



Global Natural History Day<sup>®</sup>

— 2019 —



A Behring Global Educational Foundation Program

# Rule BOOK

[www.gnhd.org](http://www.gnhd.org)



## Global Natural History Day<sup>®</sup>



### **Preface**

Global Natural History Day<sup>®</sup> (GNHD<sup>®</sup>) programs are open to all students and teachers regardless of race, sex, religion, physical abilities, economic status, or sexual orientation. GNHD<sup>®</sup> does not discriminate against or limit participation by physically challenged students. GNHD<sup>®</sup> staff and affiliated coordinators strive to accommodate students with special needs.

### **What is GNHD<sup>®</sup> ?**

GNHD<sup>®</sup>, sponsored by Behring Global Educational Foundation, is a well-rounded program for elementary through high school students. Each year, participants select topics which are related to the theme of that year to conduct their own research projects. Participants can take the initiative to find primary sources, talk to scientists, curators, librarians, and utilize other sources they can think of. During the various competition rounds, they will have opportunities to present (or perform) in front of judges who are well-respected professionals and experts from different backgrounds.

### **Please read this first**

Before you begin to work on your project, you, your teacher, and your parents should read this booklet carefully. It contains rules that you must follow to compete in all levels of the GNHD<sup>®</sup> competition. More information on topics, sources, and deadlines are available on our website [www.gnhd.org](http://www.gnhd.org) or from your semi-final and affiliated GNHD<sup>®</sup> coordinators.



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## I. Program Overview

### 1. Theme

Each year a theme is selected for the GNHD® program. Although you may select issues at a local, national or even global level, your project's research and conclusions must be clearly related to the annual theme. Be aware of the category limits of size and time.

Ignoring the annual theme or concept description could lead to you talking too generally. Be careful to limit the scope of your topic to focus on an issue that can be explained and interpreted within the category limits of size and time.

### 2. Topic

Once you are familiar with this year's theme, you will select a topic that relates to the theme. Remember to limit the scope of your topic in order to make your research, analysis, interpretation, and presentation manageable.

Effective GNHD® entries not only describe a species or a phenomenon, but they also analyze its environment and place it in its context. To help you draw conclusions about your topic's significance in natural science, ask yourself the following questions:

- 1) Why is my topic important to natural science?
- 2) How and why is my topic significant in relation to the GNHD theme? Why?
- 3) How did my topic (the species or phenomenon) develop over time?
- 4) How is my research topic related to the natural world?
- 5) How did events and atmosphere (social, economic, political, and cultural aspects) influence the species or phenomenon I have selected as my topic?

### 3. Awards

The most important takeaway is the skills, knowledge and the experience of a lifetime through participating in the GNHD® contest. In each level of the contest, you might be awarded certifications, medals and non-cash awards. Special awards from corporations may also be provided.

#### Overview of the awards

##### *Awards for the Semi-final*

- Will have the possibility to participate in the Global Finals at Shanghai, China.
- Will receive official certificates



#### *Awards for the Global Finals*

<b>First Prize</b>	1.Certificate	2.Gold Medal	3.Non-cash award
<b>Second Prize</b>	1.Certificate	2.Silver Medal	3.Non-cash award
<b>Third Prize</b>	1.Certificate	2.Bronze Medal	3.Non-cash award

#### *Important:*

- All Global Finalists will get at least 3<sup>rd</sup> place

### 4.Registration

GNHD® only accepts group registration. One group usually constitutes 2 students and 1 mentor. The mentor could be a parent or teacher from your school, or staff from other institutions and educational organizations. The same mentor can be assigned with different teams.

### 5.Divisions

Participant teams will select the division according to the grade when registering for GNHD®.

Junior Division — Grade 6 and below

Senior Division — Grade 7 and above

Note: Selecting your division is adhered to the higher grade principle, which means the higher grade of the students in the team is the grade used to determine the team's division. E.g. in a team if one student is in Grade 5 and the other one is in Grade 7, then this team would register for the Senior Division.

Please be careful with this selection as it cannot be modified. If mistaken, you need to register for a new entry code. If the submitted grade is not the same as the actual grade, GNHD committee has the right to disqualify the team or deduct points.

### 6.Categories

The participants could choose from the following two types:

- 1.Exhibition
- 2.Performance

### 7. Safe

All the contests will be held in public locations. The participants are responsible for their own property. GNHD® and the staff are not responsible for any loss of property.

### 8. Materials

The general rules, evaluation samples, and written materials will be available to download on GNHD®'s official website. These materials can be helpful for the mentors as well as the students.



## 9. Costs

There is no cost to register and participate in GNHD®. Travel expenses to the GNHD® Global Finals are paid by each participant if they qualify for the Finals. We will provide scholarships, please contact your local coordinator to understand the project.

## II. General Rules

### 1. General Rules for All Categories

#### 1) Annual Theme

Your entry must relate clearly to the annual theme and explain your topic's significance to natural science.

#### 2) Contest Participation

All team members must participate in the research and presentation of the project.

#### 3) Development Requirements

Entries submitted for competition must be original and have been researched and developed the current contest year. Revising or reusing an entry from a previous year — whether it is yours or another student's— will result in disqualification.

#### 4) Construction of an Entry

You are responsible for the research, design, and creation of your entry. You may receive help and advice from teachers and parents on the technical aspects of creating your entry.

- a) You may have help typing your paper and other written materials.
- b) You may seek guidance from your teachers as you research and analyze your material, but the conclusions must be your own.
- c) You may have photographs and slides commercially developed.
- d) You may have reasonable help cutting out your exhibit backboard or performance props (e.g. a parent uses a cutting tool to cut the board that you designed).

Note: A whole entry designed by other people does not meet the requirements (for example a board printed by an advertising company that is used directly as an exhibit board or performance prop).

#### 5) Contest Day Set-up

You are responsible for setting up your own exhibit, equipment, or props at the contest. You may have reasonable help carrying them, but set-up must be completed by you and your teammate.

#### 6) Equipment/Supplies

You are responsible for supplying all props and equipment at each level of competition. All entries should be constructed keeping transportation, set-up time, size, and weight in mind (e.g., foam core v. solid oak for an exhibit; folding table v. antique desk for a performance). Power of electricity and the projection screens are available. You must provide any and all other supplies and equipment necessary for presenting your entry.



#### 7) Discussion with Judges

You should be prepared to answer judges' questions about the content and development of your entry. You should not give a formal, prepared introduction, narration, or conclusion. Instead, let the judges' questions guide the interview. Ultimately, your entry should be able to stand on its own without any additional comments from you. You should be prepared to explain the design, research, and creation of your entry if questioned by the judges. Judges need to know that your entry is the result of your own work.

#### 8) Costumes

You are not permitted to wear costumes that are related to the focus of your entry during judging, except in the performance category.

#### 9) Prohibited Materials

Items that are potentially dangerous in any way — such as weapons, firearms, animals, organisms, plants — are strictly prohibited. Such items will be confiscated by security personnel or contest officials and may result in disqualification. Replicas of such items that are obviously not real are permissible. Please contact your teacher and contest coordinator to confirm guidelines before bringing the replica to a contest.

#### 10) Title

Your entry must have a title that is clearly visible on all written materials.

## 2. Submission of Written Material

### 1) Written Material

You can download the written material from our website. Your entry must include the following written material in the order presented below:

- a) Title page as described in 2.2
- b) Process paper as described in 2.3
- c) Annotated bibliography as described in 2.4-2.6

Fill in all the information in official website [www.gnhd.org](http://www.gnhd.org), it will generate a PDF format document, please print it out and submit when register. These materials must be typed or neatly printed on A4 paper, and stapled together in the top left corner. Do not enclose them in a cover or binder. You must provide THREE copies of these materials on the check-in day at all levels of competition.

### 2) Title Page

A title page is required as the first page of written material in both categories. Your title page should only include the title of your entry, your name(s), and registration ID and category in which you are entered.



### 3) Process Paper

All entries must include a process paper with the entry. It must describe in 600 words or less how you conducted your research and created your project. The process paper must include four sections that explain:

- a) What inspired you to choose your entry title;
- b) How you conducted your research and identified the primary sources;
- c) How you selected your presentation category, created your project, and experienced working in a team alongside a mentor;
- d) How your project relates to the theme and how it contributes to your awareness of global and environmental issues.

### 4) References

You do not need to list all the references. We only need those which have contributed to creating your project.

### 5) The Separation of Primary and Secondary Sources

You are required to separate your bibliography into primary and secondary sources.

- a) Primary sources: original resources. For example, specimen, pictures, interviews, personally collected data and other objects.
- b) Secondary sources: resources from other research by other scientists, including graphs, tables, textbooks and written material.

### 6) Annotated Bibliography

An annotated bibliography is required for both categories. The annotations for each source must explain how you used the source and how it helped you understand your topic. Use the following format for annotated bibliography:

#### Interview:

Name of the interviewer/the person who is asking the questions, Interview with [...] Place, date, time (time only if you are using part of the whole interview).

#### Journal:

Author, "Title of the article", Title of the Journal (Year, edition) page.

#### Book:

Author, Title of the book (Publisher, Year) Page.

#### Newspaper:

Author, "Title of the article", Name of the newspaper (Year-month-date) page



### 7) Plagiarism

You must acknowledge in your annotated bibliography all sources used in your entry. Failure to credit sources is plagiarism and will result in disqualification.

## 3. Get Involved

### 1) Online Registration

All participants log in the GNHD® official website [www.gnhd.org](http://www.gnhd.org), enter your phone number or email address as your user name, and set up a password to complete the user registration process.

Use your user name to log into the personal center, fill out your personal information to generate a unique ID.

Once you have confirmed that both your mentor and partner have IDs, you can set up a team. Fill in the name and IDs of the mentor & students, and choose your contest category (exhibit/performance). Once established, a team entry code will be generated.

When you create a team, do not make mistakes on the choice of "Division" and "Age group", the two pieces of information directly related to the generation of the entry code, and will not be changed once generated.

The closing time of "Create a team" port is one week before the first round of judging activities in your division.

If you want to change any personal information (excluding name, gender, date of birth), you can update your information in the personal center.

After enter the ID and ID number, please do not change it arbitrarily to avoid affecting information verification if no mistakes.

### 2) Contest confirmation

For preliminaries, Semi-finals, and Global Finals, you are required to visit the official website [www.gnhd.org](http://www.gnhd.org) within the specified time for "Contest confirmation".

When confirm the contest, the system will automatically match the race stage, race zone and age group according to the race entry code. After confirm the race category (exhibit/performance), the system will edit and preview the process record and reference materials online. After the information is submitted, the system will automatically generate "Contest confirmation form" and "Reference material", which will be stored in the user's "Contest document".

In preliminaries and Semi-finals, the closing time of “Contest confirmation” port is one week before each round of judging activities. In Global finals the opening and closing times of the “Contest confirmation” will be announced separately.

For example, the pre-selection time of a certain event is on May 19th, 2019, and the closing time of "Build a team" and "Contest confirmation" of the event is at 24:00 on May 11st, 2019.

### 3) Preliminary Contest

The written material for your entry is to be submitted online before the deadline. Participants should print out the confirmation letters and bring them to the contest. The winners of the preliminary contest will be eligible to participate in the Global Finals on 18th-26th July, 2019 at Shanghai, China.

### 4) 2019 Global Finals Shanghai

The number of participants are determined by the local coordinator, based on the participant's grades and allocated quotas.

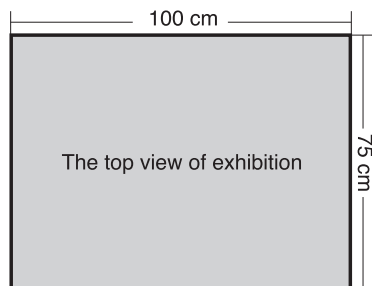
## III. Category Rules

### 1. Exhibit

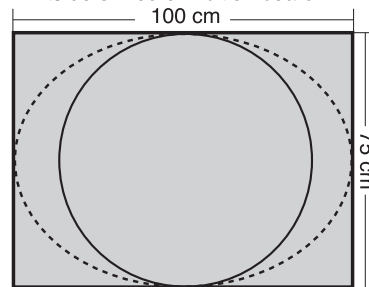
An exhibit is a visual representation of your research and interpretation of your topic's significance to natural science, much like a small museum exhibit. The analysis and interpretation of your topic must be clear and evident to the viewer. Labels and captions should be used creatively with pictures and objects to enhance your exhibit.

#### 1) Size Requirements

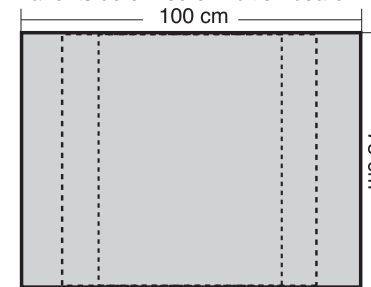
The overall size of your exhibit when displayed for judging must be no Larger than **100cm wide, 75cm deep, and 180cm high**. Measurements of the exhibit do not include the table on which it rests; however, it would include any stand that you create and any table drapes. Circular or rotating exhibits or those meant to be viewed from all sides must be no more than **75cm** in diameter.



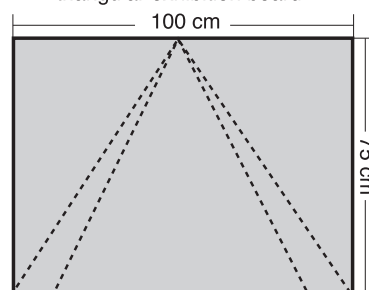
The top view of the circular and its deformed exhibition board



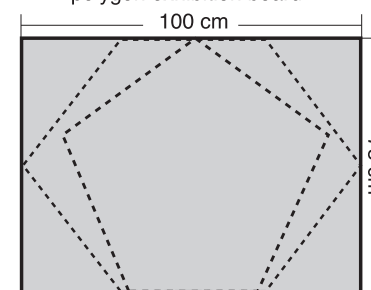
The top view of quadrangle and its deformed exhibition board



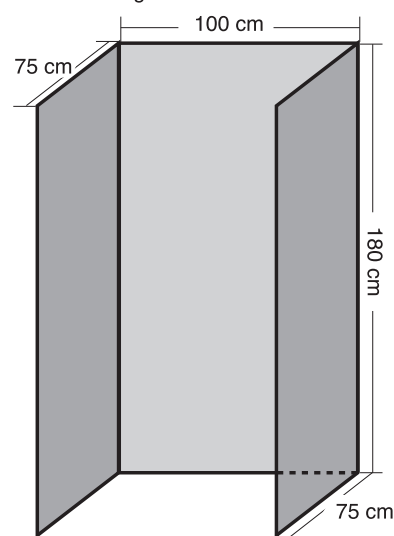
The top view of the triangular exhibition board



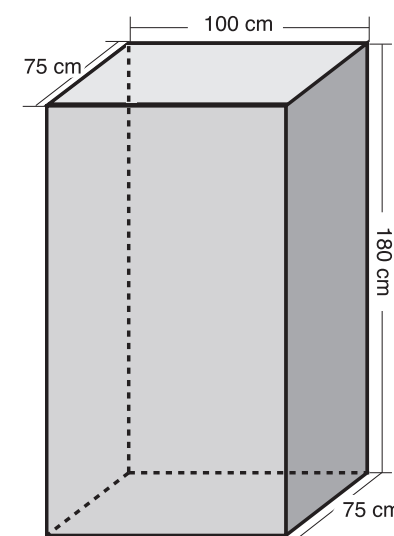
The top view of the polygon exhibition board



45° side view of triangular exhibition board



45° side view of closed exhibition board







## 2) Media devices

Media devices (e.g., DVD players, projectors, video monitors, computers) used in an exhibit must not run for more than a total of 3 minutes and are subject to the 500-word limit. Viewers and judges must be able to control media devices. Any media devices must fit within the size limits of the exhibit. Any media devices used should be integral to the exhibit – not a method to bypass the live student involvement expectation. For example, a brief excerpt from a taped student-conducted oral interview or a dramatic reading is appropriate, but taped commentary or analysis is inappropriate.

## 3) Word Limit

A 500-word limit applies to all text created by the student that appears on, or as part of, an exhibit entry. This includes the text you write for titles, subtitles, captions, graphs, timelines, media devices (e.g., video, slides, computer files), or supplemental materials (e.g., photo albums, scrapbooks, etc.) where you use your own words. Brief citations crediting the sources of illustrations or quotations included on the exhibit do not count toward the 500-word limit.

Tip: Please make sure the information is clear and relates to the topic and the theme. Judges will not spend too much time on one exhibit, thus too many supplemental materials would be unnecessary.

## 2. Performance

A Performance is a dramatic portrayal of your topic's significance to natural science and must be original in production. It must be scripted by you and based on the research of your chosen topic. Your performance should have dramatic appeal, but not at the expense of scientific information.

### 1) Time Requirements

Performances may not exceed **8 minutes** in length. Timing starts at the beginning of the performance following the announcement of the title and student name(s). Any other introductory remarks will be considered part of the performance and will be counted as part of the overall time. You will be allowed an additional **3 minutes** to set up and **3 minutes** to remove any props needed for your performance.

NOTE: You should allow several empty seconds in your performance to account for unplanned pauses (e.g., applause, forgotten lines, etc.)

### 2) Performance Introduction

The title of your entry and the names of the participants must be the first and only announcements prior to the start of the performance.



## 3) Media Devices

Use of slides, tape recorders, computers, or other media within your performance is permitted. You must provide and run all equipment, as well as carry out any special lighting or sound effects.

## 4) Script

The script for the performance should not be included with the written material presented to the judges

## 5) Costumes

You may have a costume produced for you, but the design, choice of fabrics, etc., must be your own. You may also rent a costume. Remember: simple is best.

## IV. Entry Judging

### 1. The Advantages of the Evaluation Process

Global Natural History Day<sup>®</sup> is about a high quality educational experience, whether or not you win a prize. Judges provide evaluations to validate your hard work and to help you continue to learn and develop your skills. Judges' comments will include positive feedback as well as ideas for revisions and enhancements. This feedback may be applied during the current year when moving from one contest level to the next and/or to next year when developing a new entry. Rules and criteria as well as the judging process help you focus on high quality project development based on research, analysis and interpretation, creativity, effective writing, time management, and interpersonal communication. The skills you develop will last your entire life. While the medals are nice, truly, every participant is a winner.

### 2. Who are the Judges?

Natural scientists, educators, and other experts who possess relevant experience serve as judges in the GNHD<sup>®</sup> contests.

### 3. How does the Evaluation Process work?

A panel consisting of three to five judges evaluates a set of entries from a specific division and entry category (e.g., Senior Individual Performance). Judges attend an orientation session before the process begins. Due to the large number of preliminary contests, one category may have several panels of judges. In the final contest, we have one panel of judges to keep the consistency.

### 4. Consensus Judging

Judges follow a non-numerical, consensus (agreement) process. Each judge completes an evaluation form and is highly encouraged to provide helpful feedback. After reviewing the entries in a set, the judges adjourn to discuss the merits of each entry. They collectively determine the entries that will advance to the next level of competition.





## 5. The Subjective Nature of Judging

While some elements of entries may be evaluated objectively (e.g., time/word limit use of sources, inclusion of an annotated bibliography, correct spelling, etc.), much of an entry is subjectively assessed (e.g., analysis and conclusions about the topic). You will want to base your interpretations and conclusions on solid research, provide a clear contextual foundation for your topic, highlight the connection between your topic and the theme, overtly state your thesis, clearly show different points of view, and articulate the significance of your topic to natural science.

## 6. Judges' Decisions

Individual judges' evaluation sheet ratings and comments can vary tremendously. It is possible that an entry that receives high marks from one panel of judges will not be declared a winner while an entry evaluated by a different judging panel with lower marks may advance to the next level of competition. This reflects the subjective nature of judging as the consensus process. Each judging panel may have different ways of scoring, so it is difficult and irrelevant to compare scores between different judging panels. Contest officials wish to be informed of possible problems or errors that may have occurred. However, the decision of judges is final. Judges are instructed not to discuss their decisions outside their panel. Participants, parents, and teachers shall not approach or question judges regarding their decisions.

## 7. What are the Criteria?

### 1) *Natural Scientific Quality*

The most important aspect of your entry is its natural scientific quality. You should ask yourself the following questions to help you focus on your analysis:

- Is the entry placed accurately in the context of natural science in relation to the announced theme?
- How well does my entry provide analysis and interpretation of the research gathered from primary sources?
- Does my entry showcase an understanding of natural science?
- How well does my entry demonstrate a balanced presentation of materials?
- How well does my entry demonstrate use of primary sources?
- Does my exhibition/presentation demonstrate wide research, understanding, and analysis of my topic?

### 2) *Relation to the Annual theme*

Your entry must explain clearly the relation of your topic to the annual Global Natural History Day theme. You should ask yourself the following questions to help focus your topic on the theme and its significance.

- How does my topic relate to the annual theme?
- Why is my topic important?



## 3) *Clarity of Presentation*

Although scientific quality is most important, your entry must be presented in an effective manner. You should ask yourself the following questions to help you focus on your presentation.

- Is my entry original, creative, and imaginative in subject and presentation?
- Is my written material clear, grammatically correct, and accurately spelled?
- Is my research well organized?
- Is the visual material easy to understand?

## 4) *Awareness and impact*

One of the goals of Global Natural History Day is building a sense of awareness and responsibility for the present and future state of the natural world and environment. With all the research and work you put into GNHD, what did you learn and what can you do to continue your understanding and to raise awareness? Furthermore:

- What does the future hold for your chosen topic?
- What can be done to raise awareness, understanding, and action?
- How will mitigating factors influence these outcomes in the future?
- What can be done to protect or raise awareness about your research topic?

## 8. Rule Compliance

Judges will take into consideration in their final rankings any rule infraction. Failure to comply with the rules will count against your entry. Rule infractions should be corrected before a winning entry competes in the next level of competition.

## 9. Sample Judgare's Evaluation

Evaluation forms available on GNHD®'s website. The participants can improve their entries according to the more specific criteria in those forms.

## 10. Copyright

- Every team should grant GNHD® the right to publish their entries in books, on disks, and in journals & magazines.
- The entries may be put on the GNHD® website for other students' learning purposes.
- GNHD® has the right to publish the entries on media (television, newspaper, journals and the Internet) for students' learning purpose.

## 11. Prohibitions

- All the entries must not violate laws, regulations and social moralities.
- All the entries should be environmental friendly and must not violate human rights.



## V. Category Checklist

### 1. Exhibit

- a) Exhibit is no larger than **100cm wide,75cm deep and 180cm high** when displayed.
- b) **3 copies of written materials** should be prepared and brought to the contest. Electronic versions should be submitted online. These include the title page with required information, and the 1000-word description of the research methods used.
- c) Exhibit addresses the theme.
- d) Title is clear and visible.
- e) Labels, captions, and titles include no more than 500 words.
- f) Exhibit has visual impact and shows interpretation.
- g) “Registration”, “Contest Confirmation” and other procedures are completed before every required deadline.
- h) “Contest confirmation” and ID (original or photocopy) are brought to each round of judging.
- i) Preparation for answering judges’ questions at the contest (formal narratives are not necessary when responding to questions) has been made.

### 2. Performance

- a) Performance does not exceed **8 minutes**.
- b) Set-up and take-down of props take no more than **3 minutes each**.
- c) **3 copies of written materials** should be prepared and brought to the contest. Electronic versions should be submitted online. These include title page with required information, and 1000-word description of the research methods used.
- d) “Registration”, “Contest Confirmation” and other procedures are completed before every required deadline.
- e) “Contest Confirmation” and ID (original or photocopy) are brought to each round of judging.
- f) Performance addresses the theme.
- g) All props and equipment are supplied by performer.
- h) Only performer runs equipment and is involved in the performance.
- i) Extra supplies and materials are prepared in case of emergency.
- j) Preparation for answering judges’ questions at the contest (formal narratives are not necessary when responding to questions) has been made.



## VI. 2019 Schedule

### 1. Online Registration Stage

The timing and arrangement of the contest will be decided by the local coordinator.

### 2. Preliminary Contest Stage

The timing and arrangement of the contest will be decided by the local coordinator.

### 3. Global Finals

The Global Finals will be held on July 18th-26th,2019,at Shanghai,China.

We hope to have adequately informed you about GNHD 2019. Good luck!

## 2019 GNHD Annual Theme:

# Future: Foreseeability? Unpredictability?

Whether it is the vast universe or the material seen in front of the eyes, all have their own laws of operation-----the laws of nature.

**The annual theme of Global Natural History Day in 2019, let's think from the perspective of "Foreseeability and unpredictability" to explore the laws of nature and its front and back.**



2019 Annual Theme Logo

## Solar terms and phenology

Once master the conditions, the results can be foreseen. This is the foreseeability (repeatability) of the laws of nature. For example, Chinese twenty-four solar terms.

The twenty-four Solar Terms is the product of the long-term observation and research of the astronomy and meteorology by ancient working people. The twenty-four Solar Terms, include the climatic change between the winter and the summer, as well as the response of rainfall conditions. Through it we can intuitively understand the law of climate change in a year, so as to master the agricultural time and rationally arrangement of farming activities. It is not only played a guiding role in agricultural production, but also affected the basic necessities of the ancients' life, and even cultural concepts.

In ancient Egypt, priest was the person who specialized in the laws of nature. Thus they foresee when the Nile will rise and fall, and when the crops will be planted...

## Natural Disaster

Unpredictability (randomness) as opposed to predictability is also ubiquitous and occurs from time to time in nature.

Every year there are more than 5 million times earthquakes occurred on earth, which means every day tens of thousands of times earthquakes occur. However, most of them are too small or too far from us, so people don't feel it. The earthquakes that can cause serious harm to human is about less than twenty times a year all around world. An earthquake that can cause extremely serious

disasters such as Tangshan of China, Wenchuan of China, the Caribbean, and Japanese Hanshin is about one or two times a year.

Earthquake prediction is a worldwide scientific challenge. We should take a scientific approach to observe the earthquakes for long-term and accumulate a large amount of data, and systematically conduct basic research on the interior of the earth, and then we can grasp the law of earthquake occurrence, and gradually realize prediction of earthquakes. The technology will ultimately serve human society.

In addition to earthquakes, the natural disasters in the earth include typhoon, floods, tsunami, debris flow, forest fire, etc. Some of these can be foreseen in advance and some are unpredictable. Only by studying and understanding the relevant laws of nature deeper, we can better predict disasters.

## Gene mutation

The unpredictability of natural disasters poses a hazard to humans, but randomness also brings many benefits. The most famous example is genetic mutation.

Although the gene is very stable to decide what kind of look we will grow into, but this stability is relative. When the cell divides, the replication of the genetic gene is wrong, or it is affected by chemicals, radiation, viruses... Many reasons lead to gene mutation, causing a change in a certain base of the gene, deletion of multiple bases, repetition...

This unpredictable mutation in the gene can cause the cell to malfunction or die, causing cancer. But this mutation is also a driving force for evolution: wrong, undesired mutations are eliminated by natural selection, and mutations that are beneficial to the species are accumulated. It is evolution that lead to diverse organisms in our current diverse earth habitat.

Every day we are surrounded by accidents and random events. In the nature world that we live, foreseeability and unpredictable are with it.

