

Minuteman Missile Junior Ranger Program !

Welcome Junior Rangers to Minuteman Missile National Historic Site! Minuteman Missile is part of the National Park system. The National Park system protects and conserves 389 outstanding examples of America's greatest natural and historic resources. Minuteman Missile is the only National Park unit that tells the story of **the Cold War**.

Minuteman Missile National Historic Site was established in 1999. The National Historic Site is made up of two facilities, Launch Control Facility Delta-01 and Launch Facility Delta-09. The Launch Control Facility building offered topside support for two missileers stationed underground in a Launch Control Center. In the event of a Soviet nuclear strike against the United States, the missileers could launch ten Minuteman missiles of the Delta flight. Launch Facility Delta-09 is a missile silo. Today, a Minuteman II missile is on display for visitors to view.



Launch Control Facility Delta-01



Launch Facility Delta-09

Your mission: This Junior Ranger program is made up of the following five missions.

- 1. Ready for launch: Questions? Questions?**
- 2. Countdown: Symbols of Strength**
- 3. Launch In Process: Secret Codes**
- 4. Launch: Missile Jobs**
- 5. Missile Away: Putting It All Together**

Choose any four of these missions to complete the program. Once you have completed the program mail it or give it to the ranger. The ranger will then grade your work to see if you qualify as Minuteman Missile's newest Junior Ranger!

Note to Parents or Guardians: This Junior Ranger program deals with concepts and realities that some children may not be comfortable with or may be beyond their understanding. We encourage you to help and interact with your child, but let her or him do as much of the work as possible.

The **Cold War** lasted from 1945-1989. During that time there was a long and troubled conflict between the **United States and Soviet Union**. These two nations were in competition to see which of their economic and governmental systems would rule the world.



United States

Versus



Soviet Union

This led both nations to engage in a Cold War. This war was characterized by a huge weapons buildup on both sides. These weapons included nuclear ones, which were so destructive that they were only to be used as a last resort. The Cold War never turned into a “hot” or shooting war between the two nations mainly because nuclear weapons were too dangerous to ever use. A nuclear war could have led to the destruction of both nations and probably civilization.

One of the best nuclear weapons systems that the United States ever built and made operational was the **Minuteman Missile**. The Minuteman Missile was America’s first solid fuelled Intercontinental Ballistic Missile System (ICBM). It could strike a target up to 6,300 miles away. The missile’s precise accuracy could bring it to within a half mile of the target, where it could detonate a warhead. This warhead could destroy everything within several miles of the target area. Most importantly, its solid fuelled technology meant it could be launched at a moment’s notice, thus it was given the name Minuteman.



Minuteman Missiles were only to be used in the event that the Soviet Union attacked the United States with nuclear weapons. It was thought that the Soviets would not attack the United States because they knew that Minuteman’s survive the attack and then be launched in return at the Soviets. This would almost assuredly lead to Soviet destruction. Minuteman Missiles have been operational since 1962. There were 1,000 deployed across the Great Plains region by 1967. They have never been launched in a war. Thus, the Minuteman helped keep the peace for the last thirty years of the Cold War.

Mission 1 - Ready For Launch: Questions? Questions?



Your mission: As you start your journey to become a Junior Ranger, Minuteman Missile would like to know more about you. In addition, we would like to tell you a little bit ourselves and our mission.

Who – are you? _____

What – brought you to Minuteman Missile? _____

When – were you born? _____

Where – are you from? _____

How – did you find out about Minuteman Missile? _____

Now we would like to see how much you know about Minuteman Missile. Use the information found on the introductory page to answer the following questions.

Who – were the two main nations fighting the Cold War? _____

What – was the Cold War? _____

When – did the first Minuteman Missiles become operational? _____

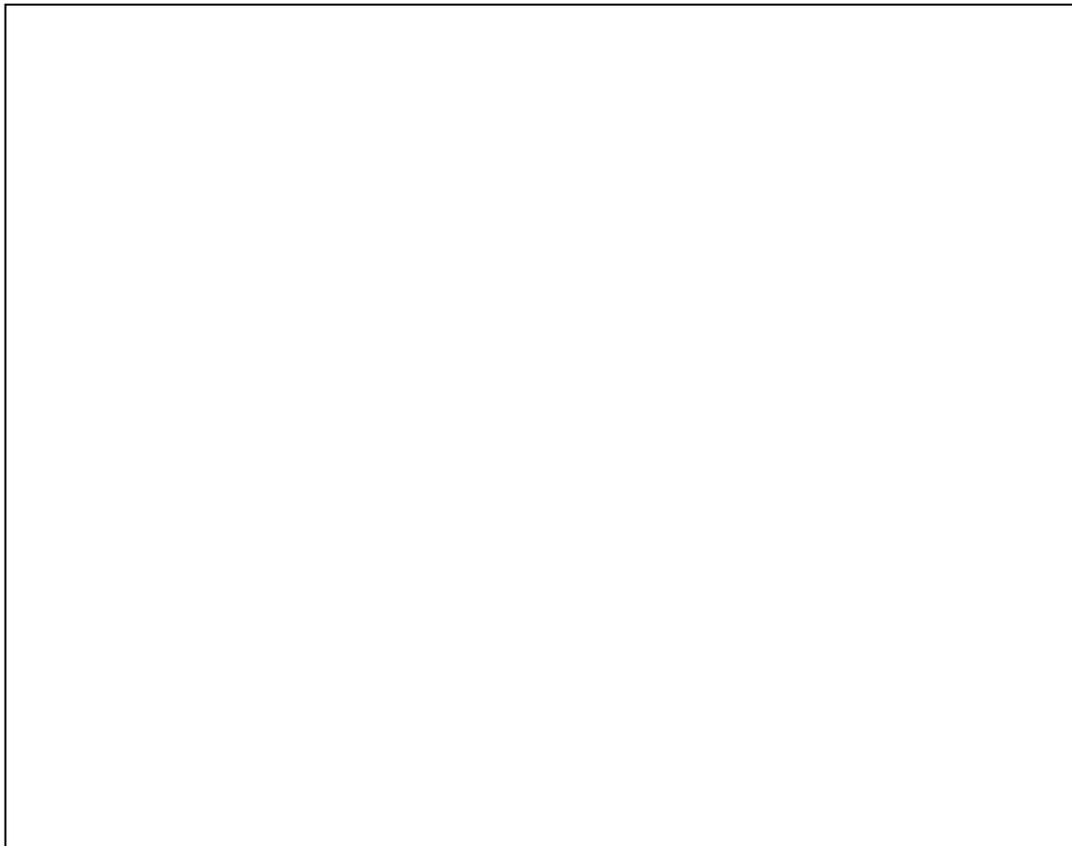
Where (region) – were Minuteman Missiles deployed in the United States?

How – many Minuteman Missiles were operational during the Cold War? _____

Mission 2 - Countdown: Symbols of Strength

The 150 Minuteman Missiles in South Dakota were known as the 44th Missile Wing. Each wing was made up of three squadrons of 50 missiles. The Air Force personnel who worked in each squadron took great pride in protecting the United States. Squadron personnel developed logos to display their sense of mission. The logos shown below all symbolize in their own way the strength of the Minuteman system and the Air Force.

Your mission: Study the logos below, then design, draw and color your own Minuteman Missile logo.



Mission 3 – Launch In Process: Secret Codes

Many of the Air Force personnel that worked in the missile field gained access to the launch control centers and silos if they first authenticated secret codes. These secret codes helped keep the missile field secure. Top secret codes were also used to perform a missile launch.

The phonetic alphabet was used by Air Force personnel when authenticating their codes. The phonetic alphabet assigns code words to the letters of the alphabet. By pronouncing the letters as words, voice messages by radio or telephone are easier to understand. Study the phonetic alphabet below as you prepare to decode a message.

A	Alpha (AL fah)	N	November (no VEM ber)
B	Bravo (BRAH VOH)	O	Oscar (OSS cah)
C	Charlie (CHAR lee)	P	Papa (pah PAH)
D	Delta (DELL tah)	Q	Quebec (keh BECK)
E	Echo (ECK oh)	R	Romeo (ROW me oh)
F	Foxtrot (FOKS trot)	S	Sierra (see AIR rah)
G	Golf (GOLF)	T	Tango (TANG go)
H	Hotel (hoh TELL)	U	Uniform (YOU nee form)
I	India (IN dee ah)	V	Victor (VIK tah)
J	Juliet (JEW lee ETT)	W	Whiskey (WISS key)
K	Kilo (KEY loh)	X	X Ray (ECKS RAY)
L	Lima (LEE mah)	Y	Yankee (YANG key)
M	Mike (MIKE)	Z	Zulu (ZOO loo)

Your mission: assign each letter of the phonetic alphabet a number in ascending order. For example: Alpha will be 0, Bravo 1, Charlie 2 all the way to Zulu which will be 25.

Below you will find a series of coded messages which must be decoded to answer the questions which follow them.

1. Message: Bravo – Foxtrot - Alpha

Question: Number of Minuteman Missiles in the South Dakota during the Cold War?

_____.

2. Message: Lima - Tango – Golf - Bravo

Question: The groundbreaking to build Minuteman Missile silos across Western South Dakota occurred on September _____ of _____.

3. Message: Tango – Juliet - Bravo

Question: The year Minuteman Missiles were taken off alert in South Dakota

_____.

4. Message: Foxtrot – Alpha - Alpha

Question: Number of Minuteman Missiles still operational in the United States? _____

Mission 4 – Launch: Missile Jobs



There were many jobs available at the Launch Control Facility (LCF) – facility manager, flight security controller, security alert team, cook, and missile combat crew. All of these Air Force personnel were stationed at Ellsworth Air Force Base near Rapid City, South Dakota and had to drive to the LCF for their duty.

The **facility manager** was on duty for a three-day alert tour. The facility managers were responsible for managing the facility and supervising the topside crew. The facility manager was one of the only LCF personnel assigned a single room.

The **flight security controller** was also on duty for a three-day alert tour. From the security control room they monitored the LCF grounds, checked identification of visitors, and supervised the security police.

The **security police** checked the LCF site and responded to any security breaches in an armored vehicle.

One **cook** was scheduled for each three-day alert tour. The cook was responsible for serving four meals a day – breakfast, lunch, dinner, and a midnight meal.

The **missile combat crew** tour of duty was twenty-four hours. They worked from the Launch Control Center (LCC), located in a capsule below ground. Their most important responsibility was constant vigilance and preparation to launch Minuteman missiles under their control.

Your mission: Below are a series of pictures from both inside and outside of Launch Control Facility Delta-01. Use the job descriptions on the previous page to help you decide which of the Air Force personnel would live and work in these areas (or vehicles!). Write your answers in the blank beside the picture.









Mission 5 –Missile Away: Putting It All Together

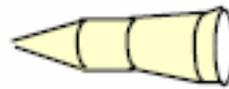
Study the following parts that make up a Minuteman Missile, than turn to the next page to find out **Your Next Mission!**



A. Second Stage Motor - this goes in the middle of the missile and provides it further boost after the first stage has burnt out



B. Missile Guidance – this tells the missile where to go, it is just beneath the nosecone



C. Nosecone - this contains the warhead, it is at the top of the missile



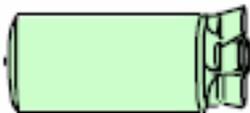
D. Interstage - this piece goes between the first and second stages



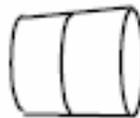
E. Skirt – this covers the first stage rocket's nozzle and tail at the bottom of the missile



F. First Stage Motor – this stage launches the missile out of the silo and into the air, it is the lowest stage on the missile



G. 3rd Stage Motor - this gives the missile its final boost, it is located above the second stage



H. Interstage 2 – this piece goes between the second and third stages

Putting together a Minuteman missile is tough stuff. The missile is made up of thousands of individual parts. These parts must fit together perfectly so the missile will work. If even one part is in the wrong place the missile will not launch. It took over five years for the missile to be designed, developed and constructed.

Your mission: Fortunately there are only eight Minuteman missile parts on the previous page. See if you can put all these parts in the correct working order, from top to bottom. To help you complete the mission read the descriptions of each part carefully. These descriptions hold clues to putting the missile together in the proper order. Write your answers below, starting from the top and working your way down.

_____ (Top piece)

_____ (Bottom Piece)

Congratulations! You have now completed the Minuteman Missile Junior Ranger program. To make sure you receive an official Junior Ranger certificate and patch write your name and address in the spaces provided below.

Name: _____

Address: _____

Our Mailing Address: Minuteman Missile National Historic Site
21280 SD HWY 240
Philip, SD 57567

