great Artist**  
enables a city to build Culture



| Tech  | Beakers**                                       | Prereq. Techs                 | Can build   | Effects   |
|---|---|-------------------------------|---|---|
|    | <b>Engineering</b><br>Medieval Era<br>1000      | Machinery,<br>Construction    | <b>Pikeman</b> , <b>Landsknecht</b> , <b>Trebuchet</b><br><b>Castle</b> , <b>Citadel</b> , <b>Notre Dame (W)</b>  | +1 road movement  |
|    | <b>Fascism</b><br>Industrial Era<br>2400        | Nationalism,<br>Assembly Line | <b>Paratrooper*</b><br><b>Mt. Rushmore (NW)</b>   | first to discover receives <b>Great General</b><br>enables permanent alliances<br>enables <b>Police State</b> |
|    | <b>Feudalism</b><br>Medieval Era<br>700         | Writing, Monarchy             | <b>Longbowman*</b>  | enables vassal states<br>enables <b>Vassalage</b> , <b>Serfdom</b>  |
|    | <b>Fiber Optics</b><br>Modern Era<br>7500       | Computers<br>or Laser         | <b>Space Ship Cockpit</b>   | obsoletes <b>Kremlin (W)</b>  |
|    | <b>Fishing</b><br>Ancient Era<br>40             | —                             | <b>Fishing Boat</b><br><b>Work Boat</b>   | can work water tiles  |
|    | <b>Fission</b><br>Industrial Era<br>5500        | Electricity                   | <b>Tactical Nuke*</b> , <b>ICBM*</b><br><b>Nuclear Plant</b> , <b>Manhattan Project (WP)</b>  | —   |
|    | <b>Flight</b><br>Modern Era<br>5000             | Physics,<br>Combustion        | <b>Paratrooper*</b> , <b>Carrier</b> , <b>Fighter</b> , <b>Bomber*</b><br><b>Airport</b>  | —   |
|    | <b>Fusion</b><br>Future Era<br>8000             | Fiber Optics,<br>Fission      | <b>Space Ship Engine</b>  | first to discover receives<br><b>Great Engineer</b>   |
|    | <b>Future Tech</b><br>Future Era<br>10 000      | Stealth,<br>Genetics          | multiple future techs<br>may be researched  | +1 health in all cities<br>+1 happy in all cities   |
|   | <b>Genetics</b><br>Future Era<br>7000           | Medicine,<br>Superconductors  | <b>Space Ship Stasis Chamber</b>  | +3 health in all cities   |
|  | <b>Guilds</b><br>Medieval Era<br>1000           | Feudalism,<br>Machinery       | <b>Knight*</b> , <b>Camel Archer*</b> , <b>Cataphract*</b><br><b>Grocer*</b> , <b>Apothecary*</b>   | +1 hammer from <b>Workshop</b>  |
|  | <b>Gunpowder</b><br>Renaissance Era<br>1200     | Education<br>or Guilds        | <b>Musketman</b> , <b>Musketeer</b> , <b>Janissary</b> ,<br><b>Oromo Warrior</b> , <b>Conquistador*</b> ,<br><b>Cuirassier*</b>   | enables <b>Pinch</b>  |
|  | <b>Horseback Riding</b><br>Classical Era<br>250 | Animal Husbandry              | <b>Horse Archer*</b> , <b>Numidian Cav.*</b> , <b>Keshik*</b> , <b>Camel Archer*</b> , <b>Cataphract*</b> ,<br><b>Conquistador*</b> , <b>Cuirassier*</b> , <b>Cavalry*</b> , <b>Cossack*</b> , <b>War Elephant*</b> , <b>Ballista Elephant*</b><br><b>Stable</b> , <b>Ger</b> |   |
|  | <b>Hunting</b><br>Ancient Era<br>40             | —                             | <b>Camp</b><br><b>Scout</b> , <b>Spearman</b> , <b>Impi</b> , <b>Holkan</b>   | —   |
|  | <b>Industrialism</b><br>Industrial Era<br>6500  | Electricity,<br>Assembly Line | <b>Marine*</b> , <b>Navy SEAL*</b> , <b>Tank*</b> , <b>Panzer*</b> ,<br><b>Battleship</b><br><b>Industrial Park</b>   | reveals <b>Aluminum</b><br>obsoletes <b>Ivory</b>   |
|  | <b>Iron Working</b><br>Classical Era<br>200     | Bronze Working                | <b>Swordsman</b> , <b>Jaguar</b> , <b>Gallic Warrior</b> ,<br><b>Praetorian</b>   | can remove <b>Jungle</b><br>reveals <b>Iron</b>   |

| Terrain   | Moving cost  | Production  | Other effects   | Resources possible   |
|---|--|---|---|--|
|    | <b>Grassland</b><br>base terrain                     | 1<br>2 food<br>+1 commerce with river             | —   | Copper, Corn, Cow, Gems,<br>Horse, Iron, Pig, Rice,<br>Sheep, Uranium                            |
|    | <b>Plains</b><br>base terrain                        | 1<br>1 food, 1 hammer<br>+1 commerce with river   | —   | Copper, Cow, Horse, Iron,<br>Ivory, Marble, Sheep, Stone,<br>Uranium, Wheat, Wine                |
|    | <b>Desert</b><br>base terrain                        | 1<br>+1 commerce with river                       | improvements take<br>+25% time to build                                 | Copper, Incense, Iron, Oil,<br>Stone, Uranium  |
|    | <b>Tundra</b><br>base terrain                        | 1<br>1 food<br>+1 commerce with river             | improvements take<br>+25% time to build                                 | Copper, Deer, Fur, Horse,<br>Iron, Marble, Oil, Uranium  |
|    | <b>Snow</b><br>base terrain                          | 1<br>—  | improvements take<br>+50% time to build                                 | Copper, Fur, Iron, Marble,<br>Oil, Uranium   |
|    | <b>Coast</b><br>base terrain                         | 1<br>1 food, 2 commerce                           | +10% defense  | Clam, Crab, Fish   |
|    | <b>Ocean</b><br>base terrain                         | 1<br>1 food, 1 commerce                           | —   | Fish, Oil, Whale   |
|    | <b>Fallout</b><br>terrain feature                    | 2<br>-3 all                                       | +0.5 unhealthiness<br>in nearby cities<br>cannot build any improvements | —  |
|    | <b>Hill</b><br>land terrain feature                  | 1<br>-1 food, +1 hammer<br>+1 commerce with river | +25% defense  | Aluminum, Coal, Copper, Deer,<br>Gold, Iron, Marble, Pig, Sheep,<br>Silver, Stone, Uranium, Wine |
|   | <b>Peak</b><br>land terrain feature                  | impassable<br>—                                   | —   | —  |
|  | <b>Jungle</b><br>Grassland feature                   | 2<br>-1 food                                      | +50% defense<br>+0.25 unhealthiness<br>in nearby cities                 | Banana, Dye, Gems, Ivory,<br>Oil, Rice, Spices, Sugar,<br>Uranium                                |
|  | <b>Oasis</b><br>Desert feature                       | 2<br>+3 food<br>+2 commerce                       | source of fresh water<br>cannot build any improvements                  | —  |
|  | <b>Flood Plains</b><br>Desert feature                | 2<br>+3 food                                      | +0.4 unhealthiness<br>in nearby cities                                  | —  |
|  | <b>Forest</b><br>Grass, Plains, Tundra, Snow feature | 2<br>+1 hammer                                    | +50% defense<br>+0.5 healthy in nearby cities                           | Deer, Fur, Silk, Spices,<br>Uranium  |
|  | <b>Ice</b><br>water terrain feature                  | impassable<br>—                                   | —   | —  |



| Improvement  | Base bonus   | Bonus with Resources, Techs and Civics                    | Other effects   |
|--|--|---|---|
|  <b>Camp</b><br><i>requires: Hunting</i>                                      | Deer +2 F<br>Fur +3 C<br>Ivory +1 H, +1 C                      |   | pillaging yields 5 gold*  |
|  <b>Cottage</b> +1 C<br><i>requires: Pottery</i>                              |  |   | becomes a Hamlet in 10 turns**<br>pillaging yields 10 gold                                      |
|  <b>Farm</b> +1 F<br><i>requires: Agriculture</i>                             | Corn, Wheat +2 F<br>Rice +1 F                                  | +1 F with Irrigation (Civil Service)<br>+1 F with Biology | can only be built on flatlands<br>pillaging yields 5 gold                                       |
|  <b>Fishing Boats</b><br><i>requires: Fishing</i>                             | Clam, Crab +2 F<br>Fish +3 F                                   |   | can only be built on water<br>pillaging yields 5 gold   |
|  <b>Forest Preserve</b><br>+1 happiness<br><i>requires: Scientific Method</i> |  | +1 C next to river<br>+2 C with Environmentalism          | gives Forest / Jungle a higher chance of spreading (only tiles without improvements)            |
|  <b>Fort</b><br><i>requires: Mathematics</i>                                  |  |   | +25% tile defense<br>acts as a city for combat purposes<br>can be used as a port by Naval Units |
|  <b>Hamlet</b> +2 C<br><i>upgrade from Cottage</i>                            |  |   | becomes a Village in 20 turns**<br>pillaging yields 15 gold                                     |
|  <b>Lumbermill</b> +1 H<br><i>requires: Replaceable Parts</i>                |  | +1 C next to river<br>+1 H with Railroad                  | can only be built in Forest<br>pillaging yields 5 gold  |
|  <b>Mine</b> +2 H<br><i>requires: Mining</i>                                | Aluminum +3 H, +1 C<br>Coal, Copper, Iron +3 H<br>Uranium +3 C | Gems +1 H, +5 C<br>Gold +1 H, +6 C<br>Silver +1 H, +4 C   | +1 H with Railroad<br>chance of discovering resources<br>pillaging yields 10 gold               |
|  <b>Offshore Platform</b><br><i>requires: Plastics</i>                      | Oil +2 H, +1 C   |   | can only be built on water<br>pillaging yields 10 gold  |
|  <b>Pasture</b><br><i>requires: Animal Husbandry</i>                        | Horse +2 H, +1 C<br>Cow +1 F, +2 H                             | Pig +3 F<br>Sheep +2 F, +1 C                              | pillaging yields 5 gold   |
|  <b>Plantation</b><br><i>requires: Calendar</i>                             | Banana +2 F<br>Dye +4 C<br>Incense +5 C                        | Silk +3 C<br>Spices +1 F, +2 C<br>Sugar +1 F, +1 C        | pillaging yields 5 gold   |

| Tech   | Beakers** | Prereq. Techs                 | Can build   | Effects   |
|--|-----------|-------------------------------|---|---|
|  <b>Combustion</b><br>Industrial Era    | 3600      | Railroad                      | Well<br>Transport, Destroyer, Attack Submarine*<br>Public Transportation, Creative Constr. (C)* | obsoletes Whale   |
|  <b>Communism</b><br>Industrial Era     | 2800      | Scientific Method, Liberalism | Intelligence Agency, Kremlin (W)  | first to discover receives Great Spy<br>enables permanent alliances<br>enables State Property |
|  <b>Compass</b><br>Classical Era        | 400       | Iron Working, Sailing         | Explorer<br>Harbor, Cothon  | —   |
|  <b>Composites</b><br>Modern Era        | 7500      | Satellites, Plastics          | Modern Armor*<br>Space Ship Casing  | —   |
|  <b>Computers</b><br>Modern Era         | 6500      | Plastics, Radio               | Modern Armor*<br>Internet (WP)  | obsoletes Angkor Wat (W),<br>Spiral Minaret (W),<br>University of Sankore (W)                 |
|  <b>Constitution</b><br>Renaissance Era | 2000      | Code of Laws, Nationalism     | Jail, Mausoleum   | enables Representation  |
|  <b>Construction</b><br>Classical Era   | 350       | Mathematics, Masonry          | War Elephant*, Ballista Elephant*,<br>Catapult, Hwacha<br>Colosseum, Odeon, Ball Court, Garden  | crossing rivers no longer slows unit movement   |
|  <b>Corporation</b><br>Renaissance Era  | 1600      | Constitution, Economy         | Wall Street (NW), all Corporations*   | +1 Trade Route per city<br>obsoletes Great Lighthouse (W)                                     |
|  <b>Currency</b><br>Classical Era       | 400       | Mathematics or Alphabet       | Market, Forum, Grocer*, Apothecary*   | +1 Trade Route per city<br>enables gold trade via diplomacy<br>enables a city to build Wealth |
|  <b>Democracy</b><br>Renaissance Era    | 2800      | Printing Press, Constitution  | Security Bureau, Statue of Liberty (W)  | enables Universal Suffrage,<br>Emancipation   |
|  <b>Divine Right</b><br>Medieval Era    | 1200      | Theology, Monarchy            | Versailles (W), Spiral Minaret (W)  | first to discover founds Islam  |
|  <b>Drama</b><br>Classical Era         | 300       | Aesthetics                    | Theatre, Pavilion, Hippodrome,<br>Globe Theatre (NW)  | can adjust culture rate   |
|  <b>Ecology</b><br>Modern Era         | 5500      | Plastics or Fission, Biology  | Recycling Center, Space Ship<br>Life Support  | can scrub Fallout   |
|  <b>Economics</b><br>Renaissance Era  | 1400      | Education, Banking            | Customs House, Feitoria   | first to discover receives Great Merchant<br>enables Free Market<br>obsoletes Castle          |
|  <b>Education</b><br>Renaissance Era  | 1800      | Paper                         | University, Seowon,<br>Oxford University (NW)   | —   |
|  <b>Electricity</b><br>Industrial Era | 4500      | Physics                       | Bunker, Bomb Shelters, Broadway (W)   | +1 commerce from Windmill<br>+2 commerce from Watermill                                       |



| Tech  | Beakers**                                   | Prereq. Techs                          | Can build   | Effects  |
|---|---|--|---|--|
|    | <b>Advanced Flight</b><br>Modern Era 5000   | Satellites, Flight                     | Gunship, Jet Fighter  | obsoletes Stable   |
|    | <b>Aesthetics</b><br>Classical Era 300      | Writing                                | Parthenon (W), Statue of Zeus (W), Shwedagon Paya (W)   | —  |
|    | <b>Agriculture</b><br>Ancient Era 60        | —                                      | Farm  | —  |
|    | <b>Alphabet</b><br>Classical Era 300        | Writing                                | Spy   | enables technology trading<br>enables a city to build Research             |
|    | <b>Animal Husbandry</b><br>Ancient Era 100  | Hunting or Agriculture                 | Pasture   | reveals Horse  |
|    | <b>Archery</b><br>Ancient Era 60            | Hunting                                | Archer, Skirmisher, Bowman, Longbowman*, Crossbowman*, Cho-Ko-Nu*, Horse Archer*, Numidian Cavalry*, Keshik*, Camel Archer* | —  |
|    | <b>Artillery</b><br>Industrial Era 4000     | Physics, Steel, Rifling                | Anti-Tank, Artillery, Mobile Artillery*   | —  |
|    | <b>Assembly Line</b><br>Industrial Era 5000 | Corporation, Steam Power               | Infantry*, Factory, Assembly Plant, Coal Plant, Shale Plant, Pentagon (W)   | —  |
|    | <b>Astronomy</b><br>Renaissance Era 2000    | Calendar, Optics                       | Galleon, East Indiaman, Privateer*, Frigate*, Ship of the Line*, Observatory, Salon   | enables trade on Ocean<br>obsoletes Monument, Stonehenge (W), Colossus (W) |
|    | <b>Banking</b><br>Medieval Era 700          | Currency, Guilds                       | Bank, Stock Exchange  | enables Mercantilism   |
|   | <b>Biology</b><br>Industrial Era 3600       | Scientific Method, Chemistry           | National Park (NW)  | can build Farm without irrigation<br>+1 food from Farm                     |
|  | <b>Bronze Working</b><br>Ancient Era 120    | Mining                                 | Axeman, Phalanx, Vulture, Dog Soldier, Holkan*  | can chop down a Forest<br>reveals Copper<br>enables Slavery                |
|  | <b>Calendar</b><br>Classical Era 350        | Sailing, Mathematics                   | Plantation<br>Mausoleum of Maussollos (W)   | centers World Map  |
|  | <b>Chemistry</b><br>Renaissance Era 1800    | Engineering, Gunpowder                 | Privateer*, Frigate*  | +1 hammer from Workshop  |
|  | <b>Civil Service</b><br>Medieval Era 800    | Code of Laws or Feudalism, Mathematics | Maceman*, Samurai*, Berserker*  | Farms spread irrigation<br>enables Bureaucracy                             |
|  | <b>Code of Laws</b><br>Classical Era 350    | Priesthood or Currency, Writing        | Courthouse, Sacrificial Altar, Rathaus, Chichen Itza (W)  | enables Caste System<br>first to discover founds<br>Confucianism           |

| Improvement  | Base bonus                      | Bonus with Resources, Techs and Civics  | Other effects   |
|--|---------------------------------|---|---|
|  <b>Quarry</b><br><i>requires: Masonry</i>                | Marble +1 H, +2 C<br>Stone +2 H | +1 H with Railroad  | pillaging yields 5 gold   |
|  <b>Railroad</b><br><i>requires: Railroad, Coal, Iron</i> |                                 |   | 0.1 movement point on any tile<br>+1 H for Mines, Quarries, and Lumbermills |
|  <b>Road</b><br><i>requires: The Wheel</i>                |                                 |   | 0.5 movement point on any tile  |
|  <b>Town</b><br><i>upgrade from Village</i>               | +4 C                            | +1 H with <b>Universal Suffrage</b><br>+2 C with <b>Free Speech</b><br>+1 C with <b>Printing Press</b>                    | pillaging yields 25 gold  |
|  <b>Village</b><br><i>upgrade from Hamlet</i>             | +3 C                            | +1 C with <b>Printing Press</b>   | becomes a Town in 40 turns**<br>pillaging yields 20 gold                    |
|  <b>Watermill</b><br><i>requires: Machinery</i>           | +1 H                            | +1 F with <b>State Property</b><br>+1 H with <b>Repl. Parts</b><br>+2 C with <b>Electricity</b>                           | requires river<br>can only be built on flatlands<br>pillaging yields 5 gold |
|  <b>Well</b><br><i>requires: Combustion</i>               | Oil +2 H, +1 C                  |   | pillaging yields 10 gold  |
|  <b>Whaling Boat</b><br><i>requires: Optics</i>           | Whale +1 H, +2 C                |   | can only be built on water<br>pillaging yields 5 gold                       |
|  <b>Windmill</b><br><i>requires: Machinery</i>            | +1 F, +1 C                      | +1 H with <b>Repl. Parts</b><br>+1 C with <b>Electricity</b><br>+2 C with <b>Environmentalism</b>                         | pillaging yields 5 gold   |
|  <b>Winery</b><br><i>requires: Monarchy</i>               | Wine +1 F, +2 C                 |   | pillaging yields 10 gold  |
|  <b>Workshop</b><br><i>requires: Metal Casting</i>       | -1 F, +1 H                      | +1 F with <b>State Property</b><br>+1 H with <b>Caste System</b><br>+1 H with <b>Guilds</b><br>+1 H with <b>Chemistry</b> | can only be built on flatlands<br>pillaging yields 5 gold                   |

F food H hammers C commerce

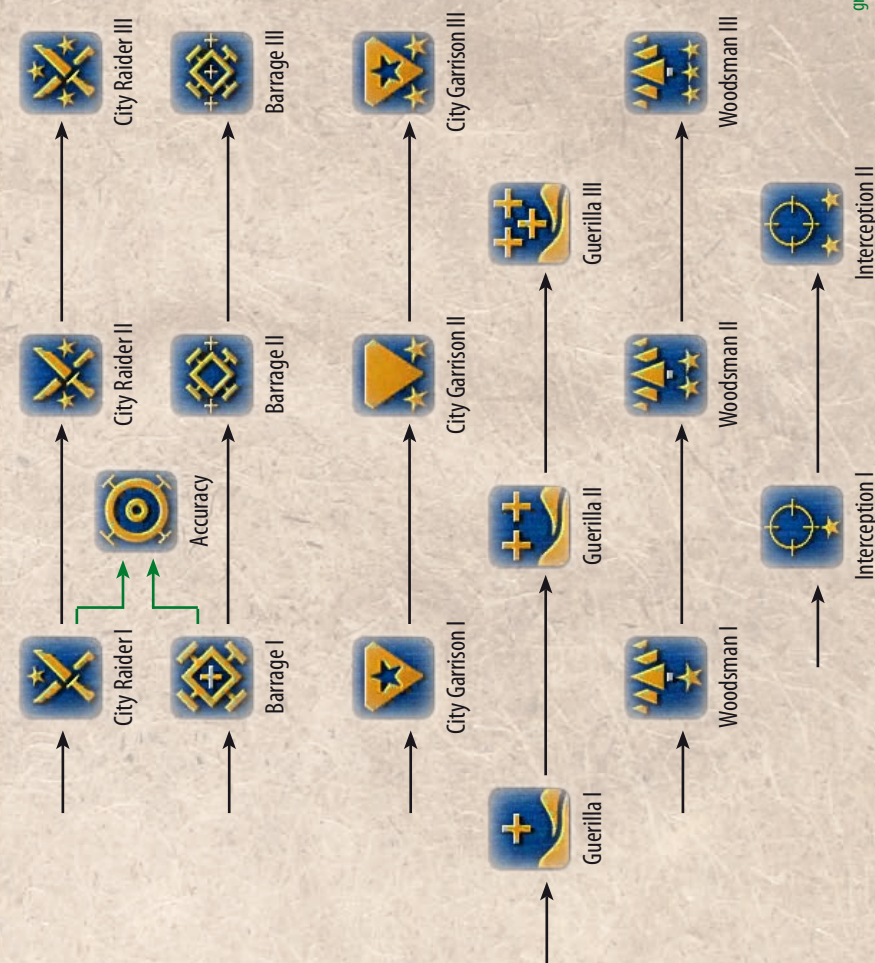
\* All pillage yields in this list represent averages.

\*\* Assumes Normal Game Speed; number of turns varies with game length. Factors for other conditions are:

Quick ×0.67, Epic ×1.50, Marathon ×3.00 (!). For example, at Epic speed a Village will become a Town in 60 turns rather than 40.

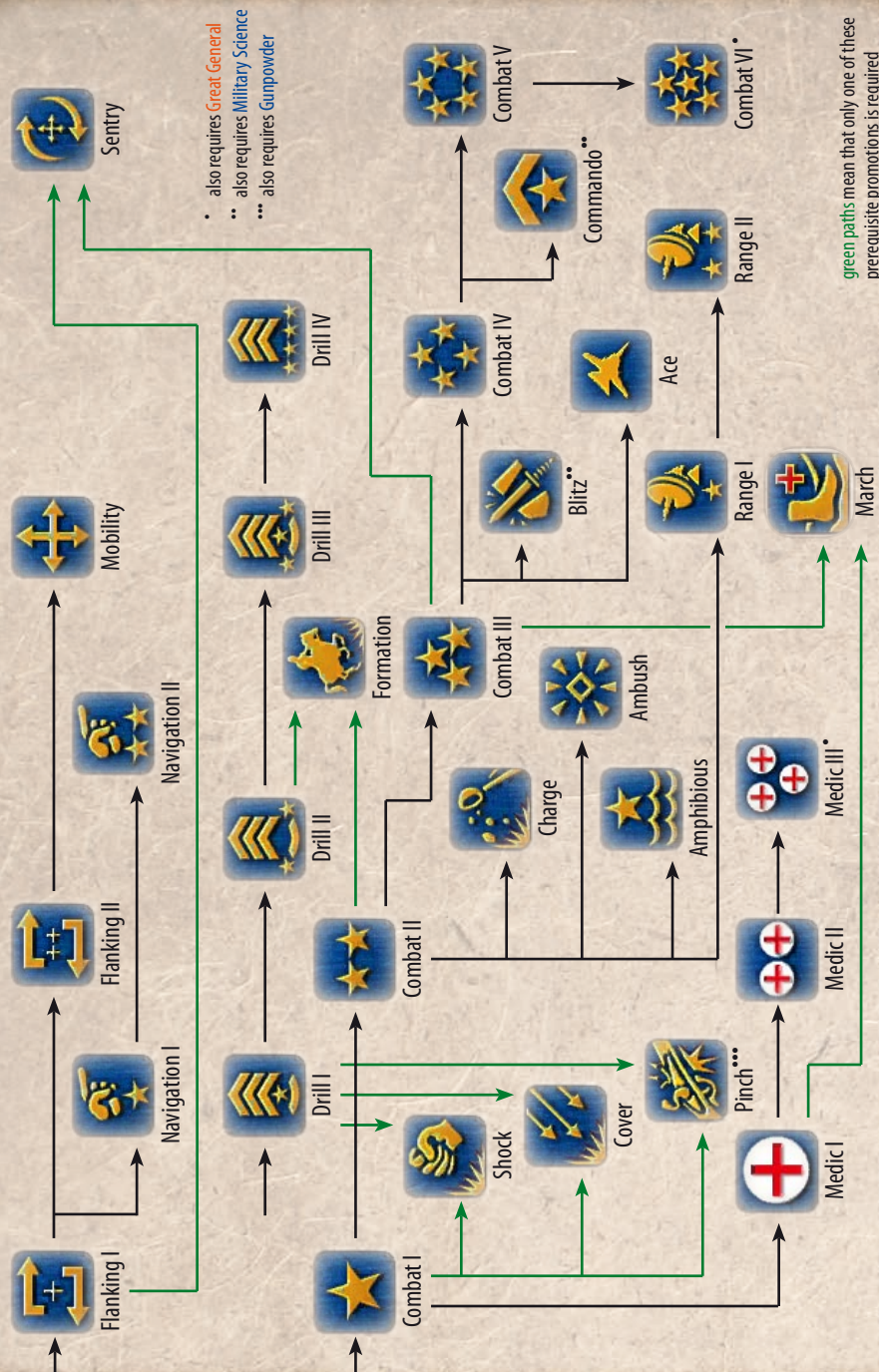


| Resources  | Base & Improv. bonus          | Other changes  | Terrain appearance   |
|--|-------------------------------|--|--|
|  <b>Aluminum</b><br>Mine      | +1 H<br>+3 H, +1 C            | revealed by <b>Industrialism</b>   | Plains, Desert, Tundra<br>(Hills only)                           |
|  <b>Banana</b><br>Plantation  | +1 F<br>+1 health, +2 F       | <b>Grocer</b> / <b>Apothecary</b> * +1 health  | Grassland with Jungle only<br>(Flatlands only)                   |
|  <b>Clam</b><br>Fishing Boats | +1 F<br>+1 health, +2 F       | <b>Harbor</b> / <b>Cothon</b> * +1 health  | Coast only   |
|  <b>Coal</b><br>Mine          | +1 H<br>+3 H                  | revealed by <b>Steam Power</b><br><b>Factory</b> / <b>Assembly Plant</b> * +1 unhealthiness<br><b>Industrial Park</b> +1 unhealthiness | Grassland with Hills<br>Plains with Hills                        |
|  <b>Copper</b><br>Mine        | +1 H<br>+3 H                  | revealed by <b>Bronze Working</b>  | Grassland, Plains, Desert, Tundra,<br>Snow (Flatlands and Hills) |
|  <b>Corn</b><br>Farm          | +1 F<br>+1 health, +2 F       | <b>Granary</b> / <b>Terrace</b> * +1 health  | Grassland without any features only                              |
|  <b>Cow</b><br>Pasture        | +1 F<br>+1 health, +1 F, +2 H | <b>Supermarket</b> / <b>Mall</b> * +1 health   | Grassland and Plains<br>without any features                     |
|  <b>Crab</b><br>Fishing Boats | +1 F<br>+1 health, +2 F       | <b>Harbor</b> / <b>Cothon</b> * +1 health  | Coast only   |
|  <b>Deer</b><br>Camp          | +1 F<br>+1 health, +2 F       | <b>Supermarket</b> / <b>Mall</b> * +1 health   | Tundra and Tundra with Forest<br>(Flatlands and Hills)           |
|  <b>Dye</b><br>Plantation     | +1 C<br>+1 happy, +4 C        | <b>Theatre</b> / <b>Pavilion</b> * +1 happy  | Grassland with Jungle only<br>(Flatlands only)                   |
|  <b>Fish</b><br>Fishing Boats | +1 F<br>+1 health, +3 F       | <b>Harbor</b> / <b>Cothon</b> * +1 health  | Coast and Ocean  |
|  <b>Fur</b><br>Camp          | +1 C<br>+1 happy, +3 C        | <b>Market</b> / <b>Forum</b> * +1 happy<br>obsolete with <b>Plastics</b>   | Tundra and Snow<br>with any features                             |
|  <b>Gems</b><br>Mine        | +1 C<br>+1 happy, +1 H, +5 C  | <b>Forge</b> / <b>Mint</b> * +1 happy  | Grassland with Jungle<br>(Flatlands and Hills)                   |
|  <b>Gold</b><br>Mine        | +1 C<br>+1 happy, +1 H, +6 C  | <b>Forge</b> / <b>Mint</b> * +1 happy  | Plains with Hills<br>Desert with Hills                           |
|  <b>Hit Movies</b>          | +1 happy                      | <b>Broadcast Tower</b> +1 happy<br><b>Mall</b> * +1 happy  | generated by <b>Hollywood</b>                                    |
|  <b>Hit Musicals</b>        | +1 happy                      | <b>Broadcast Tower</b> +1 happy<br><b>Mall</b> * +1 happy  | generated by <b>Broadway</b>                                     |
|  <b>Hit Singles</b>         | +1 happy                      | <b>Broadcast Tower</b> +1 happy<br><b>Mall</b> * +1 happy  | generated by <b>Rock 'n' Roll</b>                                |
|  <b>Horse</b><br>Pasture    | +1 H<br>+2 H, +1 C            | revealed by <b>Animal Husbandry</b><br><b>Hippodrome</b> * +1 happy  | Grassland, Plains, Tundra<br>(Flatlands only)                    |



green paths mean that only one of these prerequisite promotions is required





| Resources                             | Base & Improv. bonus          | Other changes  | Terrain appearance  |
|---------------------------------------|-------------------------------|--|---|
| <b>Incense</b><br>Plantation          | +1 C<br>+1 happy, +5 C        | +1 C<br>all religion Cathedrals +1 happy   | Flatland Desert only  |
| <b>Iron</b><br>Mine                   | +1 H<br>+3 H                  | revealed by Iron Working   | Grassland, Plains, Desert, Tundra, Snow (Flatlands and Hills)               |
| <b>Ivory</b><br>Camp                  | +1 H<br>+1 happy, +1 H, +1 C  | Market / Forum* +1 happy<br>obsolete with Industrialism  | Grassland with Jungle, Plains (Flatlands only)                              |
| <b>Marble</b><br>Quarry               | +1 H<br>+1 H, +2 C            | —  | Plains, Tundra, Snow (Flatlands and Hills)                                  |
| <b>Oil</b><br>Well, Offshore Platform | +1 H<br>+2 H, +1 C            | revealed by Scientific Method<br>Factory / Assembly Plant* +2 unhealthiness<br>Industrial Park +1 unhealthiness<br>Public Transportation +1 health | Desert, Tundra, Snow (without any features)<br>Ocean, Grassland with Jungle |
| <b>Pig</b><br>Pasture                 | +1 F<br>+1 health, +3 F       | Supermarket / Mall* +1 health  | Grassland and Grassland with Jungle (Flatlands and Hills)                   |
| <b>Rice</b><br>Farm                   | +1 F<br>+1 health, +1 F       | Granary / Terrace* +1 health   | Grassland and Grassland with Jungle (Flatlands only)                        |
| <b>Sheep</b><br>Pasture               | +1 F<br>+1 health, +2 F, +1 C | Supermarket / Mall* +1 health  | Grassland and Plains (Flatlands and Hills)                                  |
| <b>Silk</b><br>Plantation             | +1 C<br>+1 happy, +3 C        | Market / Forum* +1 happy   | Grassland and Plains (Flatlands with Forest only)                           |
| <b>Silver</b><br>Mine                 | +1 C<br>+1 happy, +1 H, +4 C  | Forge / Mint* +1 happy   | Tundra with Hills<br>Snow with Hills  |
| <b>Spices</b><br>Plantation           | +1 C<br>+1 happy, +2 C        | Grocer / Apothecary* +1 health   | Grassland and Plains (Flatlands with Forest or Jungle)                      |
| <b>Stone</b><br>Quarry                | +1 H<br>+2 H                  | —  | Plains and Desert (Flatlands and Hills)                                     |
| <b>Sugar</b><br>Plantation            | +1 C<br>+1 happy, +1 F, +1 C  | Grocer / Apothecary* +1 health   | Grassland with Jungle only (Flatlands only)                                 |
| <b>Uranium</b><br>Mine                | +3 C                          | revealed by Physics  | all land terrain  |
| <b>Whale</b><br>Whaling Boats         | +1 F<br>+1 happy, +2 H, +1 C  | Market / Forum* +1 happy<br>obsolete with Combustion   | Ocean only  |
| <b>Wheat</b><br>Farm                  | +1 F<br>+1 health, +2 F       | Granary / Terrace* +1 health   | Flatland Plains only  |
| <b>Wine</b><br>Winery                 | +1 C<br>+1 happy, +1 F, +2 C  | Grocer / Apothecary* +1 health   | Plains (Flatlands and Hills)  |

F food H hammers C commerce  
 \* unique building



| Building   | Hammers* | Prerequisites  | Effects  |
|--|----------|--|--|
|  <b>Airport</b>   | 250      | Flight   | +1 unhealthiness<br>+1 Trade Route, +3 XP for new <b>Air Units</b><br>+4 <b>Air Unit</b> capacity, can airlift 1 unit per turn   |
|  <b>Apothecary</b><br>Persian unique (Grocer)                             | 150      | Guilds, Currency   | +2 health, +25% gold<br>+1 health from <b>Banana</b> , <b>Spices</b> , <b>Sugar</b> , <b>Wine</b><br>can turn 2 Citizens into <b>Merchant</b>  |
|  <b>Aqueduct</b>  | 100      | Mathematics, Masonry   | +2 health  |
|  <b>Assembly Plant</b><br>German unique (Factory)<br><i>67% with Coal</i> | 250      | Assembly Line  | +25% hammers (+50% with Power)<br>+1 unhealthiness, +2 unhealthiness from <b>Oil</b> , <b>Coal</b><br>can turn 4 Citizens into <b>Engineer</b>   |
|  <b>Ball Court</b><br>Maya unique (Colosseum)                             | 80       | Construction   | +3 happy<br>+1 happy per 20% culture rate  |
|  <b>Bank</b>  | 200      | Banking  | +50% gold  |
|  <b>Baray</b><br>Khmer unique (Aqueduct)                                  | 100      | Mathematics, Masonry   | +1 food<br>+2 health   |
|  <b>Barracks</b>  | 50       | —  | +3 XP for new <b>Land Units</b><br>+2 happy with <b>Nationhood</b>   |
|  <b>Bomb Shelter</b>  | 100      | Electricity<br><b>Manhattan Project</b>  | —50% damage from <b>Tactical Nuke</b> and <b>ICBM</b>  |
|  <b>Broadcast Tower</b>   | 175      | Mass Media   | +50% culture, +1 happy per 10% culture, +1 happy from <b>Hit Musicals</b> , <b>Hit Singles</b> , <b>Hit Movies</b> , +1 happy with Charismatic trait, can turn 2 Citizens into <b>Artist</b> |
|  <b>Buddhist Monastery</b>   | 60       | Meditation, <b>Buddhism</b><br><i>obsolete with Scientific Method</i>                | +10% science, +2 culture   |
|  <b>Buddhist Stupa</b><br><i>50% with Copper</i>                        | 300      | Music, <b>Buddhism</b><br><b>Buddhist Temple (2)**</b>                               | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Buddhism</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b>  |
|  <b>Buddhist Temple</b>   | 80       | Priesthood<br><b>Buddhism</b>  | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>  |
|  <b>Bunker</b>  | 100      | Electricity  | —50% damage from <b>Air Units</b>  |
|  <b>Castle</b><br><i>50% with Stone</i>                                 | 100      | Engineering, <b>Walls</b><br><i>obsolete with Economics</i>                          | +1 culture, +25% espionage, +1 Trade Route<br>+50% defense (except <b>Gunpowder Units</b> )<br>—25% damage from bombard. (except <b>Gunpowder Units</b> )                                    |
|  <b>Christian Cathedral</b>   | 300      | Music, <b>Christianity</b><br><i>50% with Stone</i><br><b>Christian Temple (2)**</b> | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Christianity</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b>  |

| Promotion   | Eligible Units  | Effects   |
|---|---|---|
|  <b>March</b><br><i>requires: Combat III or Medic I</i>            | Recon, Archery, Melee, Mounted, Siege, Gunpowder        | can heal while moving   |
|  <b>Medic I</b><br><i>requires: Combat I</i>                       | Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval | heals units in the same tile extra 10% damage per turn  |
|  <b>Medic II</b><br><i>requires: Medic I</i>                       | Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval | heals units in adjacent tiles extra 10% damage per turn   |
|  <b>Medic III</b><br><i>requires: Medic II, Great General</i>      | Recon, Archery, Melee, Mounted, Siege, Gunpowder, Naval | heals units in the same tile extra 15% damage per turn<br>heals units in adjacent tiles extra 15% damage per turn |
|  <b>Mobility</b><br><i>requires: Flanking II</i>                   | Mounted, Armored  | —1 terrain movement cost  |
|  <b>Morale</b><br><i>requires: Great General</i>                   | all except Air  | +1 movement range   |
|  <b>Navigation I</b><br><i>requires: Flanking I</i>                | Naval   | +1 movement range   |
|  <b>Navigation II</b><br><i>requires: Flanking I, Navigation I</i> | Naval   | +1 movement range   |
|  <b>Pinch</b><br><i>requires: Combat I or Drill I, Gunpowder</i>   | Mounted, Gunpowder, Armored, Helicopter, Air            | +25% vs. <b>Gunpowder Units</b>   |
|  <b>Range I</b><br><i>requires: Combat II</i>                      | Air   | +1 operational range  |
|  <b>Range II</b><br><i>requires: Range I</i>                      | Air   | +1 operational range  |
|  <b>Sentry</b><br><i>requires: Flanking I or Combat III</i>      | Recon, Mounted, Helicopter, Naval                       | +1 visibility range   |
|  <b>Shock</b><br><i>requires: Combat I or Drill I</i>            | Archery, Mounted, Melee, Siege                          | +25% vs. <b>Melee Units</b>   |
|  <b>Tactics</b><br><i>requires: Great General</i>                | all except Air  | +30% withdrawal chance  |
|  <b>Woodsman I</b>   | Recon, Melee, Gunpowder                                 | +20% jungle and forest defense  |
|  <b>Woodsman II</b><br><i>requires: Woodsman I</i>               | Recon, Melee, Gunpowder                                 | double movement in jungle and forest<br>+30% jungle and forest defense  |
|  <b>Woodsman III</b><br><i>requires: Woodsman II</i>             | Melee, Gunpowder  | +2 first strikes<br>heals units in the same tile extra 15% damage per turn<br>+50% jungle and forest attack       |



| Promotion   | Eligible Units   | Effects   |
|---|--|---|
|  <b>Combat IV</b><br><i>requires: Combat III</i>                 | all  | +10% strength<br>heals extra 10% damage per turn in neutral lands                   |
|  <b>Combat V</b><br><i>requires: Combat IV</i>                   | all  | +10% strength<br>heals extra 10% damage per turn in enemy lands                     |
|  <b>Combat VI</b><br><i>requires: Combat V, Great General</i>    | all  | +25% strength   |
|  <b>Commando</b><br><i>requires: Combat IV, Military Science</i> | Recon, Archery, Melee, Mounted, Gunpowder, Armored           | can use enemy Roads and Railroads   |
|  <b>Cover</b><br><i>requires: Combat I or Drill I</i>            | Archery, Melee, Gunpowder                                    | +25% vs. <b>Archery Units</b>   |
|  <b>Drill I</b>  | Archery, Siege, Gunpowder, Armored, Helicopter, Naval        | +1 first strike chance  |
|  <b>Drill II</b><br><i>requires: Drill I</i>                     | Archery, Siege, Melee, Gunpowder, Armored, Helicopter, Naval | +1 first strike<br>suffers -20% collateral damage                                   |
|  <b>Drill III</b><br><i>requires: Drill II</i>                   | Archery, Siege, Melee, Gunpowder, Armored, Helicopter, Naval | +2 first strike chances<br>suffers -20% collateral damage                           |
|  <b>Drill IV</b><br><i>requires: Drill III</i>                   | Archery, Siege, Melee, Gunpowder, Armored, Helicopter, Naval | +2 first strikes<br>suffers -20% collateral damage<br>+10% vs. <b>Mounted Units</b> |
|  <b>Flanking I</b>   | Mounted, Armored, Helicopter, Naval                          | +10% withdrawal chance  |
|  <b>Flanking II</b><br><i>requires: Flanking I</i>               | Mounted, Armored, Helicopter, Naval                          | immune to first strikes<br>+20% withdrawal chance                                   |
|  <b>Formation</b><br><i>requires: Combat II or Drill II</i>    | Archery, Mounted, Melee, Gunpowder                           | +25% vs. <b>Mounted Units</b>   |
|  <b>Guerilla I</b>   | Recon, Archery, Gunpowder                                    | +20% hills defense  |
|  <b>Guerilla II</b><br><i>requires: Guerilla I</i>             | Recon, Archery, Melee, Gunpowder                             | double movement in hills<br>+30% hills defense                                      |
|  <b>Guerilla III</b><br><i>requires: Guerilla II</i>           | Archery, Melee, Gunpowder                                    | +25% hills attack<br>+50% withdrawal chance   |
|  <b>Interception I</b>   | Gunpowder, Air   | +10% interception chance  |
|  <b>Interception II</b><br><i>requires: Interception I</i>     | Gunpowder, Air   | +20% interception chance  |
|  <b>Leadership</b><br><i>requires: Great General</i>           | all except Air   | gains +100% experience from combat  |

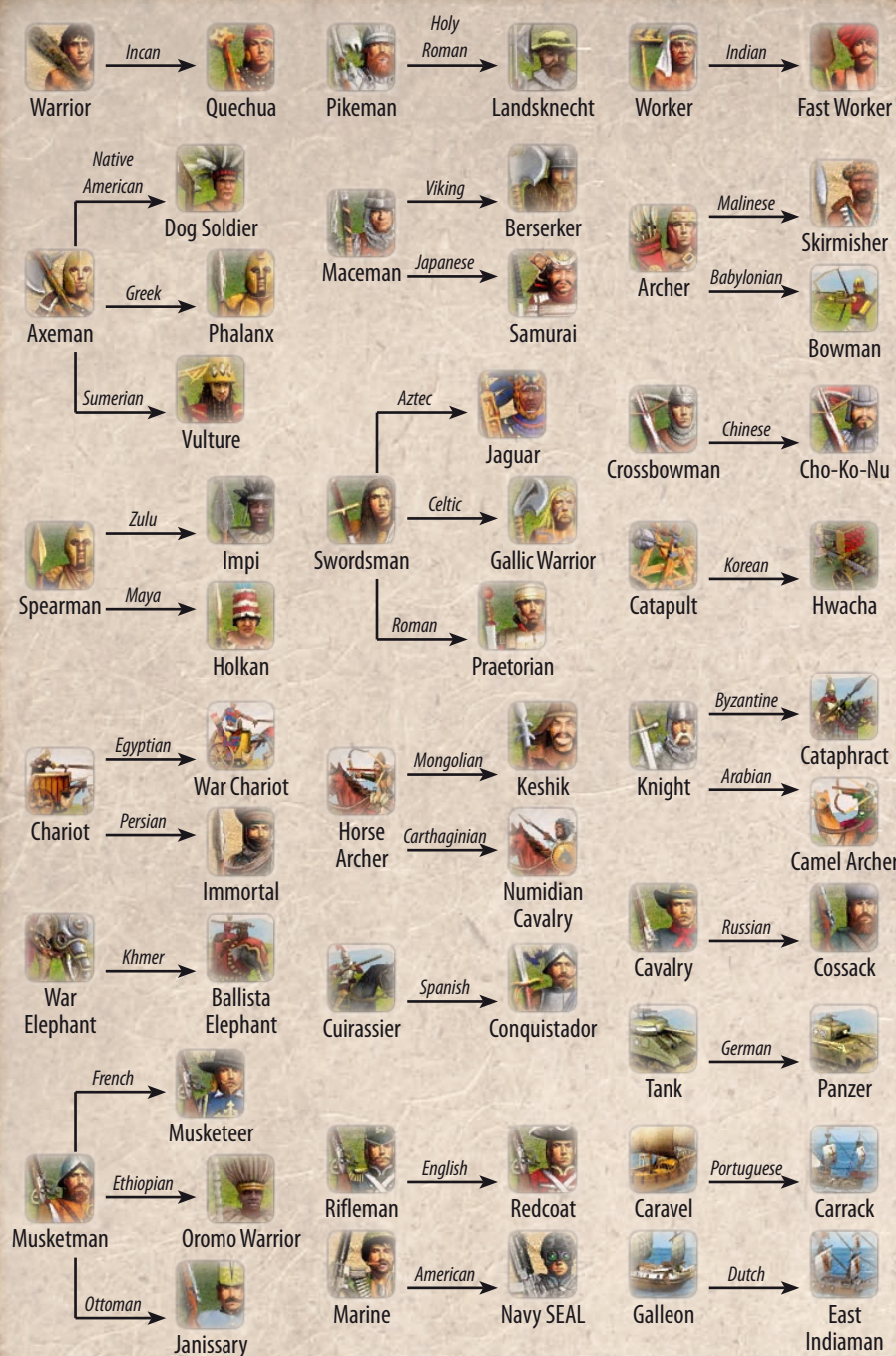
| Building   | Hammers* | Prerequisites   | Effects   |
|--|----------|---|---|
|  <b>Christian Monastery</b> 60<br><i>Spanish unique (Castle)</i><br><i>50% with Stone</i>                 |          | Meditation, <b>Christianity</b><br><i>obsolete with Scientific Method</i> | +10% science, +2 culture  |
|  <b>Christian Temple</b> 80   |          | Priesthood<br><b>Christianity</b>   | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>   |
|  <b>Citadel</b> 100<br><i>Spanish unique (Castle)</i><br><i>50% with Stone</i>                            |          | Engineering, <b>Walls</b><br><i>obsolete with Economics</i>               | +1 culture, +25% espionage, +1 Trade Route<br>+50% defense (except <b>Gunpowder Units</b> )<br>-25% damage from bombard. (except <b>Gunpowder Units</b> )<br>+5 XP for new <b>Siege Weapons</b> |
|  <b>Coal Plant</b> 150  |          | Assembly Line<br><b>Factory</b>   | +2 unhealthiness<br>provides Power with <b>Coal</b>   |
|  <b>Colosseum</b> 80  |          | Construction  | +1 happy<br>+1 happy per 20% culture rate   |
|  <b>Confucian Academy</b> 300<br><i>50% with Copper</i>   |          | Music, <b>Confucianism</b><br><b>Confucian Temple (2)**</b>               | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Confucianism</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b>   |
|  <b>Confucian Monastery</b> 60  |          | Meditation, <b>Confucianism</b><br><i>obsolete with Scientific Method</i> | +10% science, +2 culture  |
|  <b>Confucian Temple</b> 80   |          | Priesthood<br><b>Confucianism</b>   | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>   |
|  <b>Cothon</b> 100<br><i>Carthaginian unique (Harbor)</i><br><i>can only be built in coastal city</i>     |          | Compass   | +1 health from <b>Clam, Crab, Fish</b><br>+1 Trade Route<br>+50% commerce from Trade Routes   |
|  <b>Courthouse</b> 120  |          | Code of Laws  | +2 espionage, -50% maintenance<br>can turn 1 Citizen into <b>Spy</b>  |
|  <b>Customs House</b> 180<br><i>can only be built in coastal city</i>                                     |          | Economics<br><b>Harbor</b>  | +100% commerce from intercontinental foreign Trade Routes   |
|  <b>Dike</b> 180<br><i>Dutch unique (Levee)</i><br><i>can only be built in coastal or river city</i>    |          | Steam Power   | +1 hammer on river tiles<br>+1 hammer on water tiles  |
|  <b>Drydock</b> 120<br><i>can only be built in coastal city</i>   |          | Steel   | +1 unhealthiness<br>+4 XP for new <b>Naval Units</b><br>+50% <b>Naval Units</b> production  |
|  <b>Dun</b> 50<br><i>Celtic unique (Walls)</i><br><i>50% with Stone</i>                                 |          | Masonry<br><i>obsolete with Rifling</i>                                   | +50% defense (except <b>Gunpowder Units</b> )<br>-50% damage from bombard. (except <b>Gunpowder Units</b> )<br><b>Guerilla I</b> promotion for new <b>Land Units</b>                            |
|  <b>Factory</b> 250   |          | Assembly Line   | +25% hammers (+50% with Power)<br>+1 unhealthiness, +2 unhealthiness from <b>Oil, Coal</b><br>can turn 2 Citizens into <b>Engineer</b>  |
|  <b>Feitoria</b> 180<br><i>Portuguese un. (Cust. House)</i><br><i>can only be built in coastal city</i> |          | Economics<br><b>Harbor</b>  | +1 commerce on water tiles<br>+100% commerce from intercontinental foreign Trade Routes   |



| Building   | Hammers* | Prerequisites   | Effects   |
|--|----------|---|---|
|  <b>Forge</b>   | 120      | Metal Casting   | +1 happy from <b>Gems, Gold, Silver</b><br>+25% hammers, +1 unhealthiness<br>can turn 1 Citizen into <b>Engineer</b>                      |
|  <b>Forum</b><br>Roman unique (Market)                          | 150      | Currency  | +25% gold, +25% Great People Birth Rate<br>+1 happy from <b>Fur, Ivory, Silk, Whale</b><br>can turn 2 Citizens into <b>Merchant</b>       |
|  <b>Garden</b><br>Babylonian unique (Colosseum)                 | 80       | Construction  | +2 health, +1 happy<br>+1 happy per 20% culture rate  |
|  <b>Ger</b><br>Mongolian unique (Stable)                        | 60       | Horseback Riding<br><i>obsolete with Advanced Flight</i>              | +4 XP for new <b>Mounted Units</b>  |
|  <b>Granary</b>   | 60       | Pottery   | +1 health from <b>Corn, Rice, Wheat</b><br>half the city's food supply remains after population growth                                    |
|  <b>Grocer</b>  | 150      | Guilds, Currency  | +25% gold<br>+1 health from <b>Banana, Spices, Sugar, Wine</b><br>can turn 2 Citizens into <b>Merchant</b>                                |
|  <b>Hamam</b><br>Ottoman unique (Aqueduct)                      | 100      | Mathematics, Masonry  | +2 health<br>+2 happiness   |
|  <b>Harbor</b><br><i>can only be built in coastal city</i>      | 80       | Compass   | +1 health from <b>Clam, Crab, Fish</b><br>+50% commerce from Trade Routes   |
|  <b>Hindu Mandir</b><br><i>50% with Marble</i>                  | 300      | Music, <b>Hinduism</b><br><b>Hindu Temple (2)**</b>                   | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Hinduism</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b> |
|  <b>Hindu Monastery</b>   | 60       | Meditation, <b>Hinduism</b><br><i>obsolete with Scientific Method</i> | +10% science, +2 culture  |
|  <b>Hindu Temple</b>   | 80       | Priesthood<br><b>Hinduism</b>   | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>   |
|  <b>Hippodrome</b><br>Byzantine unique (Theatre)              | 50       | Drama   | +1 happy, +1 happy per 5% culture rate<br>+3 culture, +1 happy from <b>Horse</b>  |
|  <b>Hospital</b>  | 200      | Medicine  | +3 health<br>heals units +10% extra per turn  |
|  <b>Hydro Plant</b><br><i>can only be built in river city</i> | 200      | Plastics<br><b>Factory</b>  | provides Power  |
|  <b>Ikhandas</b><br>Zulu unique (Barracks)                    | 50       | —   | +3 XP for new <b>Land Units</b><br>-20% maintenance<br>+2 happy with <b>Nationhood</b>  |
|  <b>Industrial Park</b>                                       | 200      | Industrialism<br><b>Factory</b>                                       | +2 unhealthiness<br>+1 unhealthiness from <b>Coal, Oil</b> (each)<br>1 free <b>Engineer</b> , can turn 2 Citizens into <b>Engineer</b>    |

| Promotion   | Eligible Units                             | Effects  |
|---|--|--|
|  <b>Accuracy</b><br><i>requires: City Raider I or Barrage I</i>  | Siege Weapons                              | +8% city bombard damage  |
|  <b>Ace</b><br><i>requires: Combat III</i>                       | Air  | +25% evasion chance  |
|  <b>Ambush</b><br><i>requires: Combat II</i>                     | Siege, Gunpowder, Air, Helicopter, Armored | +25% vs. <b>Armored Units</b>  |
|  <b>Amphibious</b><br><i>requires: Combat II</i>                 | Recon, Archery, Melee, Mounted, Gunpowder  | no combat penalty for attacking from sea<br>no combat penalty for crossing river |
|  <b>Barrage I</b>  | Siege, Armored, Naval                      | +20% collateral damage   |
|  <b>Barrage II</b><br><i>requires: Barrage I</i>                 | Siege, Armored, Naval                      | +30% collateral damage<br>+10% vs. <b>Melee Units</b>                            |
|  <b>Barrage III</b><br><i>requires: Barrage II</i>               | Siege, Armored, Naval                      | +50% collateral damage<br>+10% vs. <b>Gunpowder Units</b>                        |
|  <b>Blitz</b><br><i>requires: Combat III, Military Science</i>   | Mounted, Armored, Helicopter, Naval        | can attack multiple times per turn   |
|  <b>Charge</b><br><i>requires: Combat I</i>                      | Mounted, Melee, Armored, Helicopter        | +25% vs. <b>Siege Weapons</b>  |
|  <b>City Garrison I</b>  | Archery, Gunpowder                         | +20% city defense  |
|  <b>City Garrison II</b><br><i>requires: City Garrison I</i>    | Archery, Gunpowder                         | +25% city defense  |
|  <b>City Garrison III</b><br><i>requires: City Garrison II</i> | Archery, Gunpowder                         | +30% city defense<br>+10% vs. <b>Melee Units</b>                                 |
|  <b>City Raider I</b>  | Melee, Siege, Armored                      | +20% city attack   |
|  <b>City Raider II</b><br><i>requires: City Raider I</i>       | Melee, Siege, Armored                      | +25% city attack   |
|  <b>City Raider III</b><br><i>requires: City Raider II</i>     | Melee, Siege, Armored                      | +30% city attack<br>+10% vs. <b>Gunpowder Units</b>                              |
|  <b>Combat I</b>   | all  | +10% strength  |
|  <b>Combat II</b><br><i>requires: Combat I</i>                 | all  | +10% strength  |
|  <b>Combat III</b><br><i>requires: Combat II</i>               | all  | +10% strength  |



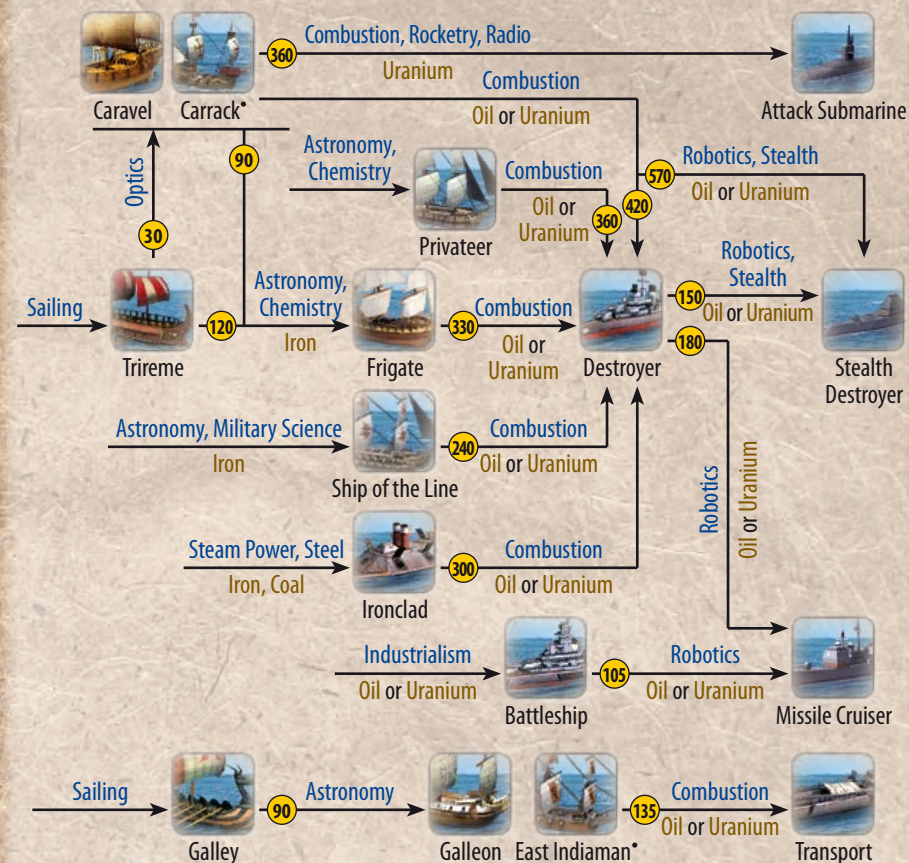


| Building                   | Hammers* | Prerequisites  | Effects   |
|----------------------------|----------|--|---|
| <b>Intelligence Agency</b> | 180      | Communism  | +8 espionage, +50% espionage<br>can turn 2 Citizens into <b>Spy</b>   |
| <b>Islamic Monastery</b>   | 60       | Meditation, <b>Islam</b><br><i>obsolete with Scientific Method</i>           | +10% science, +2 culture  |
| <b>Islamic Mosque</b>      | 300      | Music, <b>Islam</b><br><i>50% with Marble</i><br><b>Islamic Temple (2)**</b> | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Islam</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b>                    |
| <b>Islamic Temple</b>      | 80       | Priesthood<br><b>Islam</b>   | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>   |
| <b>Jail</b>                | 120      | Constitution   | +4 espionage, +50% espionage<br>-25% war weariness<br>can turn 2 Citizens into <b>Spy</b>   |
| <b>Jewish Monastery</b>    | 60       | Meditation, <b>Judaism</b><br><i>obsolete with Scientific Method</i>         | +10% science, +2 culture  |
| <b>Jewish Synagogue</b>    | 300      | Music, <b>Judaism</b><br><i>50% with Stone</i><br><b>Jewish Temple (2)**</b> | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Judaism</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b>                  |
| <b>Jewish Temple</b>       | 80       | Priesthood<br><b>Judaism</b>   | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>   |
| <b>Laboratory</b>          | 250      | Superconductors<br><b>Observatory</b>  | +25% science, +1 unhealthiness<br>+50% spaceship production<br>can turn 1 Citizen into <b>Scientist</b>   |
| <b>Levee</b>               | 180      | Steam Power  | +1 hammer on river tiles<br><i>can only be built in river city</i>  |
| <b>Library</b>             | 90       | Writing  | +25% science, +2 culture<br>can turn 2 Citizens into <b>Scientist</b>   |
| <b>Lighthouse</b>          | 60       | Sailing  | +1 food on water tiles<br><i>can only be built in coastal city</i>  |
| <b>Madrasa</b>             | 90       | Writing  | +25% science, +4 culture<br>can turn 2 Citizens into <b>Scientist</b><br>can turn 2 Citizens into <b>Priest</b><br><i>Arabian unique (Library)</i>        |
| <b>Mall</b>                | 150      | Refrigeration  | +1 food, +20% gold<br>+1 health from Cow, Deer, Pig, Sheep<br>+1 happy from Hit Musicals, Hit Singles, Hit Movies<br><i>American unique (Supermarket)</i> |
| <b>Market</b>              | 150      | Currency   | +25% gold<br>+1 happy from Fur, Ivory, Silk, Whale<br>can turn 2 Citizens into <b>Merchant</b>  |
| <b>Mausoleum</b>           | 120      | Constitution   | +4 espionage, +50% espionage, +2 happy<br>-25% war weariness<br>can turn 2 Citizens into <b>Spy</b><br><i>Indian unique (Jail)</i>                        |

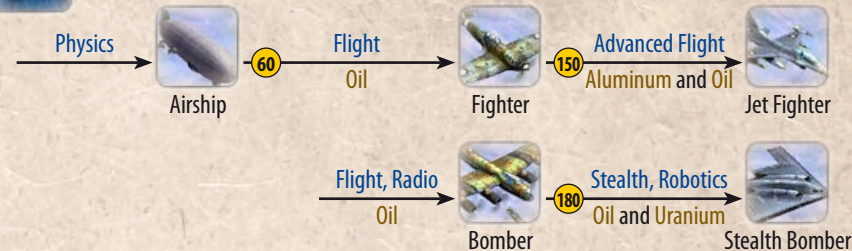


| Building  | Hammers* | Prerequisites                               | Effects  |
|---|----------|---|--|
|  <b>Mint</b><br>Malinese unique (Forge)                    | 120      | Metal Casting                               | +1 happy from <b>Gems, Gold, Silver</b><br>+25% hammers, +10% gold, +1 unhealthiness<br>can turn 1 Citizen into <b>Engineer</b>    |
|  <b>Monument</b>   | 30       | Mysticism<br><i>obsolete with Astronomy</i> | +1 culture<br>+1 happy with Charismatic trait  |
|  <b>Nuclear Plant</b>                                      | 250      | Fission<br><b>Factory</b>                   | provides Power with <b>Uranium</b><br>small chance of nuclear meltdown   |
|  <b>Obelisk</b><br>Egyptian unique (Monument)              | 30       | Mysticism<br><i>obsolete with Astronomy</i> | +1 culture<br>+1 happy with Charismatic trait<br>can turn 2 Citizens into <b>Priest</b>  |
|  <b>Observatory</b>  | 150      | Astronomy                                   | +25% science<br>can turn 1 Citizen into <b>Scientist</b>   |
|  <b>Odeon</b><br>Greek unique (Colosseum)                  | 80       | Construction                                | +2 happy, +1 happy per 20% culture rate<br>+1 happy from <b>Hit Singles</b> , +3 culture<br>can turn 2 Citizens into <b>Artist</b> |
|  <b>Pavilion</b><br>Chinese unique (Theatre)               | 50       | Drama                                       | +3 culture, +25% culture, +1 happy from <b>Dye</b><br>+1 happy per 10% culture rate<br>can turn 2 Citizens into <b>Artist</b>      |
|  <b>Public Transportation</b>                              | 150      | Combustion                                  | +1 health, +1 health from <b>Oil</b><br>+2 health with <b>Environmentalism</b>   |
|  <b>Rathaus</b><br>Holy Roman unique (Courthouse)          | 120      | Code of Laws                                | +2 espionage<br>-75% maintenance<br>can turn 1 Citizen into <b>Spy</b>   |
|  <b>Recycling Center</b>                                   | 300      | Ecology                                     | eliminates pollution from city buildings   |
|  <b>Research Institute</b><br>Russian unique (Laboratory) | 250      | Superconductors<br><b>Observatory</b>       | +25% science, +1 unhealthiness<br>+50% spaceship production<br>2 free <b>Scientists</b> , can turn 1 Citizen into <b>Scientist</b> |
|  <b>Sacrificial Altar</b><br>Aztec unique (Courthouse)   | 90       | Code of Laws                                | +2 espionage, -50% maintenance<br>-50% anger duration from sacrificing population<br>can turn 1 Citizen into <b>Spy</b>            |
|  <b>Salon</b><br>French unique (Observatory)             | 150      | Astronomy                                   | +25% science<br>1 free <b>Artist</b> , can turn 1 Citizen into <b>Scientist</b>  |
|  <b>Security Bureau</b>                                  | 220      | Democracy                                   | +8 espionage, +50% espionage defense<br>can turn 2 Citizens into <b>Spy</b><br>helps thwart rival spies                            |
|  <b>Seowon</b><br>Korean unique (University)             | 200      | Education<br><b>Library</b>                 | +35% science, +3 culture   |
|  <b>Shale Plant</b><br>Japanese unique (Coal Plant)      | 150      | Assembly Line<br><b>Factory</b>             | +10% hammers, +2 unhealthiness<br>provides Power   |

## Naval Units

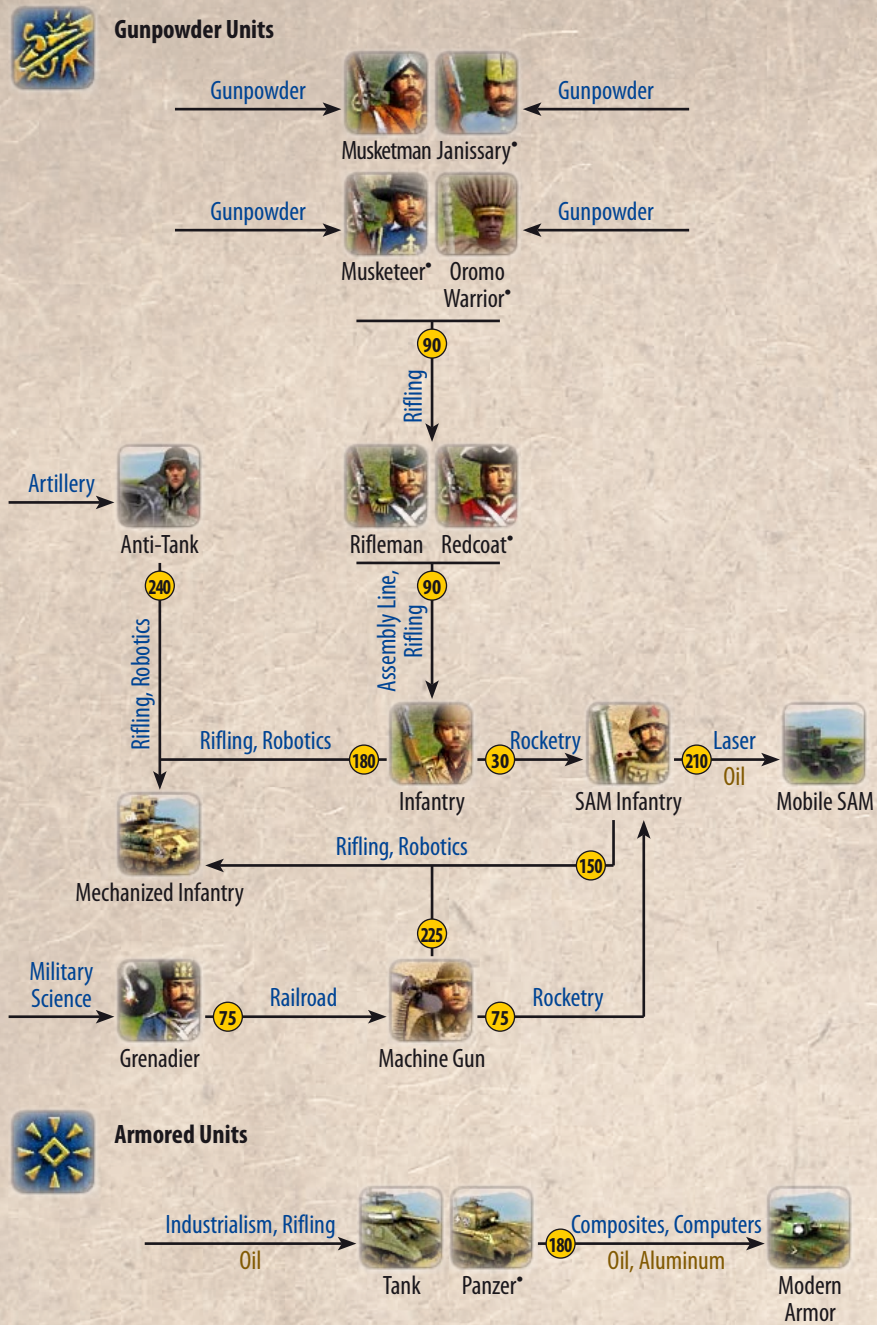


## Air Units





## Units Upgrade Paths (Land Units)

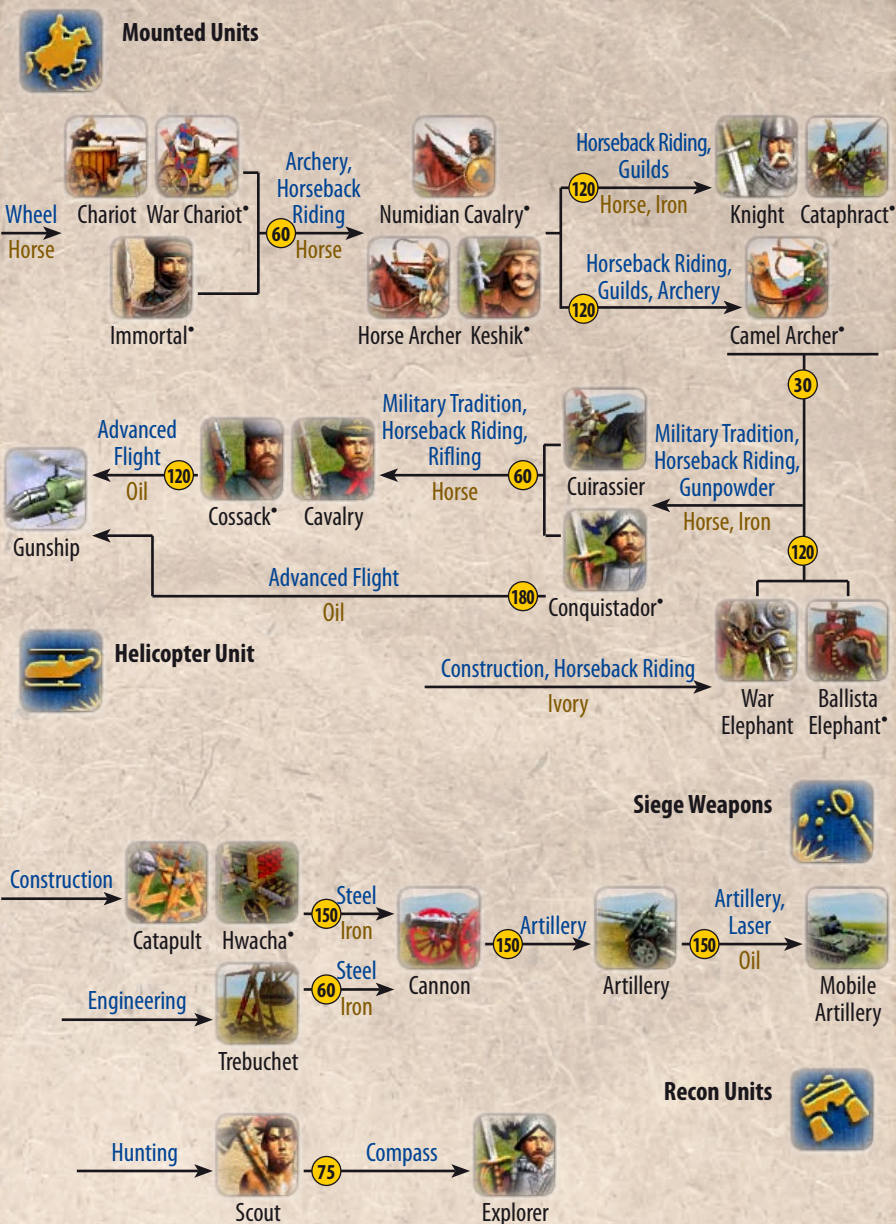
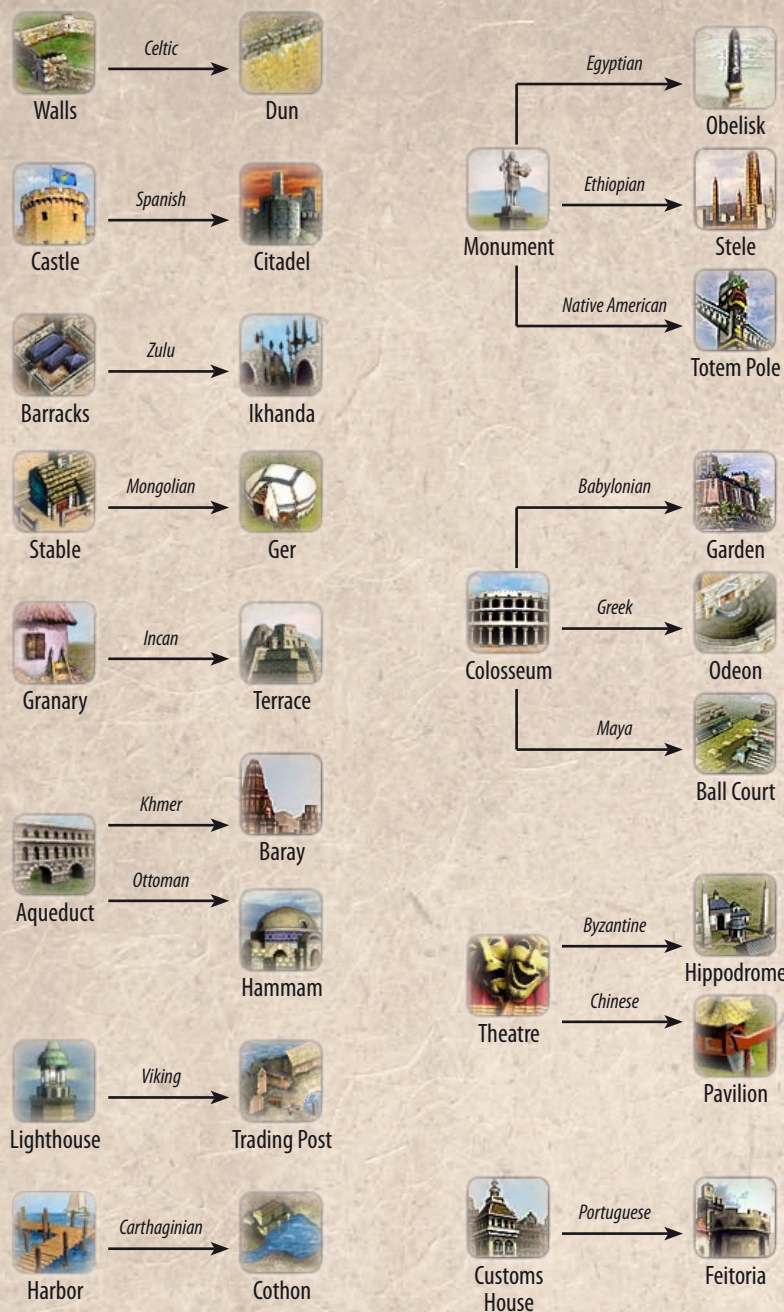


| Building  | Hammers | Prerequisites   | Effects   |
|---|---------|---|---|
|  <b>Stable</b>           | 60      | Horseback Riding<br><i>obsolete with Advanced Flight</i>                          | +2 XP for new <b>Mounted Units</b>  |
|  <b>Stele</b>            | 30      | Mysticism<br>Ethiopian unique (Monument) <i>obsolete with Astronomy</i>           | +1 culture, +25% culture<br>+1 happy with Charismatic trait   |
|  <b>Stock Exchange</b>   | 200     | Banking<br>English unique (Bank)  | +65% gold   |
|  <b>Supermarket</b>      | 150     | Refrigeration<br><b>Grocer</b>  | +1 food<br>+1 health from <b>Cow, Deer, Pig, Sheep</b>  |
|  <b>Taoist Monastery</b> | 60      | Meditation, <b>Taoism</b><br><i>obsolete with Scientific Method</i>               | +10% science, +2 culture  |
|  <b>Taoist Pagoda</b>    | 300     | Music, <b>Taoism</b><br><i>50% with Copper</i> <b>Taoist Temple (2)**</b>         | +50% culture, +1 happy with <b>Incense</b><br>+2 happy with <b>Taoism</b> as a State Religion<br>can turn 2 Citizens into <b>Priest</b> |
|  <b>Taoist Temple</b>    | 80      | Priesthood<br><b>Taoism</b>   | +1 culture, +1 happy<br>can turn 1 Citizen into <b>Priest</b>   |
|  <b>Terrace</b>          | 60      | Pottery<br>Incan unique (Granary)   | +1 health from <b>Corn, Rice, Wheat</b><br>+2 culture<br>doubles city growth rate   |
|  <b>Theatre</b>          | 50      | Drama   | +3 culture, +1 happy from <b>Dye</b><br>+1 happy per 10% culture rate<br>can turn 2 Citizens into <b>Artist</b>                         |
|  <b>Totem Pole</b>       | 30      | Mysticism<br>Native American unique (Monument) <i>obsolete with Astronomy</i>     | +1 culture<br>+1 happy with Charismatic trait<br>+3 XP for new <b>Archery Units</b>   |
|  <b>Trading Post</b>    | 60      | Sailing<br>Viking unique (Lighthouse)<br><i>can only be built in coastal city</i> | +1 food on water tiles<br><b>Navigation I</b> promotion for new <b>Naval Units</b>  |
|  <b>University</b>     | 200     | Education<br><b>Library</b>   | +25% science, +3 culture  |
|  <b>Walls</b>          | 50      | Masonry<br><i>50% with Stone</i> <i>obsolete with Rifling</i>                     | +50% defense (except <b>Gunpowder Units</b> )<br>-50% damage from bombard. (except <b>Gunpowder Units</b> )                             |
|  <b>Ziggurat</b>       | 90      | Priesthood<br>Sumerian unique (Courthouse)  | +2 espionage<br>-50% maintenance<br>can turn 1 Citizen into <b>Spy</b>  |

- Assumes **Normal** Game Speed. Factors for other conditions are: **Quick**  $\times 0.67$ , **Epic**  $\times 1.50$ , **Marathon**  $\times 3.00$  (!)  
Example: Stable on Epic will cost 90 hammers instead of 60

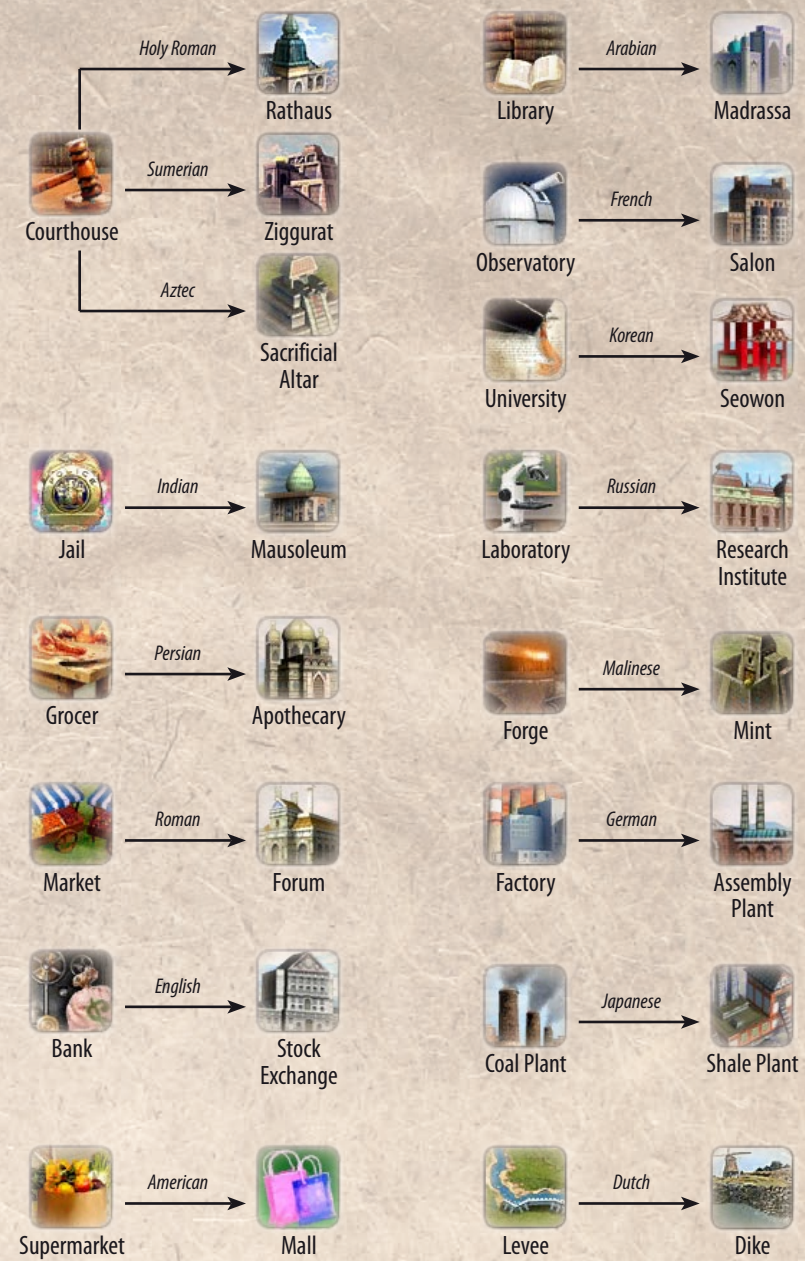
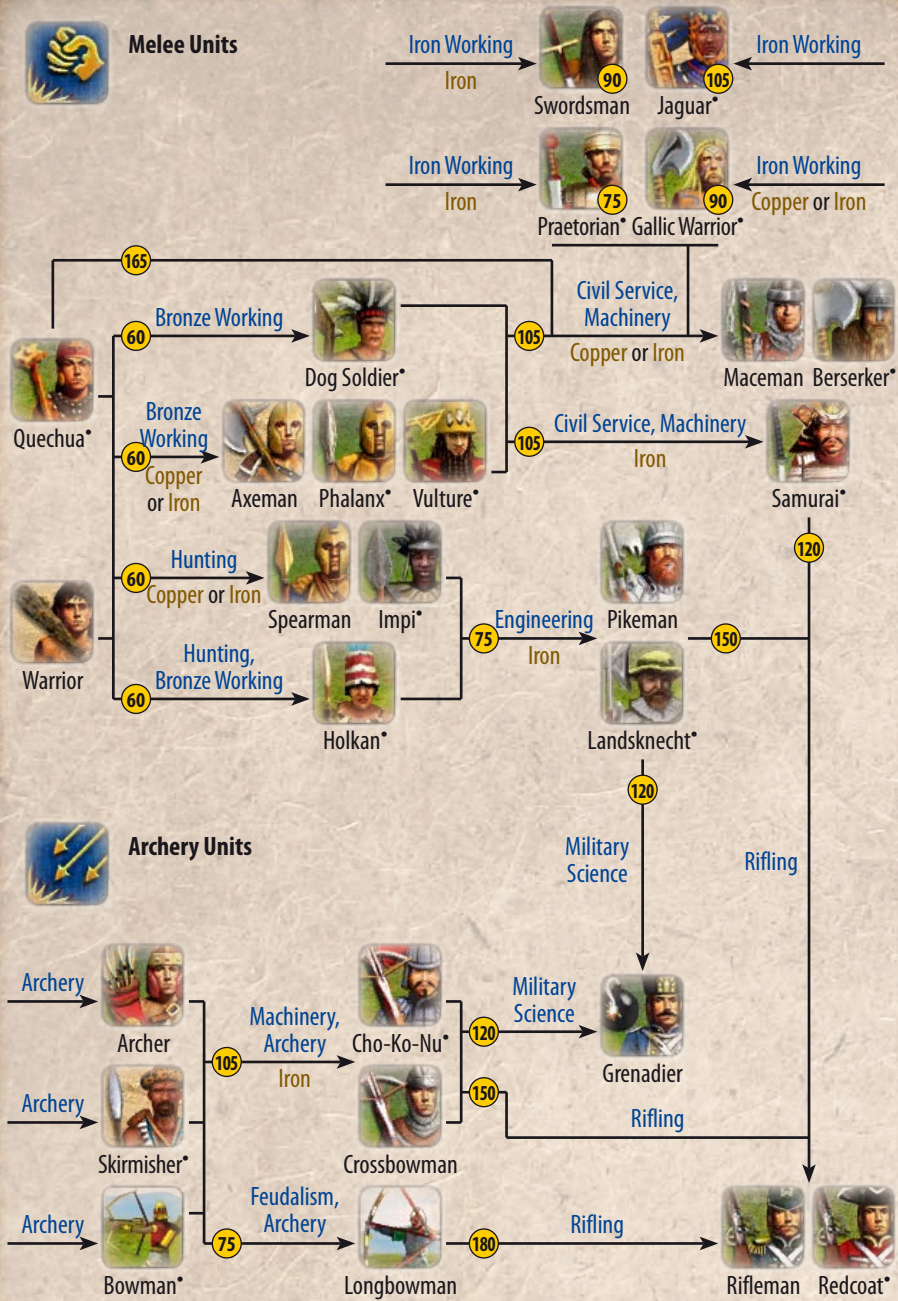
\*\* Assumes **Duel** and **Tiny** Map Sizes. Factors for other conditions are: **Small** ×1.25, **Standard** ×1.50, **Large** ×1.75, **Huge** ×2.00  
Example: Confucian Academy requires 3 Confucian Temples on Standard instead of 2





**60** Upgrade cost (gold). Assumes **Normal** Game Speed. Factors for other conditions are: **Quick** × 0.67, **Epic** × 1.50, **Marathon** × 2.00. For calculating long-path upgrades just add all specified values. Also, at the end of calculations **you must add an additional upgrade cost which is 20 gold per unit** (all Game Speeds).  
**Example 1:** Upgrading 2 Warriors to 2 Spearmans on Epic cost 220 gold – 2 units × (20 + (60 × 1.50)) = 2 units × 110 = 220.  
**Example 2:** Upgrading 3 Horse Archers to 3 Cuirassiers on Marathon cost 960 gold – 3 units × (20 + ((120 + 30) × 2.00)) = 960.







| Wonder  | Hammers* | Prerequisites  | Effects  |
|---|----------|--|--|
|  <b>Palace</b>                                       | 160      | 4 cities**   | +8 commerce, +2 culture, +4 espionage, +1 happiness<br>makes host city the capital<br>reduces maintenance in nearby cities   |
|  <b>Forbidden Palace</b>                             | 200      | 8 cities**<br>Courthouse (4)**                           | +4 culture, +1 Great People Birth Rate ( <i>Great Spy</i> )<br>reduces maintenance in nearby cities  |
|  <b>Globe Theatre</b>                                | 300      | Drama<br>Theatre (4)**                                   | +6 culture, +1 Great People Birth Rate ( <i>Great Artist</i> )<br>no unhappiness in this city<br>can turn 3 Citizens into <i>Artist</i>  |
|  <b>Hermitage</b><br><i>50% with Marble</i>          | 300      | Nationalism  | +100% culture<br>+1 Great People Birth Rate ( <i>Great Artist</i> )  |
|  <b>Heroic Epic</b><br><i>50% with Marble</i>        | 200      | Literature, <i>Barracks</i><br>one level 4 military unit | +4 culture, +1 Great People Birth Rate ( <i>Great Artist</i> )<br>+100% military unit production   |
|  <b>Ironworks</b>                                    | 700      | Steel<br>Forge (4)**                                     | +50% hammers with <i>Iron</i> , +50% hammers with <i>Coal</i><br>+1 Great People Birth Rate ( <i>Great Engineer</i> )<br>+2 unhappiness, can turn 3 Citizens into <i>Engineer</i>                        |
|  <b>Moai Statues</b><br><i>50% with Stone</i>        | 250      | Sailing  | +4 culture, +1 Great People Birth Rate ( <i>Great Prophet</i> )<br>+1 hammer on water tiles  |
|  <b>Mt. Rushmore</b><br><i>50% with Stone</i>        | 500      | Fascism  | +4 culture, +1 Great People Birth Rate ( <i>Great Artist</i> )<br>-25% war weariness in all cities   |
|  <b>National Epic</b><br><i>50% with Marble</i>      | 250      | Literature<br>Library                                    | +4 culture, +1 Great People Birth Rate ( <i>Great Artist</i> )<br>+100% Great People Birth Rate  |
|  <b>National Park</b>                               | 300      | Biology  | +3 culture, +1 Great People Birth Rate ( <i>Great Scientist</i> )<br>removes access to <i>Coal</i> from the city, no unhappiness<br>from population, 1 free <i>Specialist</i> per <i>Forest Preserve</i> |
|  <b>Oxford University</b><br><i>50% with Stone</i> | 400      | Education<br>University (4)**                            | +100% science, +4 culture<br>+1 Great People Birth Rate ( <i>Great Scientist</i> )<br>can turn 3 Citizens into <i>Scientist</i>  |
|  <b>Red Cross</b>                                  | 600      | Medicine<br>Hospital (4)**                               | +2 culture, +1 Great People Birth Rate ( <i>Great Scientist</i> )<br>free <i>Medic I</i> promotion for all new units built in this city  |
|  <b>Wall Street</b>                                | 600      | Corporation<br>Bank (4)**                                | +100% gold<br>+1 Great People Birth Rate ( <i>Great Merchant</i> )<br>can turn 3 Citizens into <i>Merchant</i>   |
|  <b>West Point</b><br><i>50% with Stone</i>        | 800      | Military Tradition<br>one level 6 military unit          | +1 Great People Birth Rate ( <i>Great Spy</i> )<br>+4 XP for all new units   |

\* Assumes **Normal** Game Speed. See page 29 for more details.

\*\* Assumes **Duel** and **Tiny** Map Sizes. See page 29 for more details.

| Unit  | Hammers*        | Str./Movement                                 | Prereq.   | Special abilities  |
|---|-----------------|---|---|--|
|  <b>Submarine</b><br>Naval Unit                            | 150             | 24 / 6 MP                                     | Radio<br><i>Oil</i> or <i>Uranium</i>                         | 3 cargo spaces ( <i>Missiles</i> ), can explore rival territory<br>invisible to most units, can see submarines<br>can move through impassable terrain<br>can withdraw from combat (50% chance) |
|  <b>Swordsman</b><br>Melee Unit                            | 40              | 6 / 1 MP                                      | Iron Working<br><i>Iron</i>                                   | +10% city attack   |
|  <b>Tactical Nuke</b><br>Missile                           | 250             | 0 / 1 MP / 4 R                                | Fission, Rocketry<br><i>Uranium</i><br><i>Manhattan Proj.</i> | can nuke enemy lands<br>can evade interception (50% chance)  |
|  <b>Tank</b><br>Armored Unit                               | 180             | 28 / 2 MP                                     | Industrialism,<br>Rifling<br><i>Oil</i>                       | doesn't receive defensive bonuses<br>starts with <i>Blitz</i>  |
|  <b>Taoist Missionary</b><br>National Unit                 | 40              | 0 / 2 MP                                      | <i>Taoism</i><br><i>Taoist Monastery</i>                      | 3 allowed**<br>can spread <i>Taoism</i>  |
|  <b>Transport</b><br>Naval Unit                            | 125             | 16 / 5 MP                                     | Combustion<br><i>Oil</i> or <i>Uranium</i>                    | 4 cargo spaces   |
|  <b>Trebuchet</b><br>Siege Weapon                          | 80              | 4 / 1 MP<br>+100% city attack                 | Engineering   | doesn't receive defensive bonuses<br>max. 75% damage to enemy, causes collateral damage<br>immune to collateral damage from <i>Siege Weapons</i><br>can bombard city defenses (-16% per turn)  |
|  <b>Trireme</b><br>Naval Unit                              | 50              | 2 / 2 MP<br>+50% vs. <i>Galley</i>            | Metal Casting,<br>Sailing                                     | cannot enter Ocean   |
|  <b>Vulture</b><br>Melee Unit<br>Sumerian (Axeman)         | 35              | 6 / 1 MP<br>+25% vs. <i>Melee</i>             | Bronze Working<br><i>Copper</i> or <i>Iron</i>                | —  |
|  <b>War Chariot</b><br>Mounted Unit<br>Egyptian (Chariot) | 30              | 5 / 2 MP<br>+100% attack<br>vs. <i>Axeman</i> | Wheel<br><i>Horse</i>   | immune to first strikes<br>doesn't receive defensive bonuses<br>can withdraw from combat (10% chance)  |
|  <b>War Elephant</b><br>Mounted Unit                     | 60              | 8 / 1 MP<br>+50% vs. <i>Mounted</i>           | Construction,<br>Horseback Riding<br><i>Iron</i>              | doesn't receive defensive bonuses  |
|  <b>Warrior</b><br>Melee Unit                            | 15              | 2 / 1 MP                                      | —   | +25% city defense  |
|  <b>Work Boat</b>  | 30              | 0 / 2 MP                                      | Fishing   | cannot enter neutral Ocean tiles until <i>Astronomy</i><br>can create <i>Fishing Boats</i> , <i>Whaling Boats</i> and <i>Offshore Platform</i>   |
|  <b>Worker</b>   | 60<br>with food | 0 / 2 MP                                      | —   | can build <i>tile improvements</i><br>+25% production speed for Expansive Leaders<br>(hammers only)  |

MP movement points R operational range

\* Assumes **Normal** Game Speed. Factors for other conditions are: **Quick** ×0.67, **Epic** ×1.50, **Marathon** ×2.00

\*\* Example: Longbowman on Epic will cost 75 hammers instead of 50

\*\* number depends on map size \*\*\* bonus depends on map size and game length



| Unit  | Hammers*         | Str./Movement   | Prereq.  | Special abilities   |
|---|------------------|---|--|---|
|  <b>Quechua</b><br>Melee Unit<br>Incan (Warrior)         | 15               | 2 / 1 MP<br>+100% vs. <b>Archery</b>                              | —  | +25% city defense<br>starts with <b>Combat I</b>  |
|  <b>Redcoat</b><br>Gunpowder Unit<br>English (Rifleman)  | 110              | 14 / 1 MP<br>+25% vs. <b>Mounted</b><br>+25% vs. <b>Gunpowder</b> | Rifling  | —   |
|  <b>Rifleman</b><br>Gunpowder Unit                       | 110              | 14 / 1 MP<br>+25% vs. <b>Mounted</b>                              | Rifling  | —   |
|  <b>SAM Infantry</b><br>Gunpowder Unit                   | 150              | 18 / 1 MP / 1 R<br>+75% vs. <b>Helicopter</b>                     | Rocketry   | can intercept aircraft (40% chance)   |
|  <b>Samurai</b><br>Melee Unit<br>Japanese (Maceman)      | 70               | 8 / 1 MP<br>+50% vs. <b>Melee</b>                                 | Civil Service,<br>Machinery<br><b>Iron</b>             | 2 first strikes<br>starts with <b>Drill I</b>   |
|  <b>Scout</b><br>Recon Unit                              | 15               | 1 / 2 MP<br>+100% vs. <b>Animals</b>                              | Hunting  | better results from <b>Tribal Villages</b><br>can only defend   |
|  <b>Settler</b>  | 100<br>with food | 0 / 2 MP  | —  | can found a new city<br>+50% production speed for Imperialistic Leaders<br>(hammers only)   |
|  <b>Ship of the Line</b><br>Naval Unit                   | 120              | 8 / 3 MP<br>+50% vs. <b>Frigate</b>                               | Astronomy,<br>Military Science<br><b>Iron</b>          | can bombard city defenses (–12% per turn)<br>bombardment ignores <b>Walls</b> and <b>Castles</b>  |
|  <b>Sid's Sushi Exec.</b><br>National Unit               | 100              | 0 / 2 MP  | —  | can expand <b>Sid's Sushi Co</b>  |
|  <b>Skirmisher</b><br>Archery Unit<br>Malinese (Archer) | 25               | 4 / 1 MP  | Archery  | 1–2 first strikes<br>50% city defense<br>25% hills defense  |
|  <b>Spearman</b><br>Melee Unit                         | 35               | 4 / 1 MP<br>+100% vs. <b>Mounted</b>                              | Hunting<br><b>Copper</b> or <b>Iron</b>                | —   |
|  <b>Spy</b>  | 40               | 0 / 1 MP  | Alphabet   | invisible to all units, can explore rival territory<br>helps thwart rival spies<br>starts with <b>Commando</b>                                |
|  <b>Std Ethanol Exec.</b><br>National Unit             | 100              | 0 / 2 MP  | —  | can expand <b>Standard Ethanol</b>  |
|  <b>Stealth Bomber</b><br>Air Unit                     | 200              | 20 / 1 MP / 12 MP<br>–50% vs. <b>Naval</b>                        | Stealth, Robotics<br><b>Aluminum</b><br>and <b>Oil</b> | can evade interception (50% chance)<br>causes collateral damage<br>can destroy tile improvements<br>can bombard city defenses (–20% per turn) |
|  <b>Stealth Destroyer</b><br>Naval Unit                | 250              | 30 / 8 MP   | Stealth, Robotics<br><b>Oil</b> or <b>Uranium</b>      | invisible to most units<br>can see stealth ships<br>can intercept aircraft (50% chance)<br>can bombard city defenses (–16% per turn)          |

| Special Building   | Prerequisites    | Effects  |  |
|--|------------------|--|--|
| <div>Academy</div> <div>can only be built by Great Scientist</div>         | —                | +50% science, +4 culture                                     |  |
| <div>Military Academy</div> <div>can only be built by Great General</div>  | Military Science | +3 culture<br>+50% military unit production                  |  |
| <div>Scotland Yard</div> <div>can only be built by Great Spy</div>         | —                | +100% espionage<br>increases a chance of Great Spy appearing |  |
| Project°   | Hammers°°        | Prerequisites  | Effects  |
| <div>Apollo Program</div> <div>Team Project50% with Aluminum</div>         | 1600             | Rocketry   | allows Space Ship Parts production   |
| <div>Space Ship Casing</div> <div>Team Project50% with Aluminum</div>      | 1200             | Composites<br>Apollo Program                                 | 1–5 required for Space Race Victory  |
| <div>Space Ship Cockpit</div> <div>Team Project50% with Copper</div>       | 1000             | Fiber Optics<br>Apollo Program                               | 1 required for Space Race Victory  |
| <div>Space Ship Docking Bay</div> <div>Team Project50% with Aluminum</div> | 2000             | Satellites<br>Apollo Program                                 | 1 required for Space Race Victory  |
| <div>Space Ship Engine</div> <div>Team Project</div>                       | 1600             | Fusion<br>Apollo Program                                     | 1–2 required for Space Race Victory  |
| <div>Space Ship Life Support</div> <div>Team Project50% with Copper</div>  | 1000             | Ecology<br>Apollo Program                                    | 1 required for Space Race Victory  |
| <div>Space Ship Stasis Chamber</div> <div>Team Project</div>               | 1200             | Genetics<br>Apollo Program                                   | 1 required for Space Race Victory  |
| <div>Space Ship Thrusters</div> <div>Team Project50% with Aluminum</div>   | 1200             | Superconductors<br>Apollo Program                            | 1–5 required for Space Race Victory  |
| <div>Internet</div> <div>World Project50% with Copper</div>                | 2000             | Computers  | grants all technologies possessed by any 2 or more known civilizations               |
| <div>Manhattan Project</div> <div>World Project50% with Uranium</div>      | 1500             | Fission  | enables Nuclear Attacks (for all players)<br>enables Bomb Shelters (for all players) |
| <div>SDI</div> <div>Team Project50% with Aluminum</div>                    | 1500             | Laser<br>Manhattan Project                                   | +75% chance of intercepting ICBM and Tactical Nuke                                   |

\* With the exception of SDI, all Team Projects require that Space Race victories be enabled.

\*\* Assumes **Normal** Game Speed. See page 29 for more details.



| Wonder  | Hammers*   | Prerequisites  | Effects  |
|---|--|--|--|
|    | <b>Angkor Wat</b><br>500<br>+8 culture<br><i>50% with Stone</i>  | Philosophy<br><i>obsolete with Computers</i>                                 | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>+1 hammer from <b>Priest</b> in all cities<br>can turn 3 Citizens into <b>Priest</b>  |
|    | <b>Apostolic Palace</b><br>400<br>+4 culture   | Theology<br><b>State Religion in city</b><br><i>obsolete with Mass Media</i> | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>triggers Apostolic Palace Global Elections<br>guarantees eligibility for Diplomatic Votes<br><i>requires Diplomatic Victory enabled, 3+ teams</i> |
|    | <b>Broadway</b><br>800<br>+50% culture, +1 happy   | Electricity  | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>provides 5 Hit <b>Musicals</b>   |
|    | <b>Chichen Itza</b><br>500<br>+6 culture<br><i>50% with Stone</i>  | Code of Laws<br><i>obsolete with Rifling</i>                                 | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>+25% defense in all cities  |
|    | <b>Colossus</b><br>250<br>+6 culture<br><i>50% with Copper</i><br><i>can only be built in coastal city</i> | Bronze Working<br><b>Forge</b><br><i>obsolete with Astronomy</i>             | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>+1 commerce on water tiles in all cities   |
|    | <b>Cristo Redentor</b><br>1000<br>+5 culture   | Radio  | +2 Great People Birth Rate ( <b>Great Engineer</b> )<br>1 turn Anarchy between Civic or Religion changes<br>double production speed for Spiritual leaders  |
|    | <b>Eiffel Tower</b><br>1250<br>+6 culture<br><i>50% with Iron</i>  | Radio<br><b>Forge</b>  | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>free <b>Broadcast Tower</b> in all cities  |
|   | <b>Great Library</b><br>350<br>+8 culture<br><i>50% with Marble</i>  | Literature<br><b>Library</b><br><i>obsolete with Scientific Method</i>       | +2 Great People Birth Rate ( <b>Great Scientist</b> )<br>2 free <b>Scientists</b>  |
|  | <b>Great Lighthouse</b><br>200<br>+6 culture<br><i>can only be built in coastal city</i>                   | Sailing, Masonry<br><b>Lighthouse</b><br><i>obsolete with Corporation</i>    | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>+2 Trade Routes in all coastal cities  |
|  | <b>Great Wall</b><br>150<br>+2 culture<br><i>50% with Stone</i>  | Masonry  | +2 Great People Birth Rate ( <b>Great Spy</b> )<br>prevents Barbarians from entering borders<br>+100% Great General Emergence inside cultural borders  |
|  | <b>Hagia Sophia</b><br>500<br>+8 culture<br><i>50% with Marble</i>   | Theology<br><i>obsolete with Steam Power</i>                                 | +2 Great People Birth Rate ( <b>Great Engineer</b> )<br><b>Workers</b> build improvements 50% faster   |
|  | <b>Hanging Gardens</b><br>300<br>+6 culture<br><i>50% with Stone</i>                                       | Mathematics<br><b>Aqueduct</b>   | +2 Great People Birth Rate ( <b>Great Engineer</b> )<br>+1 health in all cities<br>+1 population in all cities   |

| Unit  | Hammers*   | Str./Movement   | Prereq.   | Special abilities   |
|---|--|---|---|---|
|    | <b>Missile Cruiser</b><br>Naval Unit<br>260                                  | 40 / 7 MP   | Robotics<br><b>Oil</b> or <b>Uranium</b>                | 4 cargo spaces ( <b>Missiles</b> )<br>causes collateral damage<br>can bombard city defenses (-20% per turn)   |
|    | <b>Mobile Artillery</b><br>Siege Weapon<br>200                               | 26 / 2 MP<br>+50% vs. <b>Siege</b>  | Laser, Artillery<br><b>Oil</b>                          | doesn't receive defensive bonuses<br>max. 85% damage to enemy, causes collateral damage<br>immune to collateral damage from <b>Siege Weapons</b><br>can bombard city defenses (-16% per turn)     |
|    | <b>Mobile SAM</b><br>Gunpowder Unit<br>220                                   | 22 / 2 MP / 1 R<br>+50% vs. <b>Helicopter</b>                                   | Laser<br><b>Oil</b>                                     | can intercept aircraft (50% chance)   |
|    | <b>Modern Armor</b><br>Armored Unit<br>240                                   | 40 / 2 MP   | Computers, Composites<br><b>Aluminum</b> and <b>Oil</b> | 1 first strike<br>doesn't receive defensive bonuses<br>starts with <b>Blitz</b>   |
|    | <b>Musketeer</b><br>Gunpowder Unit<br>French (Musketman)<br>80               | 9 / 2 MP  | Gunpowder   | —   |
|    | <b>Musketman</b><br>Gunpowder Unit<br>80                                     | 9 / 1 MP  | Gunpowder   | —   |
|    | <b>Navy SEAL</b><br>Gunpowder Unit<br>America (Marine)<br>160                | 24 / 1 MP<br>+50% attack vs. <b>Machine Gun, Artillery</b>                      | Industrialism, Rifling                                  | 1-2 first strikes<br>starts with <b>Amphibious</b> and <b>March</b>   |
|    | <b>Numidian Cavalry</b><br>Mounted Unit<br>Carthaginian (Horse Archer)<br>50 | 5 / 2 MP<br>+50% attack vs. <b>Catapult, Trebuchet</b><br>+50% vs. <b>Melee</b> | Horseback Riding, Archery<br><b>Horse</b>               | immune to first strikes, doesn't receive defensive bonuses<br>can withdraw from combat (20% chance)<br>flank attack against <b>Catapult</b> and <b>Trebuchet</b><br>starts with <b>Flanking I</b> |
|    | <b>Oromo Warrior</b><br>Gunpowder Unit<br>Ethiopian (Musketman)<br>80        | 9 / 1 MP  | Gunpowder   | 1 first strike<br>immune to first strikes<br>starts with <b>Drill I</b> and <b>Drill II</b>   |
|   | <b>Panzer</b><br>Armored Unit<br>German (Tank)<br>180                        | 28 / 2 MP<br>+50% vs. <b>Armored</b>  | Industrialism, Rifling<br><b>Oil</b>                    | doesn't receive defensive bonuses<br>starts with <b>Blitz</b>   |
|  | <b>Paratrooper</b><br>Gunpowder Unit<br>160                                  | 24 / 1 MP   | Fascism, Rifling, Flight                                | can perform paratroops (5 range)<br>can evade interception (25% chance)   |
|  | <b>Phalanx</b><br>Melee Unit<br>Greek (Axeman)<br>35                         | 5 / 1 MP<br>+50% vs. <b>Melee</b><br>+100% def. vs. <b>Chariot</b>              | Bronze Working<br><b>Copper</b> or <b>Iron</b>          | —   |
|  | <b>Pikeman</b><br>Melee Unit<br>60   | 6 / 1 MP<br>+100% vs. <b>Mounted</b>  | Engineering<br><b>Iron</b>                              | —   |
|  | <b>Praetorian</b><br>Melee Unit<br>Roman (Swordsman)<br>45                   | 8 / 1 MP  | Iron Working<br><b>Iron</b>                             | —   |
|  | <b>Privateer</b><br>Naval Unit<br>80   | 6 / 4 MP  | Chemistry, Astronomy                                    | hidden nationality<br>can attack / blockade without declaring war<br>starts with <b>Sentry</b>  |



| Unit  | Hammers* | Str./Movement  | Prereq.   | Special abilities   |
|---|----------|--|---|---|
|  <b>Ironclad</b><br>Naval Unit                             | 100      | 12 / 2 MP  | Steam Power,<br>Steel<br><b>Iron</b> and <b>Coal</b>        | cannot enter Ocean<br>can bombard city defenses (-12% per turn)   |
|  <b>Islamic Missionary</b><br>National Unit                | 40       | 0 / 2 MP   | <b>Islam</b><br><b>Islamic</b><br><b>Monastery</b>          | 3 allowed**<br>can spread <b>Islam</b>  |
|  <b>Jaguar</b><br>Melee Unit<br>Aztec (Swordsman)          | 35       | 5 / 1 MP   | Iron Working  | +10% city attack<br>starts with <b>Woodsmen I</b>   |
|  <b>Janissary</b><br>Gunpowder Unit<br>Ottoman (Musketeer) | 80       | 9 / 1 MP<br>+25% vs. <b>Archery</b> ,<br><b>Mounted</b> , <b>Melee</b> | Gunpowder   | —   |
|  <b>Jet Fighter</b><br>Air Unit                            | 150      | 24 / 1 MP / 10 R   | Advanced Flight<br><b>Aluminum</b><br>and <b>Oil</b>        | can intercept aircraft (100% chance)<br>can destroy tile improvements<br>can bombard city defenses (-12% per turn)<br>no XP for shooting down units that cannot defend                    |
|  <b>Jewish Missionary</b><br>National Unit                 | 40       | 0 / 2 MP   | <b>Judaism</b><br><b>Jewish</b><br><b>Monastery</b>         | 3 allowed**<br>can spread <b>Judaism</b>  |
|  <b>Keshik</b><br>Mounted Unit<br>Mongolian (Horse Archer) | 50       | 6 / 2 MP<br>+50% attack vs.<br><b>Catapult</b> , <b>Trebuchet</b>      | Horseback<br>Riding, <b>Archery</b><br><b>Horse</b>         | doesn't receive defensive bonuses<br>1 first strike, ignores terrain movement costs<br>can withdraw from combat (20% chance)<br>flank attack against <b>Catapult</b> and <b>Trebuchet</b> |
|  <b>Knight</b><br>Mounted Unit                             | 90       | 10 / 2 MP  | Guilds,<br>Horseback Riding<br><b>Horse</b> and <b>Iron</b> | immune to first strikes<br>doesn't receive defensive bonuses<br>flank attack against <b>Catapult</b> and <b>Trebuchet</b>   |
|  <b>Landsknecht</b><br>Melee Unit<br>Holy Roman (Pikeman)  | 60       | 6 / 1 MP<br>+100% vs. <b>Mounted</b><br>+100% vs. <b>Melee</b>         | Engineering<br><b>Iron</b>                                  | —   |
|  <b>Longbowman</b><br>Archery Unit                        | 50       | 6 / 1 MP   | Feudalism,<br><b>Archery</b>                                | 1 first strike<br>+25% city defense<br>+25% hills defense   |
|  <b>Maceman</b><br>Melee Unit                            | 70       | 8 / 1 MP<br>+50% vs. <b>Melee</b>                                      | Civil Service,<br>Machinery<br><b>Copper</b> or <b>Iron</b> | —   |
|  <b>Machine Gun</b><br>Gunpowder Unit                    | 125      | 18 / 1 MP<br>+50% vs. <b>Gunpowder</b>                                 | Railroad  | can only defend<br>1 first strike<br>immune to collateral damage from <b>Siege Weapons</b>  |
|  <b>Marine</b><br>Gunpowder Unit                         | 160      | 24 / 1 MP<br>+50% attack vs.<br><b>Machine Gun</b> , <b>Artillery</b>  | Industrialism,<br>Rifling                                   | starts with <b>Amphibious</b>   |
|  <b>Mech. Infantry</b><br>Gunpowder Unit                 | 200      | 32 / 2 MP  | Robotics, Rifling   | starts with <b>March</b>  |
|  <b>Mining Inc Exec.</b><br>National Unit                | 100      | 0 / 2 MP   | —   | can expand <b>Mining Inc</b>  |

| Wonder   | Hammers* | Prerequisites   | Effects   |
|--|----------|---|---|
|  <b>Hollywood</b>               | 1000     | Mass Media  | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>+50% culture, +1 happy<br>provides 5 <b>Hit Movies</b>  |
|  <b>Kremlin</b>                 | 800      | Communism<br><i>50% with Stone</i> <i>obsolete with Fiber Optics</i>        | +2 Great People Birth Rate ( <b>Great Spy</b> )<br>-33% hurry production cost<br>can turn 2 Citizens into <b>Spy</b>  |
|  <b>Mausoleum of Maussollos</b> | 450      | Calendar<br><i>50% with Marble</i>  | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>+50% Golden Age length  |
|  <b>Notre Dame</b>              | 550      | Engineering<br><i>50% with Stone</i>  | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>+2 happy in all cities on the same continent  |
|  <b>Oracle</b>                  | 150      | Priesthood<br><i>50% with Marble</i>  | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>1 free technology  |
|  <b>Parthenon</b>               | 400      | Polytheism<br><i>50% with Marble</i> <i>obsolete with Scientific Method</i> | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>+50% Great People Birth Rate in all cities  |
|  <b>Pentagon</b>                | 1250     | Assembly Line   | +2 Great People Birth Rate ( <b>Great Spy</b> )<br>+2 XP for all new units in all cities  |
|  <b>Pyramids</b>                | 500      | Masonry<br><i>50% with Stone</i>  | +2 Great People Birth Rate ( <b>Great Engineer</b> )<br>enables all <b>Government Civics</b>  |
|  <b>Rock 'n' Roll</b>           | 800      | Radio   | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>+50% culture<br>+1 happy<br>provides 5 <b>Hit Singles</b>   |
|  <b>Shwedagon Paya</b>         | 450      | Meditation<br><i>50% with Gold</i> <i>obsolete with Scientific Method</i>   | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>enables all <b>Religion Civics</b>   |
|  <b>Sistine Chapel</b>        | 600      | Music<br><i>50% with Marble</i>   | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>+2 culture per <b>Specialist</b> in all cities<br>+5 culture from all <b>State Religion</b> buildings |
|  <b>Space Elevator</b>        | 2000     | Satellites, Robotics<br><i>50% with Aluminum</i>                            | +2 Great People Birth Rate ( <b>Great Scientist</b> )<br>+50% spaceship production in all cities<br><i>requires Space Race Victory enabled</i>              |



| Wonder  | Hammers*  | Prerequisites  | Effects   |
|---|---|--|---|
|    | <b>Spiral Minaret</b> 550<br>+8 culture<br><i>50% with Stone</i>        | Divine Right<br><i>obsolete with Computers</i>       | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>+2 gold from all <b>State Religion</b> buildings   |
|    | <b>Statue of Liberty</b> 1500<br>+6 culture<br><i>50% with Copper</i>   | Democracy<br><b>Forge</b>                            | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>1 free <b>Specialist</b> in all cities on continent   |
|    | <b>Statue of Zeus</b> 300<br>+10 culture<br><i>50% with Ivory</i>       | Aesthetics<br><b>Monument (2)**</b>                  | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>enemies suffer +100% war weariness  |
|    | <b>Stonehenge</b> 120<br>+8 culture<br><i>50% with Stone</i>            | Mysticism<br><i>obsolete with Astronomy</i>          | +2 Great People Birth Rate ( <b>Great Prophet</b> )<br>free <b>Monument</b> in all cities<br>centers World Map  |
|    | <b>Taj Mahal</b> 700<br>+10 culture<br><i>50% with Marble</i>           | Nationalism  | +2 Great People Birth Rate ( <b>Great Artist</b> )<br>starts Golden Age   |
|    | <b>Temple of Artemis</b> 350<br>+8 culture<br><i>50% with Marble</i>    | Polytheism<br><i>obsolete with Scientific Method</i> | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>1 free <b>Priest</b><br>Trade Route yields doubled in host city   |
|    | <b>Three Gorges Dam</b> 1750<br><i>can only be built in river city</i>  | Plastics   | +2 Great People Birth Rate ( <b>Great Engineer</b> )<br>provides Power for all cities on continent  |
|   | <b>University of Sankore</b> 550<br>+8 culture<br><i>50% with Stone</i> | Paper<br><i>obsolete with Computers</i>              | +2 Great People Birth Rate ( <b>Great Scientist</b> )<br>+2 beakers from all <b>State Religion</b> buildings  |
|  | <b>United Nations</b> 1000  | Mass Media   | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>triggers United Nations Global Elections<br>guarantees eligibility for Diplomatic Votes<br><i>requires Diplomatic Victory enabled, 3+ teams</i> |
|  | <b>Versailles</b> 800<br>+10 culture<br><i>50% with Marble</i>          | Divine Right   | +2 Great People Birth Rate ( <b>Great Merchant</b> )<br>reduces maintenance in nearby cities  |

\* Assumes costs given apply only to a **Normal** Game Speed. See page 29 for more details.

\*\* Assumes **Duel** and **Tiny** Map Sizes. See page 29 for more details.

| Unit  | Hammers*   | Str./Movement   | Prereq.   | Special abilities  |
|---|--|---|---|--|
|    | <b>Great Merchant</b><br>Great Person                | 0 / 2 MP  | —   | can start a Golden Age, can discover a Technology<br>can conduct a trade mission, can explore rival territory<br>can join city as <b>Great Merchant</b><br>can construct <b>Cereal Mills</b> and <b>Sid's Sushi Co</b>   |
|    | <b>Great Prophet</b><br>Great Person                 | 0 / 2 MP  | —   | can start a Golden Age, can discover a Technology<br>can join city as <b>Great Prophet</b> , can construct <b>Church of the Nativity</b> , <b>Dai Miao</b> , <b>Kashi Vishwanath</b> , <b>Kong Miao</b> , <b>Mahabodhi</b> , <b>Masjid al-Haram</b> , <b>Temple of Solomon</b> |
|    | <b>Great Scientist</b><br>Great Person               | 0 / 2 MP  | —   | can start a Golden Age, can discover a Technology<br>can join city as <b>Great Scientist</b><br>can construct <b>Academy</b> , <b>Aluminum Co</b> and <b>Standard Ethanol</b>  |
|    | <b>Great Spy</b><br>Great Person                     | 0 / 2 MP  | —   | can start a Golden Age, invisible to all units<br>can infiltrate another player's city (+3000 espionage)**<br>can join city as <b>Great Spy</b><br>can construct <b>Scotland Yard</b>  |
|    | <b>Grenadier</b><br>Gunpowder Unit                   | 12 / 1 MP<br>+50% attack vs. <b>Rifleman</b>                              | 100<br>Military Science                                       | —  |
|    | <b>Guided Missile</b><br>Missile                     | 60<br>40 / 1 MP / 4 R   | Rocketry, Radio   | can evade interception (100% chance)<br>can destroy tile improvements<br>can bombard city defenses (–16% per turn)   |
|    | <b>Gunship</b><br>Helicopter Unit                    | 160<br>24 / 4 MP<br>+50% vs. <b>Armored</b>                               | Advanced Flight<br><b>Oil</b>                                 | cannot capture enemy cities or units, doesn't receive defensive bonuses, ignores terrain movement costs<br>can withdraw from combat (25% chance)<br>flank attack against <b>Artillery</b> and <b>Mobile Artillery</b>  |
|    | <b>Hindu Missionary</b><br>National Unit             | 40<br>0 / 2 MP  | <b>Hinduism</b><br><b>Hindu Monastery</b>                     | 3 allowed**<br>can spread <b>Hinduism</b>  |
|    | <b>Holkan</b><br>Melee Unit<br>Maya (Spearman)       | 35<br>4 / 1 MP<br>+50% vs. <b>Mounted</b>                                 | Bronze Working,<br>Hunting                                    | immune to first strikes  |
|  | <b>Horse Archer</b><br>Mounted Unit                  | 50<br>6 / 2 MP<br>+50% attack vs. <b>Catapult, Trebuchet</b>              | Horseback<br>Riding, Archery<br><b>Horse</b>                  | immune to first strikes<br>doesn't receive defensive bonuses<br>can withdraw from combat (20% chance)<br>flank attack against <b>Catapult</b> and <b>Trebuchet</b>   |
|  | <b>Hwacha</b><br>Siege Weapon<br>Korean (Catapult)   | 50<br>5 / 1 MP<br>+50% vs. <b>Melee</b>                                   | Construction  | doesn't receive defensive bonuses<br>max. 75% damage to enemy, causes collateral damage<br>immune to collateral damage from <b>Siege Weapons</b><br>can bombard city defenses (–8% per turn)   |
|  | <b>ICBM</b><br>Nuclear Missile                       | 500<br>global range   | Fission, Rocketry<br><b>Uranium</b><br><b>Manhattan Proj.</b> | can nuke enemy lands   |
|  | <b>Immortal</b><br>Mounted Unit<br>Persian (Chariot) | 30<br>4 / 2 MP<br>+100% att. vs. <b>Axeman</b><br>+50% vs. <b>Archery</b> | Wheel<br><b>Horse</b>   | can withdraw from combat (10% chance)  |
|  | <b>Impi</b><br>Melee Unit<br>Zulu (Spearman)         | 35<br>4 / 2 MP<br>+50% vs. <b>Mounted</b>                                 | Hunting<br><b>Copper</b> or <b>Iron</b>                       | starts with <b>Mobility</b>  |
|  | <b>Infantry</b><br>Gunpowder Unit                    | 140<br>20 / 1 MP<br>+25% vs. <b>Gunpowder</b>                             | Assembly Line,<br>Rifling                                     | —  |



| Unit   | Hammers* | Str./Movement                      | Prereq.   | Special abilities  |
|--|----------|------------------------------------|---|--|
|  <b>Crossbowman</b><br>Archery Unit                           | 60       | 6 / 1 MP<br>+50% vs. <b>Melee</b>  | Machinery,<br>Archery<br><b>Iron</b>  | 1 first strike   |
|  <b>Cuirassier</b><br>Mounted Unit                            | 100      | 12 / 2 MP                          | Gunpowder,<br>Military Tradition,<br>Horseback Riding<br><b>Horse</b> and <b>Iron</b> | immune to first strikes<br>doesn't receive defensive bonuses<br>can withdraw from combat (15% chance)<br>flank attack against <b>Cannon</b>  |
|  <b>Destroyer</b><br>Naval Unit                               | 200      | 30 / 8 MP                          | Combustion<br><b>Oil</b> or <b>Uranium</b>  | can see <b>Submarines</b><br>can intercept aircraft (30% chance)<br>can bombard city defenses (–16% per turn)  |
|  <b>Dog Soldier</b><br>Melee Unit<br>Native American (Axeman) | 35       | 4 / 1 MP<br>+100% vs. <b>Melee</b> | Bronze Working  | —  |
|  <b>East Indiaman</b><br>Naval Unit<br>Dutch (Galleon)        | 80       | 6 / 4 MP                           | Astronomy   | 4 cargo spaces<br>can explore rival territory<br>bombardment ignores <b>Walls</b> and <b>Castles</b>   |
|  <b>Explorer</b><br>Recon Unit                                | 40       | 4 / 2 MP                           | Compass   | better results from <b>Tribal Villages</b><br>can only defend<br>ignores terrain movement costs<br>starts with <b>Guerilla I</b> and <b>Woodsman I</b>                                   |
|  <b>Fast Worker</b><br>Indian (Worker)<br>with food           | 60       | 0 / 3 MP                           | —   | can build <b>tile improvements</b><br>+25% production speed for Expansive Leaders<br>(hammers only)  |
|  <b>Fighter</b><br>Air Unit                                   | 100      | 12 / 1 MP / 6 R                    | Flight<br><b>Oil</b>  | can intercept aircraft (100% chance)<br>can destroy tile improvements<br>can bombard city defenses (–8% per turn)<br>no XP for shooting down units that cannot defend                    |
|  <b>Frigate</b><br>Naval Unit                                 | 90       | 8 / 4 MP                           | Chemistry,<br>Astronomy<br><b>Iron</b>  | can bombard city defenses (–8% per turn)<br>bombardment ignores <b>Walls</b> and <b>Castles</b>  |
|  <b>Galleon</b><br>Naval Unit                                | 80       | 4 / 4 MP                           | Astronomy   | 3 cargo spaces   |
|  <b>Galley</b><br>Naval Unit                                | 50       | 2 / 2 MP                           | Sailing   | 2 cargo spaces<br>cannot enter Ocean   |
|  <b>Gallic Warrior</b><br>Melee Unit<br>Celtic (Swordsman)  | 40       | 6 / 1 MP                           | Iron Working<br><b>Copper</b> or <b>Iron</b>  | +10% city attack<br>starts with <b>Guerilla I</b>  |
|  <b>Great Artist</b><br>Great Person                        | 0 / 2 MP | —                                  | —   | can start a Golden Age, can discover a Technology<br>can create a Great Work (+4000 culture)***<br>can join city as <b>Great Artist</b><br>can construct <b>Civilized Jewelers Inc</b>   |
|  <b>Great Engineer</b><br>Great Person                      | 0 / 2 MP | —                                  | —   | can start a Golden Age, can discover a Technology<br>can hurry production<br>can join city as <b>Great Engineer</b><br>can construct <b>Creative Constructions</b> and <b>Mining Inc</b> |
|  <b>Great General</b><br>Great Person                       | 0 / 2 MP | —                                  | —   | can provide 20 XP to units in the same tile<br>can attach to unit and allows free upgrades<br>can join city as <b>Great Military Instructor</b><br>can construct <b>Military Academy</b> |

## Religion Shrine Effects

|   |   |  |
|---|---|--|
|  <b>Buddhism</b><br>• founded by first to discover <b>Meditation</b>   |  <b>Mahabodhi</b>              | All Shrines can only be built by Great Prophets, and only in the respective Holy City.   |
|  <b>Christianity</b><br>• founded by first to discover <b>Theology</b><br>• 1 free <b>Christian Missionary</b>     |  <b>Church of the Nativity</b> |  |
|  <b>Confucianism</b><br>• founded by first to discover <b>Code of Laws</b><br>• 1 free <b>Confucian Missionary</b> |  <b>Kong Miao</b>              |  |
|  <b>Hinduism</b><br>• founded by first to discover <b>Polytheism</b>   |  <b>Kashi Vishwanath</b>       |  |
|  <b>Islam</b><br>• founded by first to discover <b>Divine Right</b><br>• 1 free <b>Islamic Missionary</b>          |  <b>Masjid al-Haram</b>        | All Religion Shrines:<br>+4 culture<br>+1 Great People Birth Rate (Great Prophet)<br>+1 gold per city with its Religion<br>spread its Religion<br>can turn 3 Citizen into Priest |
|  <b>Judaism</b><br>• founded by first to discover <b>Monotheism</b>  |  <b>Temple of Solomon</b>      |  |
|  <b>Taoism</b><br>• founded by first to discover <b>Philosophy</b><br>• 1 free <b>Taoist Missionary</b>            |  <b>Dai Miao</b>               |  |

## Corporation<sup>\*</sup> Requirements and Production Competes with

|   |  |   |
|---|--|---|
|  <b>Aluminum Co</b><br><i>can only be built by Great Scientist</i><br><i>requires: Corporation, Rocketry</i>               | consumes <b>Coal</b><br>generates <b>Aluminum</b><br>all cities: +3 beakers per resource consumed                      | Mining Inc  |
|  <b>Cereal Mills</b><br><i>can only be built by Great Merchant</i><br><i>requires: Corporation, Refrigeration</i>         | consumes: <b>Wheat, Corn, Rice</b><br>all cities: +0.75 food per resource consumed                                     | Sid's Sushi Co<br>Standard Ethanol                              |
|  <b>Civilized Jewelers Inc</b><br><i>can only be built by Great Artist</i><br><i>requires: Corporation, Mass Media</i>   | consumes: <b>Gold, Silver, Gems</b><br>all cities: +1 gold and +4 culture per resource consumed                        | Mining Inc  |
|  <b>Creative Constructions</b><br><i>can only be built by Great Engineer</i><br><i>requires: Corporation, Combustion</i> | consumes: <b>Iron, Copper, Marble, Stone, Aluminum</b><br>all cities: +0.5 hammer and +3 culture per resource consumed | Mining Inc  |
|  <b>Mining Inc</b><br><i>can only be built by Great Engineer</i><br><i>requires: Corporation, Railroad</i>               | consumes: <b>Coal, Iron, Copper, Gold, Silver</b><br>all cities: +1 hammer per resource consumed                       | Creative Constructions<br>Aluminum Co<br>Civilized Jewelers Inc |
|  <b>Sid's Sushi Co</b><br><i>can only be built by Great Merchant</i><br><i>requires: Corporation, Medicine</i>           | consumes: <b>Crab, Clam, Fish, Rice</b><br>all cities: +0.5 food and +2 culture per resource consumed                  | Cereal Mills<br>Standard Ethanol                                |
|  <b>Standard Ethanol</b><br><i>can only be built by Great Scientist</i><br><i>requires: Corporation, Plastics</i>        | consumes: <b>Corn, Sugar, Rice</b><br>generates <b>Oil</b><br>all cities: +2 beakers per resource consumed             | Cereal Mills<br>Sid's Sushi Co                                  |

\* Each Corporation HQ generates +2 culture, +1 Great People Birth Rate, and +4 gold per corporate branch office.



| Unit   | Hammers* | Str./Movement                            | Prereq.   | Special abilities   |
|--|----------|--|---|---|
|  <b>Airship</b><br>Air Unit                                       | 80       | 4 / 1 MP / 8 R<br>+100% vs. <b>Naval</b> | Physics   | can see <b>Submarines</b>   |
|  <b>Alumco Exec.</b><br>National Unit                             | 100      | 0 / 2 MP                                 | —   | can expand <b>Aluminum Co</b>   |
|  <b>Anti-Tank</b><br>Gunpowder Unit                               | 120      | 14 / 1 MP<br>+100% vs. <b>Armored</b>    | Artillery   | starts with <b>Ambush</b>   |
|  <b>Archer</b><br>Archery Unit                                    | 25       | 3 / 1 MP                                 | Archery   | 1 first strike<br>+50% city defense<br>+25% hills defense   |
|  <b>Artillery</b><br>Siege Weapon                                 | 150      | 18 / 1 MP<br>+50% vs. <b>Siege</b>       | Artillery   | doesn't receive defensive bonuses<br>max. 85% damage to enemy, causes collateral damage<br>immune to collateral damage from <b>Siege Weapons</b><br>can bombard city defenses (–16% per turn)                         |
|  <b>Attack Submarine</b><br>Naval Unit                            | 180      | 30 / 7 MP<br>+50% vs. <b>Subs</b>        | Rocketry, Radio,<br>Combustion<br><b>Uranium</b>            | 1 cargo space ( <b>Scouts, Explorers, Missionaries, Spies, GP</b> )<br>invisible for most units, can see <b>Submarines</b><br>can move through impassable terrain<br>can explore rival territory, 50% withdraw chance |
|  <b>Axeman</b><br>Melee Unit                                      | 35       | 5 / 1 MP<br>+50% vs. <b>Melee</b>        | Bronze Working<br><b>Copper</b> or <b>Iron</b>              | —   |
|  <b>Ballista Elephant</b><br>Mounted Unit<br>Khmer (War Elephant) | 60       | 8 / 1 MP<br>+50% vs. <b>Mounted</b>      | Construction,<br>Horseback Riding<br><b>Ivory</b>           | doesn't receive defensive bonuses<br>targets <b>Mounted Units</b> first in combat outside cities  |
|  <b>Battleship</b><br>Naval Unit                                  | 225      | 40 / 6 MP                                | Industrialism<br><b>Oil</b> or <b>Uranium</b>               | causes collateral damage<br>can bombard city defenses (–20% per turn)   |
|  <b>Berserker</b><br>Melee Unit<br>Viking (Maceman)              | 70       | 8 / 1 MP<br>+50% vs. <b>Melee</b>        | Civil Service,<br>Machinery<br><b>Copper</b> or <b>Iron</b> | +10% city attack<br>starts with <b>Amphibious</b>   |
|  <b>Bomber</b><br>Air Unit                                      | 140      | 16 / 1 MP / 8 R<br>–50% vs. <b>Water</b> | Radio, Flight<br><b>Oil</b>                                 | causes collateral damage<br>can destroy tile improvements<br>can bombard city defenses (–16% per turn)  |
|  <b>Bowman</b><br>Archery Unit<br>Babylonian (Archer)           | 25       | 3 / 1 MP<br>+50% vs. <b>Melee</b>        | Archery   | 1 first strike<br>+50% city defense<br>+25% hills defense   |
|  <b>Buddhist Missionary</b><br>National Unit                    | 40       | 0 / 2 MP                                 | <b>Buddhism</b><br><b>Buddhist</b><br><b>Monastery</b>      | 3 allowed**<br>can spread <b>Buddhism</b>   |
|  <b>Camel Archer</b><br>Mounted Unit<br>Arabian (Knight)        | 90       | 10 / 2 MP                                | Guilds, Archery,<br>Horseback Riding                        | immune to first strikes<br>doesn't receive defensive bonuses<br>can withdraw from combat (15% chance)<br>flank attack against <b>Catapult</b> and <b>Trebuchet</b>  |
|  <b>Cannon</b><br>Siege Weapon                                  | 100      | 12 / 1 MP                                | Steel<br><b>Iron</b>  | doesn't receive defensive bonuses<br>max. 80% damage to enemy, causes collateral damage<br>immune to collateral damage from <b>Siege Weapons</b><br>can bombard city defenses (–12% per turn)                         |

| Unit  | Hammers* | Str./Movement   | Prereq.   | Special abilities  |
|---|----------|---|---|--|
|  <b>Caravel</b><br>Naval Unit                                  | 60       | 3 / 3 MP  | Optics  | 1 cargo space ( <b>Scouts, Explorers, Missionaries, Spies, Great People</b> )<br>can explore rival territory   |
|  <b>Carrack</b><br>Naval Unit<br>Portuguese (Caravel)          | 60       | 3 / 3 MP  | Optics  | 2 cargo spaces<br>can explore rival territory  |
|  <b>Carrier</b><br>Naval Unit                                  | 175      | 16 / 5 MP   | Industrialism<br><b>Oil</b> or <b>Uranium</b>   | 3 cargo spaces ( <b>Fighters</b> )   |
|  <b>Cataphract</b><br>Mounted Unit<br>Byzantine (Knight)       | 90       | 12 / 2 MP   | Guilds,<br>Horseback Riding<br><b>Horse</b> and <b>Iron</b>                           | doesn't receive defensive bonuses<br>flank attack against <b>Catapult</b> and <b>Trebuchet</b>   |
|  <b>Catapult</b><br>Siege Weapon                               | 50       | 5 / 1 MP  | Construction  | doesn't receive defensive bonuses<br>max. 75% damage to enemy, causes collateral damage<br>immune to collateral damage from <b>Siege Weapons</b><br>can bombard city defenses (–8% per turn) |
|  <b>Cavalry</b><br>Mounted Unit                                | 120      | 15 / 2 MP<br>+50% attack<br>vs. <b>Cannon</b>                       | Rifling, Military<br>Tradition,<br>Horseback Riding<br><b>Horse</b>                   | doesn't receive defensive bonuses<br>can withdraw from combat (30% chance)<br>flank attack against <b>Cannon</b>   |
|  <b>Cereal Mills Exec.</b><br>National Unit                    | 100      | 0 / 2 MP  | —   | can expand <b>Cereal Mills</b>   |
|  <b>Chariot</b><br>Mounted Unit                                | 30       | 4 / 2 MP<br>+100% attack<br>vs. <b>Axeman</b>                       | Wheel<br><b>Horse</b>   | doesn't receive defensive bonuses<br>can withdraw from combat (10% chance)   |
|  <b>Cho-Ko-Nu</b><br>Archery Unit<br>Chinese (Crossbowman)     | 60       | 6 / 1 MP<br>+50% vs. <b>Melee</b>                                   | Machinery,<br>Archery<br><b>Iron</b>  | 2 first strikes<br>causes collateral damage  |
|  <b>Christian Missionary</b><br>National Unit                 | 40       | 0 / 2 MP  | <b>Christianity</b><br><b>Christian</b><br><b>Monastery</b>                           | 3 allowed**<br>can spread <b>Christianity</b>  |
|  <b>Civ Jewels Exec.</b><br>National Unit                    | 100      | 0 / 2 MP  | —   | can expand <b>Civilized Jewelers Inc</b>   |
|  <b>Confucian Missionary</b><br>National Unit                | 40       | 0 / 2 MP  | <b>Confucianism</b><br><b>Confucian</b><br><b>Monastery</b>                           | 3 allowed**<br>can spread <b>Confucianism</b>  |
|  <b>Conquistador</b><br>Mounted Unit<br>Spanish (Cuirassier) | 100      | 12 / 2 MP<br>+50% vs. <b>Melee</b>                                  | Gunpowder,<br>Military Tradition,<br>Horseback Riding<br><b>Horse</b> and <b>Iron</b> | immune to first strikes<br>can withdraw from combat (15% chance)<br>flank attack against <b>Cannon</b>   |
|  <b>Cossack</b><br>Mounted Unit<br>Russian (Cavalry)         | 120      | 15 / 2 MP<br>+50% att. vs. <b>Cannon</b><br>+50% vs. <b>Mounted</b> | Rifling, Military<br>Tradition,<br>Horseback Riding<br><b>Horse</b>                   | doesn't receive defensive bonuses<br>can withdraw from combat (30% chance)<br>flank attack against <b>Cannon</b>   |
|  <b>CreateCon Exec.</b><br>National Unit                     | 100      | 0 / 2 MP  | —   | can expand <b>Creative Constructions</b>   |