

# Lightning Safety



# PERSONAL LIGHTNING SAFETY IN 10 LESSONS

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## 1. WE INTRODUCE OURSELVES ---

CREDENTIALS – WHO ARE WE?

WHERE DO WE WORK?

PERSONAL INFO./ EDUCATION/ ETC.

WHERE DO WE LIVE?

WHY WE ARE DOING THIS DVD?

## 2. THE LIGHTNING HAZARD IS A SERIOUS TOPIC FOR DISCUSSION.

THERE ARE 25,000 DEATHS AROUND THE WORLD EACH YEAR. AND HUNDREDS OF THOUSANDS OF INJURIES. MANY INCIDENTS CAN BE AVOIDED AND PREVENTED.

THERE ARE SIMPLE STEPS TO TAKE TO INCREASE SAFETY FROM LIGHTNING.

3. SO...MY FRIENDS  
& MY STUDENTS --  
PLEASE PAY  
ATTENTION TO THIS  
IMPORTANT  
TOPIC

## Thunderstorm Days Per Year

Most of Europe	15-40
England	5-10
Argentina	30-80
Colombia	
Cerromatoso	275-320
Brasil	40-200
USA	
Florida	90-110
Colorado	65-100
Japan	35-50
Australia	10-60
Malaysia	180-260
Indonesia	180-260
Bogor (1988)	322
Singapore	160-220

**About 2000 global continuous  
Thunderstorms deliver about  
75-100 strikes/sec. to earth.**



National Lightning  
Safety Institute  
891 N. Hoover Ave  
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DEATHS BY LIGHTNING  
No place outside is safe.



# 4. LIGHTNING HAS BEEN A PART OF HISTORY ACROSS ALL CULTURES IN ALL THE WORLD --

A FEW EXAMPLES:

\*INDRA, GOD OF THUNDER & STORMS (Vedic)

\*LEI-KUNG, PRINCE OF THUNDER (China Tao)

\*TLALOC, GOD OF RAIN (Mexico Aztec)

\*HEVIOSO, GOD OF THUNDER (West Africa)

\*ZEUS, GOD OF LIGHTNING (Greek)

\*APU ILLAPA, GOD OF THUNDER (Peru Inca)

\*RAI-JIN, SPIRIT GOD OF THUNDER (Japan)

\*UMPUNDULU, LIGHTNING BIRD (So. Africa)

CHINESE DEITY LEI-KUNG - THE PRINCE OF THUNDER.





TLALOC, AZTEC GOD OF RAIN AND LIGHTNING (MEXICO).

## 5. MANY MYTHS ---

COLONIAL AMERICA : IF LIGHTNING STRUCK YOU, THAT WAS EVIDENCE YOU WERE A WITCH AND A BAD PERSON. NOT TRUE.

TRIBAL INDONESIA: BURY THE HEAD OF AN OX POINTING NORTH AND UPSIDE DOWN NEAR YOUR HOUSE AND LIGHTNING WILL NOT VISIT YOU THERE. NOT TRUE.

TRIBAL AFRICA: LIGHTNING STRIKES ONLY EVIL PEOPLE. THEY MUST BE REMOVED FROM THE VILLAGE. NOT TRUE.

PRESENT TIMES: IF LIGHTNING STRIKES A PERSON, DO NOT TOUCH HIM BECAUSE YOU COULD BE SHOCKED BADLY. NOT TRUE.

PRESENT TIMES: RUBBER TIRES (BICYCLE) INSULATE AND PROTECT YOU. NOT TRUE.

# 6. THE HAZARD CAN NOT BE IGNORED --

LIGHTNING'S BEHAVIOR IS 100% RANDOM AND UNPREDICTABLE. THE BEST DEFENSE IS TO RECOGNIZE (BE AWARE OF) THE UNSAFE SITUATION AND MOVE TO A SAFE LOCATION.

THE SAME AWARENESS APPLIES TO OTHER DANGERS, SUCH AS:

SNAKES - FALLING ROCKS - FLOODS

DEEP HOLES IN THE ROADWAY

PEOPLE SHOOTING GUNS ETC. ETC.

CAN YOU NAME SOME OTHER DANGERS?

# 7. THUNDER IS THE EARLY WARNING DANGER SIGNAL.

THUNDER ALWAYS HAPPENS WITH LIGHTNING. THUNDER IS A SHOCK WAVE (ACOUSTIC NOISE). IT IS CAUSED BY LIGHTNING'S SUPER-HEATED GAS+ELECTRIC CHANNEL BREAKING APART THE AIR. A VERY BIG NOISE LIKE THUNDER OFTEN CAN BE HEARD ABOUT 10-12 KM DISTANT.

IF YOU SEE THE LIGHTNING BUT DO NOT HEAR THE THUNDER, THE DANGER IS MORE DISTANT THAN 10-12 KM.

BUT DO NOT TAKE CHANCES. WHEN YOU HEAR THUNDER, IT IS TIME TO STOP ALL ACTIVITIES AND GO TO A SAFE LOCATION.

# 8. WHEN HEARING THUNDER OR SEEING LIGHTNING LEAVE DANGEROUS PLACES RIGHT AWAY

## NOT SAFE PLACES:

- LEAVE AREAS WHERE THERE IS WATER
- LEAVE PLACES NEAR A SINGLE TALL TREE
- GET AWAY FROM ALL METAL OBJECTS
- DO NOT TOUCH ELECTRICAL EQUIPMENT
- DO NOT STAY NEAR HIGH AREAS
- LEAVE OPEN FIELDS & OPEN HILLSIDES

### BETTER PLACES:

- NEAR MANY BUSHES AND FORESTED AREAS
- IN TALL GRASSES
- DRY PLACES IF POSSIBLE
- LOWER PLACES, NOT HIGH LOCATIONS

### THE BEST PLACES:

- LARGE PERMANENT BUILDINGS, AVOIDING METAL THINGS AND ELECTRICAL THINGS
- ALL METAL, FULLY-ENCLOSED VEHICLES. BUSES, VANS, TRUCKS, AUTOMOBILES WHICH HAVE CLOSED WINDOWS AND CLOSED DOORS ARE EXAMPLES

**EXAMPLES OF VERY GOOD LIGHTNING SHELTERS**

***(Metal structures and vehicles conduct lightning only on the outside: people inside are safe.)***



## **EXAMPLES OF VERY BAD LIGHTNING SHELTERS.**

***(The Bus is made of Fibreglas plastic which is NOT a conductor like metal vehicles.***



# 9. LET'S REVIEW THE LIGHTNING SAFETY AND DEFENSES.

- A. HEARING THUNDER GIVES IMMEDIATE WARNING OF THE HAZARD
- B. NOTIFY OTHER PEOPLE OF THE DANGER
- C. EVERYBODY LEAVE DANGEROUS PLACES
- D. SELECT THE SAFEST PLACES FOR REFUGE
- E. REMAIN THERE UNTIL NO MORE THUNDER
- F. GO BACK TO YOUR ACTIVITIES

10. CONCLUSION –  
YOU CAN BECOME  
A TEACHER OF  
LIGHTNING SAFETY.  
TELL ALL YOUR  
FRIENDS ABOUT  
THIS MESSAGE.

*THANK YOU !*

*NATIONAL LIGHTNING SAFETY INSTITUTE*