2015 World Educational Robot (WER) Contest

Task Rules

Main Theme： The Origin of Civilization

Federation of World Educational Robot

Nov. 15th, 2014

Contents

After enduring thousands of years of chaos, there came the ancient humans on the earth. As nature changes, the ancient humans had migrated again and again and finally settled down along rivers on the planet. Their living style, in the meantime, had started to evolve gradually. At last, when the ancient tribe was formed, and religion, language, character, tool, transportation etc. came to exist, human’ s civilization had begun.

History of human’ s civilization is the one that tells how humans have evolved. Along the line of civilizations in the world, there once existed various civilizations, such as Ancient zhang zhung civilization, Nile civilization, Indus civilization, Chinese civilization, Aegean Civilization, Ancient Greek civilization, Ancient roman civilization, Olmec civilization, Mayan civilization, Aztec Civilization etc. , and some we haven’ t found yet, such as Minoan Civilization, Atlantis civilization etc.

In 2015 season, with the company of WER robots, we are going to track down the origin of civilization.

1. Introduction of the Arena

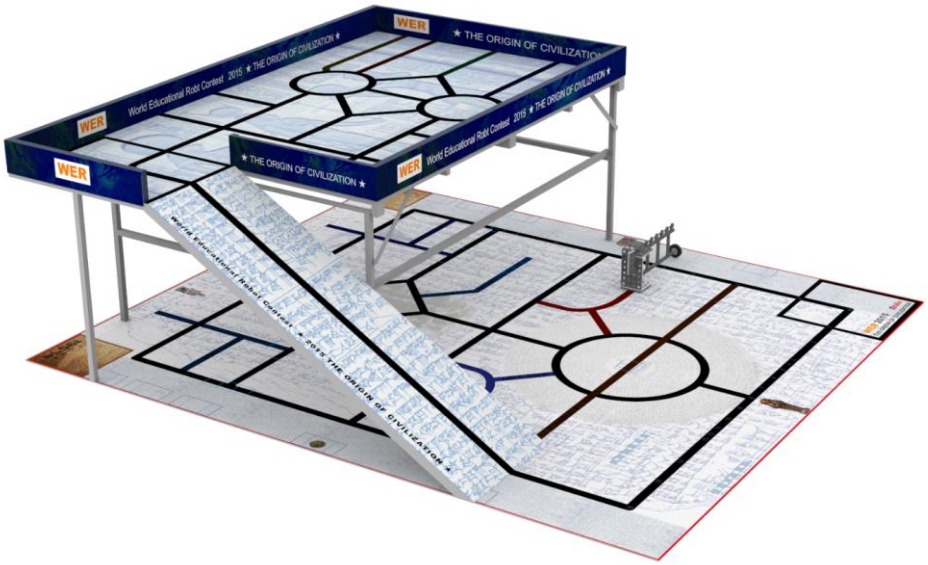


Figure1 Contest Arena

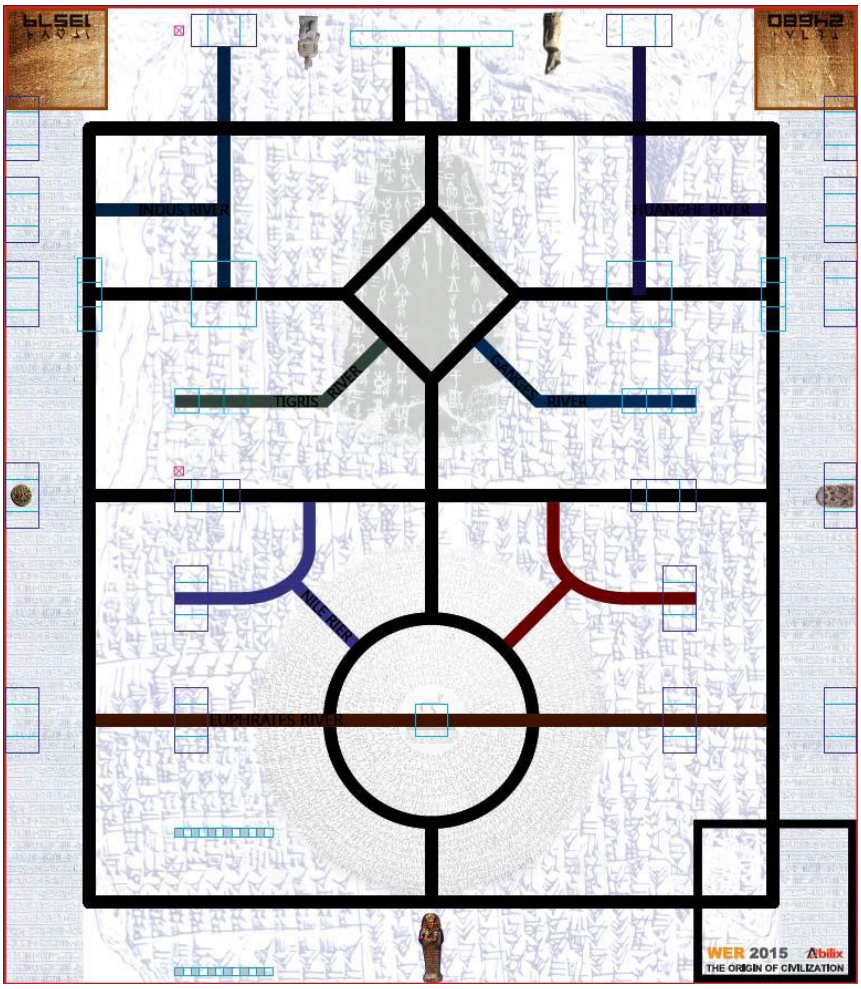


Figure2 Illustration of the ground floor

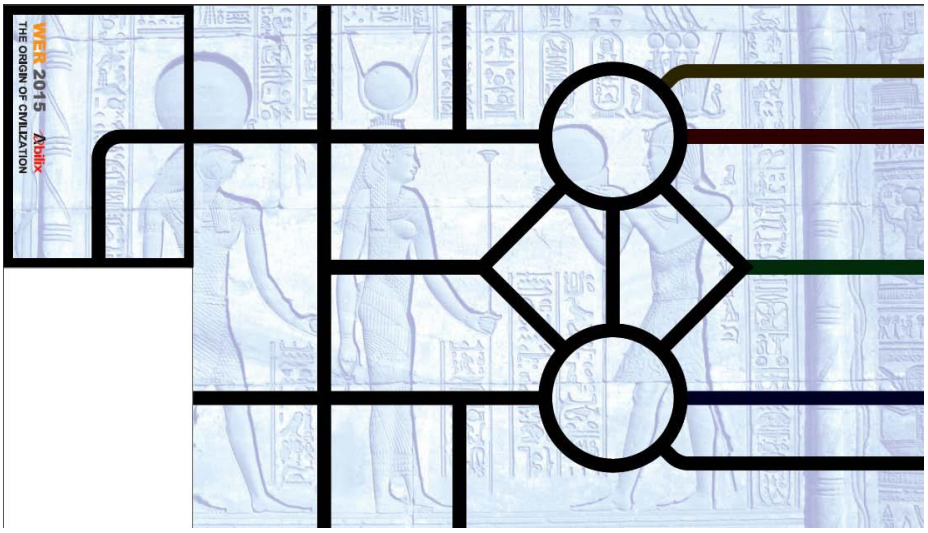


Figure3 Illustration of the second floor

Figure4 Ilustration of the slope

1.1Door to Civilization

As a part of the arena, the door of civilization isn’t a mission model, meaning its position and orientation won’t change, however, it can be revolved. The robot can “open the door” by revolving it.

The robot cannot make marks or change the arena. Any damage to the Door to Civilization (seen as part of the arena), no matter intentionally or unintentionally, will lead to a penalty of 50 points deduction, i.e. -50 points per time. However, the robot doesn’t need to reboot from the base.

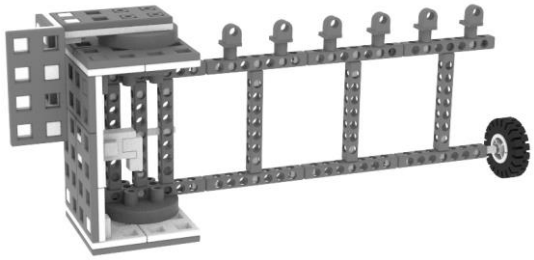


Figure5 Door to Civilization

1.2 Base

Base: Any one of the two bases can be used to set the robot off.

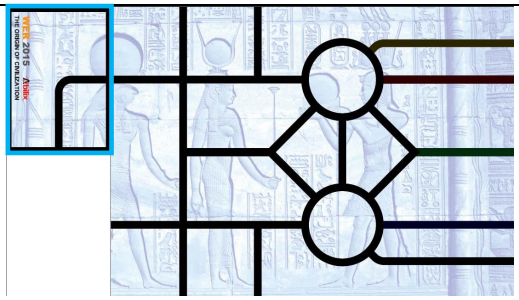
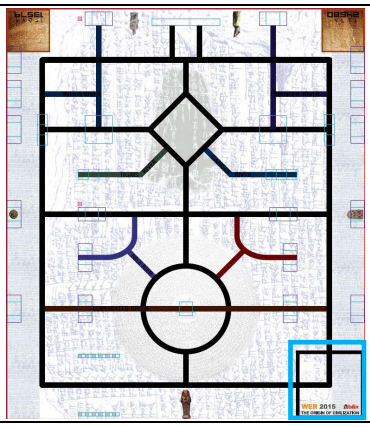
	

Figure6 Second floor base	Figure7 Ground floor base

2. Tasks

Task1: Cuneiform

Cuneiform script, created by Sumerian in about 3200 B.C., is one of the earliest known systems of writing, originated from the ancient writing along the Dijla and al-Frat rivers. Throughout its history of 3000 years, cuneiform writing firstly began as a system of pictographs. Then, the pictorial representations became simplified and more abstract as the number of characters in use grew smaller, from about 1,000 in the Early Bronze Age to about 400 in Late Bronze Age. Most of the cuneiform scripts that have been discovered are written on clay tablets, few of them are written on stone, metal panel or wax plate. Originally, pictographs were either drawn on clay tablets in vertical columns with a sharpened reed stylus, or incised in clay tablets with a wooden stick.

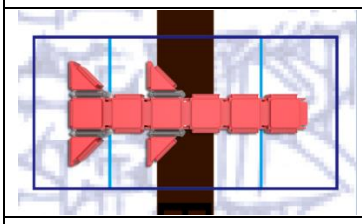
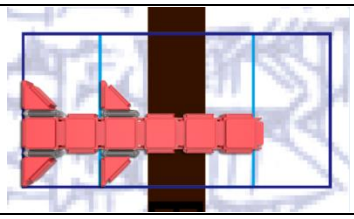
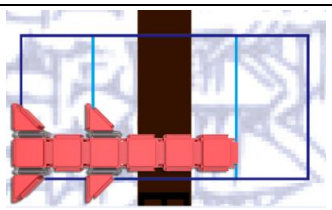
(1)Task Instruction

	Is the task model fixed on the arena?
Figure8 The original location for the task model of cuneiform is in the ground base	×

The robot needs to put the cuneiform model, which it gets from the judge when it sets off from the base, to the target position in the arena.

（2） Task Specification and Score

Any part of the vertical projection of the cuneiform model shouldn’t exceed boundary of the target position. And the task model should keep its original shape (Table 1). If cuneiform model exceeds the boundary or is changed, the task will be failed. However, if completing successfully, the robot will get 20 points.

Table 1 Score system for Cuneiform		
		
Vertical projection of the task model is completely within the boundary.	Vertical projection of the task model covers the boundary, but within.	Vertical projection of the task model covers the boundary, and exceeds.
20 Points	20 Points	No Points

Task 2:Arabic Numerals

By the middle of the 2nd millennium BC, the Babylonian mathematics had a sophisticated sexagesimal positional numeral system. The lack of a positional value (or zero) was indicated by a space between sexagesimal numerals. By 300 BC, a punctuation symbol (two slanted wedges) was co-opted as a placeholder in the same Babylonian system. In a tablet unearthed at Kish (dating from about 700 BC), the scribe Bêl-bân-aplu wrote his zeros with three hooks, rather than two slanted wedges. Arabic numerals were introduced to China during the Yuan Dynasty (1271 – 1368) by the Muslim Hui people. In the early 17th century, European-style Arabic numerals were introduced by Spanish and Portuguese Jesuits.

(1)Task Instruction

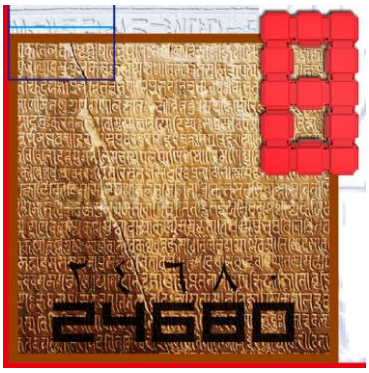
Before the contest begins, the participants need to build an Arabic numeral model themselves. It can be any one from 0 to 9. There are two target areas in the arena, one for odd numbers and one for even numbers. The robot needs to bring the numeral model into the area that fits its category.

(2)Task Specification and Score

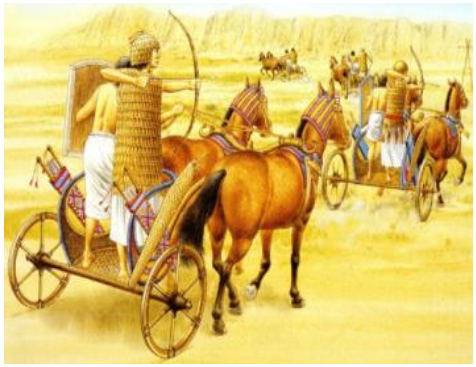
As the Table 2 shows below, the task will be completed if any part of the vertical

projection of the Arabic numeral model covers the target area and the task model should keep its original shape. The range of the target area is confined by its boundary.

If completing successfully, the robot will get 30 points.

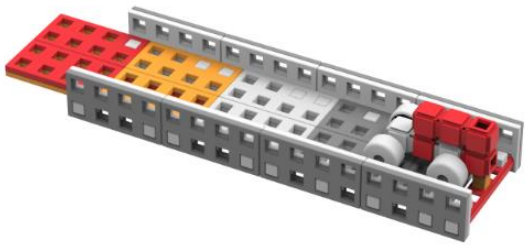
Table 2: Score system for Arabic Numerals		
		
The even number (8) is in the even number area.	The even number (8) covers the even number area.	The even number (8) is in the odd number area.
30 points	30 points	No points.

Task 3:Egyptian Chariot



The chariot and horse were introduced to Egypt by the Hyksos invaders in the 16th century BC and undoubtedly contributed to the military success of the Egyptians. In the remains of Egyptian and Assyrian art, there are numerous representations of chariots, which display rich ornamentation. The chariots of the Egyptians and Assyrians, with whom the bow was the principal arm of attack, were richly mounted with quivers full of arrows. The Egyptians invented the yoke saddle for their chariot horses in c. 1500 BC. The best preserved examples of Egyptian chariots are the four specimens from the tomb of Tutankhamun. Chariots can be carried by two or more horses.

(1)Task Instruction

	**Is the track model fixed on the arena?**
Figure 9:The Egyptian chariot and its original status	√

The robot needs to push the Egyptian chariot on the track, and the points for Junior

Division and Junior High Division are determined on how far the task model has moved; the points for Senior High Division are determined if the chariot enters the target zone. The chariot will be considered to enter a color zone where the vertical projection of it covers. During the process, robot cannot bring the Egyptian chariot to base.

(2)Task Specification and Score

The task for Junior Division and Junior High Division will be completed if the chariot stays on the track after it stops. However, any part of the chariot shouldn’ t contact the outside ground.

The chariot entering the white zone, the robot gets 10 points. The chariot entering yellow zone, the robot gets 20 points. The chariot entering the red zone, the robot gets 30 points. If the chariot enters two zones, the robot will get points from the higher color zone.

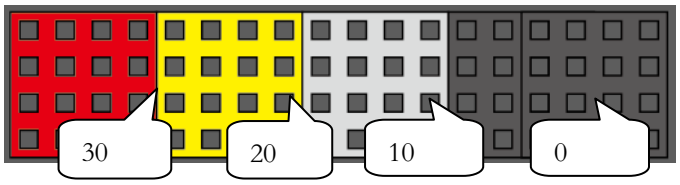
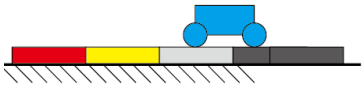
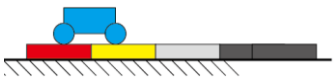
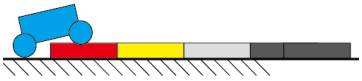
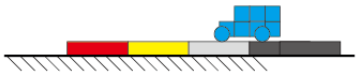
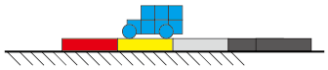
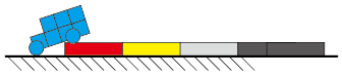


Figure 10 Color zones of Egyptian chariot track

Table 3-1 Score system for Egyptian Chariot-Junior Division and Junior High Division		
		
Entering the white zone.	Entering the red and yellow zone.	Chariot model contacts the ground.
10 Points	30 Points	No Points

The task for Senior High Division will be completed if all the chariot wheels contact the yellow zone. However, the wheels shouldn’ t contact the red, white or grey zone. Completing the task successfully, the robot gets 30 points.

Table 3-2 Score system for Egyptian Chariot- Senior High Division

		
The chariot wheels contact the white zone.	The chariot wheels contact ONLY the yellow zone.	The chariot wheels contact the ground.
No points	30 Points	No point

Task 4: Mayan Pyramid

Mayan pyramid is a structure whose outer surfaces are triangular and converge to a single point at the top, making the shape roughly a pyramid in the geometric sense. The base of Mayan pyramid can be trilateral, quadrilateral, or any polygon shape, meaning that a pyramid has at least three outer triangular surfaces (at least four faces including the base).

A pyramid's design, with the majority of the weight closer to the ground, and with the pyramidion on top means that less material higher up on the pyramid will be pushing down from above. This distribution of weight allowed early civilizations to create stable monumental structures.

(1)Task Instruction

	**Is the Mayan pyramid fixed on the arena?**
Figure 11 Mayan Pyramid without the altar.	×
	**Is the Altar fixed on the arena?**
Figure 12 The original location of the Altar is in the second-floor base	×

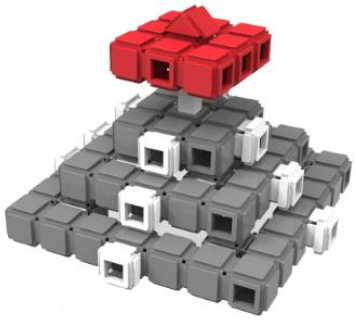
Mayan pyramid no longer has its mysterious power, because the top altar is lost. However, the robot can recover the power by finding the altar on the second-floor arena and putting it back on the top of the pyramid.

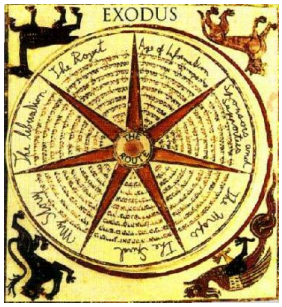
(2)Task Specification and Score

As the Table 4 shows below, the task will be completed if the altar, as a whole, is plugged

into the cube at the top of the pyramid。

Completing the task successfully, the robot will get 30 points.

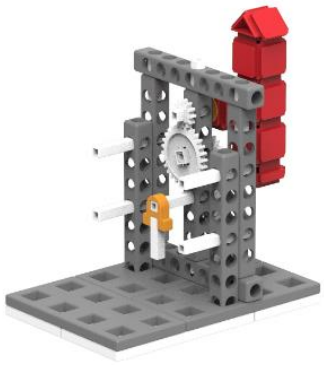
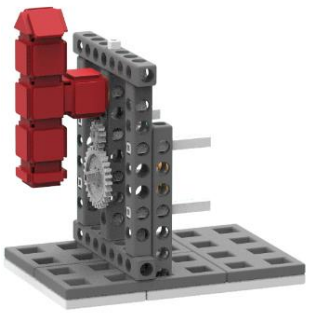
Table 4 Score system for Mayan Pyramid

The altar is plugged into the pyramid successfully
30 Points



Tack 5 Egyptian Calendar

The ancient civil Egyptian calendar had a year that was 365 days long and was divided into 12 months of 30 days each, plus five extra days at the end of the year. The months were divided into three weeks of ten days each. Because the ancient Egyptian year was almost a quarter of a day shorter than the solar year and stellar events therefore "wandered" through the calendar, it has been referred to as the "wandering year".

（1）Task Instruction

		**Is the task model fixed on the arena?**
Figure 13 The original status of Egyptian calendar.	Figure 14 The back of Egyptian calendar.	√

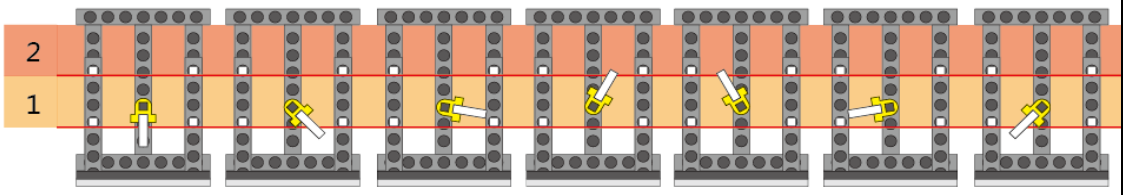
There’s a revolver attached on the Egyptian calendar. The robot can control an indicator by rotating it. Lines that each two tubes on the same horizon form divide the

score zone into two. Final score depends on which zone the end point of the indicator is in.

（2）Task Specification and Score

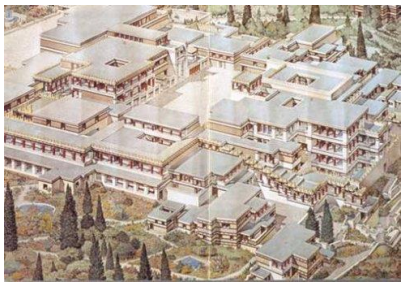
If end of the indicator is in Zone 1, the robot gets 30 points. If end of the indicator is in Zone 2, the robot gets 40 points. Like the Table 5 shows below.

Table 5 Score system for Egyptian Calendar



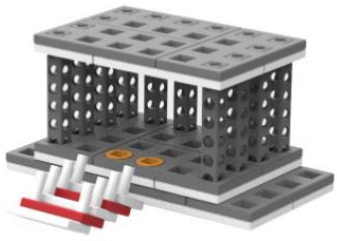
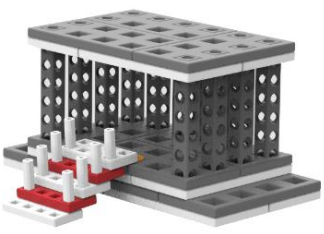
Invalid	Invalid	Zone 1	Zone 2	Zone 2	Zone 1	Invalid
No points	No points	30 Points	40 Points	40 Points	30 Points	No Points

Task 6: Minoan Palace



Palace are the best-known Minoan building types excavated on the island. They are monumental buildings serving administrative purposes, as evidenced by the large archives unearthed by archaeologists. Each of the palaces excavated to date has its own unique features, but they also share features that set them apart from other structures. The palaces are often multi-storeyed, with interior and exterior staircases, light wells, massive columns, storage magazines, and courtyards.

（1）Task Instruction

		**Is the Minoan palace fixed on the arena?**
Figure 15,The original status of Minoan palace	Figure 16,The status of Minoan palace when it’s completed.	×

In the middle of Minoan civilization’s developing and thriving, a catastrophe descended in 1470 B.C. The Minoan civilization suffered from a devastating hit, and the

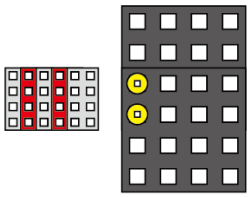
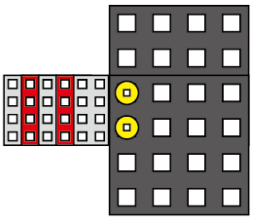
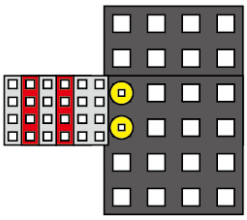
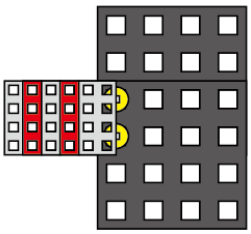
staircase of Minoan palace collapsed. The robot needs to repair the staircase to recover the magnificence of the palace.

（2）Task Specification and Score

As the Table 6 shows below, the task will be completed if the vertical projection of the staircase contacts Minoan palace.

Repairing the staircase successfully, the robot will get 50 points.

Table 6 Score system for Minoan Palace

			
The vertical projection of the staircase doesn’t contact Minoan palace	The vertical projection of the staircase doesn’t contact Minoan palace	The vertical projection of the staircase contacts Minoan palace	The vertical projection of the staircase contacts Minoan palace
No points	No points	50 Points	50 Points

Task 7 Atlantis

Atlantis is the name of a fictional island mentioned within an allegory on the hubris of nations in Plato's works Timaeus and Critias, where it represents the antagonist naval power that besieges "Ancient Athens", the pseudo-historic embodiment of Plato's ideal state. In the story, Athens was able to repel the Atlantean attack, unlike any other nation of the known world, supposedly giving testament to the superiority of Plato's concept of a state. At the end of the story, Atlantis eventually falls out of favor with the gods and famously submerges into the Atlantic Ocean.

Despite its minor importance in Plato's work, the Atlantis story has had a considerable impact on literature. The allegorical aspect of Atlantis was taken up in utopian works of several Renaissance writers, such as Bacon's New Atlantis and More's Utopia. On the other hand, 19th-century amateur scholars misinterpreted Plato's account as historical tradition, most notably in Donnelly's Atlantis: The Antediluvian World. Plato's vague indications of the time of the events—more than 9,000 years before his day—and the alleged location of Atlantis—"beyond the Pillars of Hercules"—has led to much pseudoscientific speculation.

（1）Task Instruction

		**Is the task model fixed on the arena?**
Figure 17 The original status of Atlantis	Figure 18 The status of Atlantis when it’s completed.	×

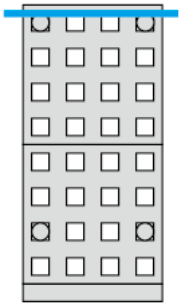
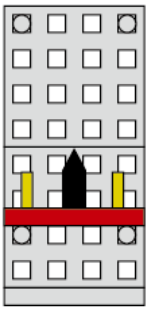

		

Figure 19 Model of Atlantic. The blue line serves as water level.	Figure 20 Continental shelf and castle	Figure 21 Status of the models before the task begins.

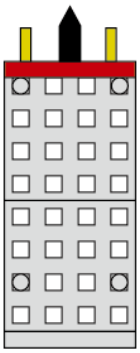
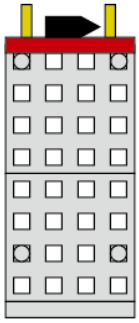
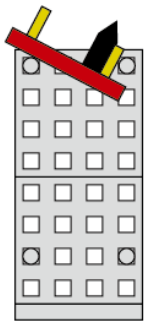
As the Figure 19 shows, natural disasters had buried Atlantis into the Atlantic Ocean. The robot needs to lift the Atlantis civilization out of the water, to let the world witness what it truly is. During the task, the robot cannot bring model of the continental shelf or castle into any base.

（2）Task Specification and Score

The robot needs to lift the continent up beyond the water level.

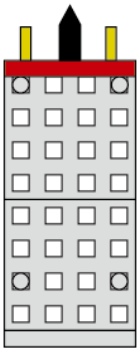
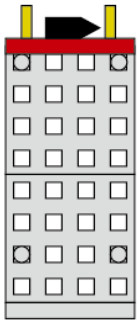
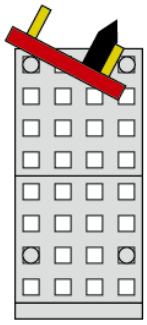
The task for Junior Division and Junior High Division will be completed if the robot lifts the continent up beyond the water level. Only lifting the continent up beyond the water level, the robot gets 30 points. If not only lifting the continent up beyond the water level, but also keeping the castle upright on the continent, the robot gets 50 points.

Table 7-1 Score system for Atlantis- Junior Division and Junior High Division

		
The continent is up beyond the water level and the castle is kept upright on the continent.	The continent is up beyond the water level, but the castle collapses.	Part of the continent remains underwater.
50 Points	30 Points	No Points

The task for Senior High Division will be completed if the robot not only lifts the continent up beyond the water level, but also keeps the castle upright on the continent. The robot gets 50 points if completing the task successfully.

Table 7-2 Score system for Atlantis- Senior High Division

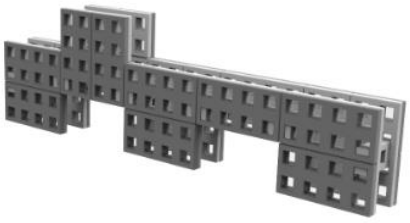
		
The continent is up beyond the water level and the castle is kept upright on the continent.	The continent is up beyond the water level, but the castle collapses.	Part of the continent remains underwater.
50 Points	No Points	No Points

Task 8: Great Wall

The Great Wall of China is a series of fortifications made of stone, brick, tamped earth, wood, and other materials, generally built along an east-to-west line across the historical northern borders of China in part to protect the Empire or its prototypical states against intrusions by various nomadic groups or military incursions by various warlike peoples or forces. Several walls were being built as early as the 7th century BC; these, later joined together and made bigger and stronger, are now collectively referred to as the Great Wall. Especially famous is the wall built between 220 − 206 BC by the first Emperor of China, Qin

Shi Huang. Little of that wall remains. Since then, the Great Wall has on and off been rebuilt, maintained, and enhanced; the majority of the existing wall is from the Ming Dynasty. Other purposes of the Great Wall have included border controls, allowing the imposition of duties on goods transported along the Silk Road, regulation or encouragement of trade and the control of immigration and emigration. Furthermore, the defensive characteristics of the Great Wall were enhanced by the construction of watch towers, troop barracks, garrison stations, signaling capabilities through the means of smoke or fire, and the fact that the path of the Great Wall also served as a transportation corridor.

（1）Task Instruction

		**Is the Great Wall model fixed on the ground?**
Figure 22 The Great Wall The original status of the Great Wall	Figure 23 Wall Brick The wall brick is in the ground base	×

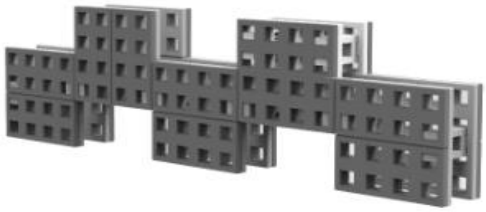
In order to maintain and protect the Great Wall, the robot needs to mount the wall brick back to the Great Wall and keeps the Great wall upright. The wall brick is in the ground base.

The robot cannot bring the wall back to base during the task.

（2）Task Specification and Score

As the Table 8 below shows, the task will be completed if the wall brick is mounted on the wall and the wall stands upright on the ground.

Completing the task successfully, the robot will get 40 points.

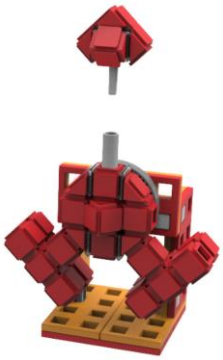
Table 8 Score system for Great Wall(suggested finish status)

Mount the wall brick on the Great Wall
40 Points

Task 9: Shennong’ s Herb

Prehistoric medicine incorporated plants (herbalism), animal parts and minerals. In many cases these materials were used ritually as magical substances by priests, shamans, or medicine men. Well-known spiritual systems include animism (the notion of inanimate objects having spirits), spiritualism (an appeal to gods or communion with ancestor spirits); shamanism (the vesting of an individual with mystic powers); and divination (magically obtaining the truth). The field of medical anthropology examines the ways in which culture and society are organized around or impacted by issues of health, health care and related issues.

In China, archaeological evidence of medicine in Chinese dates back to the Bronze Age Shang Dynasty, based on seeds for herbalism and tools presumed to have been used for surgery. The Huangdi Neijing, the progenitor of Chinese medicine, is a medical text written beginning in the 2nd century BCE and compiled in the 3rd century.

（1） Task Instruction

			Is the task model fixed on the arena?
Figure 24 The original status of the Shennong’ s herb	Figure 25 The herb can be picked up.	Figure 26 Barrel, taget position of the herb	Shennong’ s herb √ Barrel √

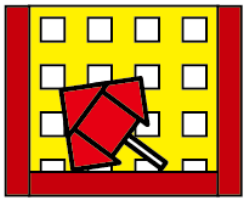
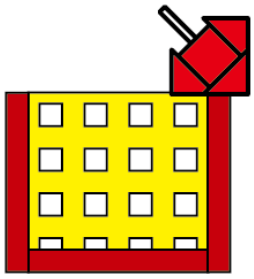
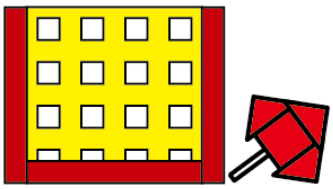
At the top of the Shennong’ s Herb model, there’ s an herb model that can be picked up. The bottom of the task model can be revolved. The robot needs to pick up the herb and put it into the barrel.

（2） Task Specification and Score

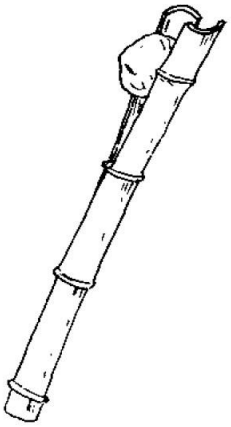
As the Table 9 shows below, the task will be completed if the herb model contacts the barrel, but not the ground.

Completing the task successfully, the robot will get 40 points.

Table 9 Score system for Shennong’ s Herb

		
Herb inside the barrel.	Herb contacts the barrel, but not the ground.	Herb contacts the barrel and the ground.
40 Points	40 Points	No points

Task 10: Fruit of War

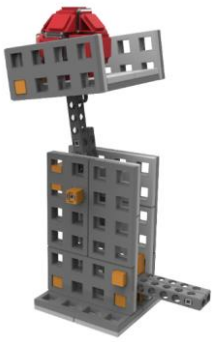


Ancient weapons were evolutionary improvements of late neolithic implements, but then significant improvements in materials and crafting techniques created a series of revolutions in military technology:

The development of metal tools, beginning with copper during the Copper Age (about 3,300 BC) and followed shortly by bronze led to the Bronze Age sword and similar weapons.

The first defensive structures and fortifications appeared in the Bronze Age, indicating an increased need for security. Weapons designed to breach fortifications followed soon after, for example the battering ram was in use by 2500 BC. Although early Iron Age swords were not superior to their bronze predecessors, once iron-working developed, around 1200 BC in Sub-Saharan Africa, iron began to be used widely in weapon production.

（1）Task Instruction

			**Is the task model fixed on the arena?**
Figure 27 The original status of the fruit of war.	Figure 28 The fruit of war can be detached from the mangonel	Figure 29 Barrel, the taget position of the fruit of war	**Mangonel√** **Barrel √**

As the Figure 27 shows, the fruit of war is on the mangonel. A bar that affects balance of the mangonel sticks out from the bottom（Figure 28）. The robot needs to get the fruit

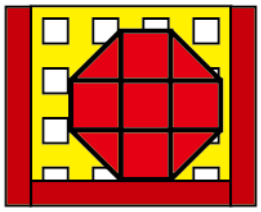
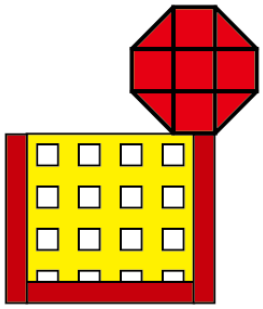
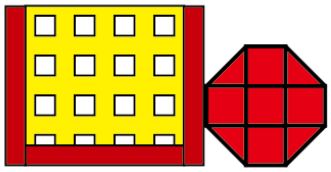
and put it into the barrel (Figure 29).

（2）Task Specification and Score

As Table 10 shows, the task will be completed if the fruit of war contacts the barrel, but not the ground.

Completing the task successfully, the robot will get 40 points.

Table 10 Score system for Fruit of War

		
Fruit of war is in the barrel.	Fruit of war contacts the barrel, but not the ground.	Fruit of war contacts the barrel and the ground.
40 Points	40 Points	No points

Task 11: Ancient Row Farming

Throughout the history of China, various methods have been developed or imported that enabled greater farming production and efficiency. They also utilized the seed drill to help improve on row farming.

During the Spring and Autumn Period (722 – 81 BC), two revolutionary improvements in farming technology took place. One was the use of cast iron tools and beasts of burden to pull plows, and the other was the large-scale harnessing of rivers and development of water conservation projects. The engineer Sunshu Ao of the 6th century BC and Ximen Bao of the 5th century BC are two of the oldest hydraulic engineers from China, and their works were focused upon improving irrigation systems. These developments were widely spread during the ensuing Warring States period (403 – 221 BC), culminating in the enormous Du Jiang Yan Irrigation System engineered by Li Bing by 256 BC for the State of Qin in ancient Sichuan.

（1）Task Instruction

		**Is the task model fixed on the ground?**
Figure 30 The original location of the seeds (location of the black seed is random)	Figure 31 Seeds storehouse	Seeds pallet✓ Seeds storehouse ✓
		
Figure 32 Three magnets on the bar of seeds storehouse		

As the Figure 30 shows, three seeds are on the pallet in the arena. There's an iron head at the top of each seed. Among the other 2 green seeds (the color of which means they're healthy), the black seed means it's rotten. The initial location of the seeds is on the pallet. The way of how they're placed and their colors are random.

The robot from Junior Division and Junior High Division can choose to bring the seeds back to ground floor base, or to store them on the storehouse bar. However, robot from Senior High Division must find out the rotten seed (black) and put it into the barrel, and store the healthy seeds (green) on the storehouse bar. Different task offers different points. Three magnets on the bar of seeds storehouse can prevent seeds from falling, as the Figure 32 shows.

（2）Task Specification and Score

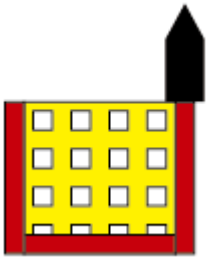
Junior Division and Junior High Division: The robot with the seeds entering the base will be seen as the seeds return to the base. In this situation, points the robot makes are

determined on how many seeds are there in the base. 1 seed means 10 points, 2 means 20, 3 means 30.

If the seeds are stored on the storehouse bar, task will be completed as the seeds are hung with the magnets. In this case, 1 seed means 40 points, 2 means 50, 3 means 60.

Table 11-1 Score system for Ancient Row Farming- Junior Division and Junior High Division	
	
3 seeds in the ground base.	2 seeds on the storehouse bar.
30 Points	50 Points

Senior High Division: The robot in this division needs to find out the black rotten seed and put it into the barrel. The task will be completed, if the rotten seed contact the barrel instead of the arena. During the contest, the robot cannot bring the black seed back into the base. Completing the task successfully, the robot gets 40 points.

Table 11-2 Score system for Ancient Row Farming- Senior High Division-Black Seed		
		
Black seed in the barrel	Black seed contacts the barrel, but not the arena	Black seed contacts the barrel and the arena
40 Points	40 Points	No points

Robot in this division needs to hang the green seeds on the storehouse bar. Storing 1 seed successfully, the robot gets 40 points; storing 2 seeds, the robot gets 50 points.

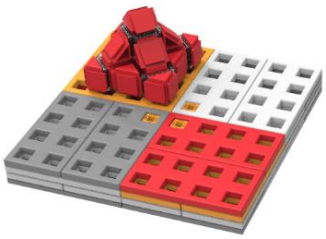
Table 11-3 Score system for Ancient Row Farming- Senior High Division-Green Seeds

2 seeds on the storehouse bar.
50 Points

Task 12 Pyramid

The most famous pyramids are the Egyptian pyramids — huge structures built of brick or stone, some of which are among the world's largest constructions. They are shaped as a reference to the rays of the sun. Most pyramids had a polished, highly reflective white limestone surface, in order to give them a shining appearance when viewed from a distance. The capstone was usually made of hard stone - granite or basalt - and could be plated with gold, silver, or electrum and would also be highly reflective.

（1）Task Instruction

		**Is the task model fixed on the arena?**
Figure 33 The original status of the Pyramid of Khufu	Figure 34 Pyramid of Khufu enters the target position	√

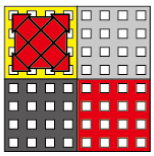
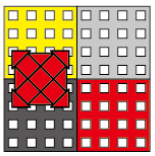
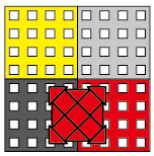
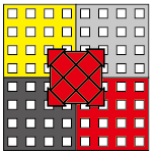
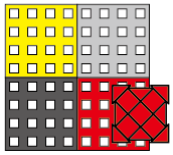
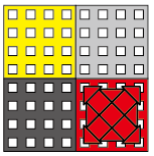
There’ s a plate (16cm*16cm*2cm) fixed on the arena, it contains 4 color—red, yellow, white and gray. Red is the target position for the pyramid of Khufu, white is for the pyramid of Khafre and gray is for the pyramid of Menkaura. The original position of pyramid of Khufu is in the yellow zone. The robot needs to push the pyramid of Khufu to its target position.

（2） Task Specification and Score

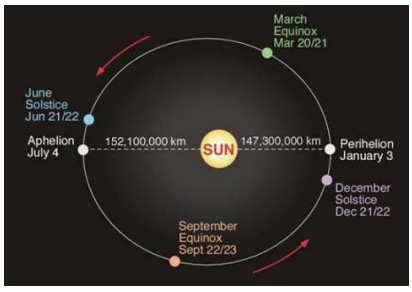
As Table 12 shows, the task will be completed if the vertical projection of the pyramid is totally in the red zone.

Completing the task successfully, the robot will get 50 points.

Table 12 Score system for Pyramid

		
Contact with the yellow zone	Contact with the yellow zone and the gray zone	Contact with the gray zone and the red zone
No Points	No Points	No Points
		
Contact with the yellow zone, and the gray zone the red zone	Contact with the red zone, but the vertical projection exceeds the boundary	Contact with the red zone and the vertical projection is completely in the red zone.
No Points	No Points	50 Points

Task 13: Julian Calendar



The Julian calendar, introduced by Julius Caesar in 46 BC (708 AUC), was a reform of the Roman calendar. It took effect in 45 BC (709 AUC), shortly after the Roman conquest of Egypt. It was the predominant calendar in the Roman world, most of Europe, and in European settlements in the Americas and elsewhere, until it was refined and superseded by the Gregorian calendar. The difference in the average length of the year between Julian (365.25 days) and Gregorian (365.2425 days) is 0.002%.

（1） Task Instruction

	**Is the task model fixed on the arena?**
Figure 35 The original status of Julian Calendar	√

Four markers are attached to the task model of Julian Calendar, each one of them is stabilized with a magnet. Each marker stands for a season. The robot needs to hit the bar which sticks out to make the markers fall from the magnets, but not out of the task model.

（2）Task Specification and Score

Four markers are requested to detach from the magnets completely, but not out of the task model.

As Table 13 shows, one mark 10 points, two marks 20 points, three marks 30 points, 4 marks 40 points（Table 13）.

Table 13 Score system for Julian Calendar

4 marks are fallen from the magnets.
40 Points

Task 14: Indo-European Migration

The Proto-Indo-Europeans likely lived during the late Neolithic, or roughly the 4th millennium BC. Mainstream scholarship places them in the forest-steppe zone immediately to the north of the western end of the Pontic-Caspian steppe in Eastern Europe.

Population movements notably include the Neolithic Revolution, Indo-European expansion, and the Early Medieval Great Migrations including Turkic expansion. In some places, substantial cultural transformation occurred following the migration of relatively small elite populations, Turkey and Azerbaijan being such examples.

（1）Task Instruction

	Are the tribes fixed on the arena?
Figure 36 Three colors of the tribes	×
	Are the task models fixed on the arena?
Figure 37 Three colors of target positions for migration.	√

Three models that stand for tribes are distinguished by white, gray and red. Each of them is placed to an appointed position in the ground arena. Three plates that stand for the migration target positions are distinguished by white, gray and red. Each of them is sized as 8cm*8cm*1cm and placed in the second-floor arena. The robot needs to move the tribes to their target positions that match their colors.

（2）Task Specification and Score

As Table 14 shows, the task will be completed if the tribes are moved to their target positions that match their colors and the vertical projection of which should be on the

plates completely.

Transporting one, two or three task models successfully, the robot gets 60, 120 or 180 points depending on how many models it moves successfully.

Table 14 Score system for Indo-European Migration

Three models are transported successfully.
180 Points

Default Locations of Task Models

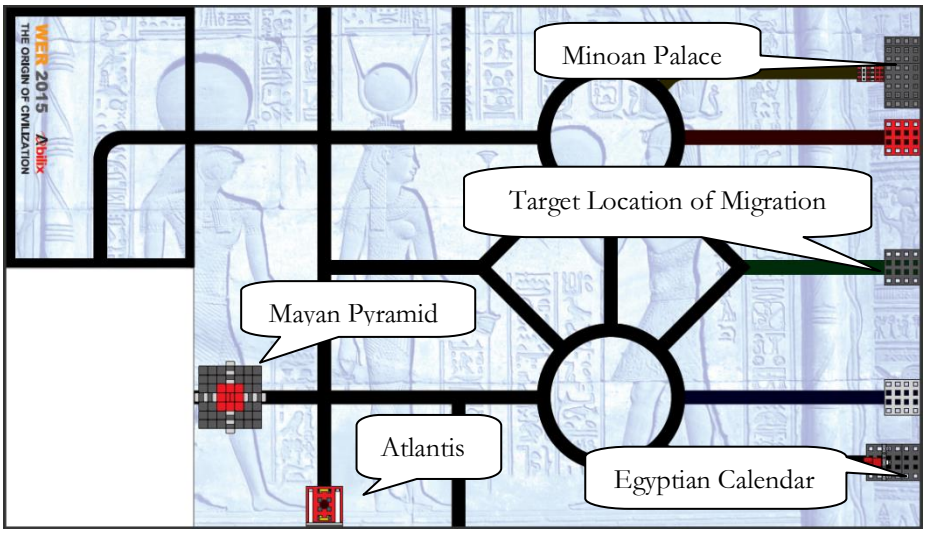


Figure 38 Default Locations of Task Models for Second-floor Arena

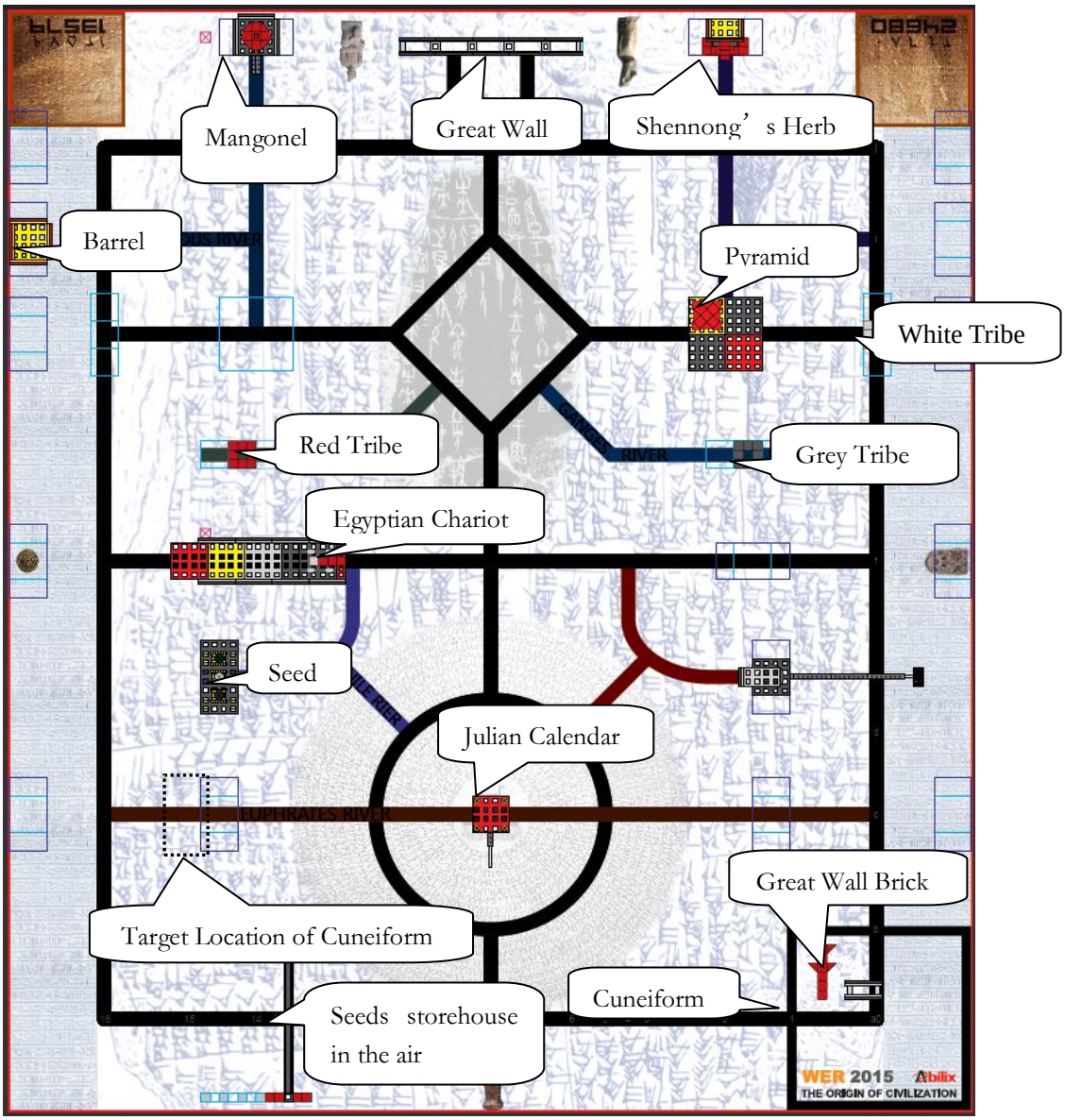


Figure 39 Locations of Task Models for Ground Arena

If you have any doubt or suggestion to the rules, please contact the Federation of WER.

Email: rules@wercontest.org

The right to explain the terms of the rules belongs to the Federation of WER.

Score Sheet

Score Sheet for 2015 WER Contest					
School			☐Junior Division ☐ Junior High Division ☐Senior Division		
Team Name			**No.**		
Cuneiform	☐20	Vertical projection of Cuneiform doesn't exceed boundary of the target position, and the task model is kept as a whole.			
Arabic Numerals	☐30	Vertical projection of the number model contacts the number zone, and the number model is kept as a whole.			
Egyptian Chariot	☐10 ☐20 ☐30	The chariot enters the white zone, yellow zone or red zone.	☐30	All of the chariot wheels contact the yellow zone, instead of the red, white or grey zone.	
Mayan Pyramid	☐30	Bottom of the altar is installed on the top of the pyramid.			
Egyptian Calendar	☐30 ☐40	The indicator points to the first section. The indicator points to the second section.			
Minoan Palace	☐50	Vertical projection of the staircase contacts the palace.			
Atlantis	☐30	The robot lifts the continent up beyond the water level.	☐50	The robot lifts the continent up beyond the water level, and the castle stays upright on the continent at the same time.	
	☐50	Besides, the castle stays upright on the continent.			
Great Wall	☐40	Wall brick is put onto the Great Wall and the Wall is upright.			
Shennong's Herb	☐40	The herb contacts the barrel, but not the ground.			
Fruit of War	☐40	Fruit of War contacts the barrel, but not the ground.			
Ancient Row Farming	☐10 ☐20 ☐30	Seeds are brought back to base.	☐40	The black rotten seed is put in the barrel.	
	☐40 ☐50 ☐60	Seeds are hung on the storehouse.	☐40 ☐50	Seeds are hung on the storehouse.	
Pyramid	☐50	Vertical projection of the pyramid is fully within the red zone.			
Julian Calendar	☐10 ☐20 ☐30 ☐40	Markers detach the magnets, but not the task model.			
Indo-European Migration	☐60 ☐120 ☐180	Tribes are transported to their target positions. The color of the tribes and the target positions should be the same.			
Extra Task	☐100				
Marked with the strokes of character "正"	Contact the robot outside of the base	-20points/time	Reboot from the base		
Score for one round			**Time for one round**		
Sign after confirmation	Sign by the judge:		Sign by the contestant		