

FEATURING
PEACE THROUGH
DETERRENCE!



Junior MISSILEER HANDBOOK

**TITAN
MISSILE
MUSEUM**
AND NATIONAL
HISTORIC
LANDMARK

**AMERICA'S
MOST
POWERFUL
ICBM!**



SAHUARITA, AZ
titanmissilemuseum.org

Welcome to the Titan Missile Museum!

The Titan Missile Museum Junior Missileer program is designed to help you understand more about what the Titan II missile was, how it worked, and why the United

States needed it. Complete as many of the activities as you can. When you have finished, one of the docents will sign your certificate and award your Junior Missileer Badge!

Good luck, future Junior Missileer!



JUNIOR MISSILEER CODE OF CONDUCT

Junior Missileers will not touch anything at the Museum without permission

Junior Missileers treat others with respect

Junior Missileers will thank their Tour Guide at the end of the Tour

JUNIOR MISSILEER PLEDGE

Junior Missileers will learn the mission of the Titan II – Peace through deterrence

Junior Missileers will promote peace through their actions

Junior Missileers will tell at least one other person about what they learned on their visit

The Titan Missile Museum is a National Historic Landmark, and the only remaining Titan II missile site open to the public. For more than two decades, Titan II missiles across the United States stood “on alert” 24 hours a day, seven days a week, assuring peace through deterrence.

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Sahuarita/Green Valley, Arizona
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The Junior Missileer Program is funded in part by contributions from the Country Fair White Elephant, Inc.

Mission of the Titan II Missiles

DID YOU KNOW?

- The **COLD WAR** took place after World War II when the US and former Soviet Union distrusted each other and thought the other wanted to take over world. They threatened, but never actually came to war.
- Both sides started an **ARMS RACE** when they stockpiled jets, missiles, and nuclear bombs so they'd have more than the other side.
- **TITAN II MISSILES** were part of Cold War arms race. Titan II missiles:
 - ✓ Were intercontinental ballistic missiles, or **ICBMs**, that could fly from one continent to another.
 - ✓ Could be launched quickly and were stored in specially built silos that could withstand the effects of a **NEAR MISS** – an enemy bomb that exploded close by.
 - ✓ Carried one hydrogen bomb (H-bomb or nuclear bomb) – the most powerful, destructive bomb ever made.
 - ✓ Were **RETALIATORY** weapons that would not be used to start a war, but only to try to stop one started by the enemy.
 - ✓ Could only be launched on order of the **PRESIDENT** of the United States because they were so destructive.
 - ✓ Were weapons of **DETERRENCE**. The enemy was afraid to attack because they knew we could respond with powerful weapons.

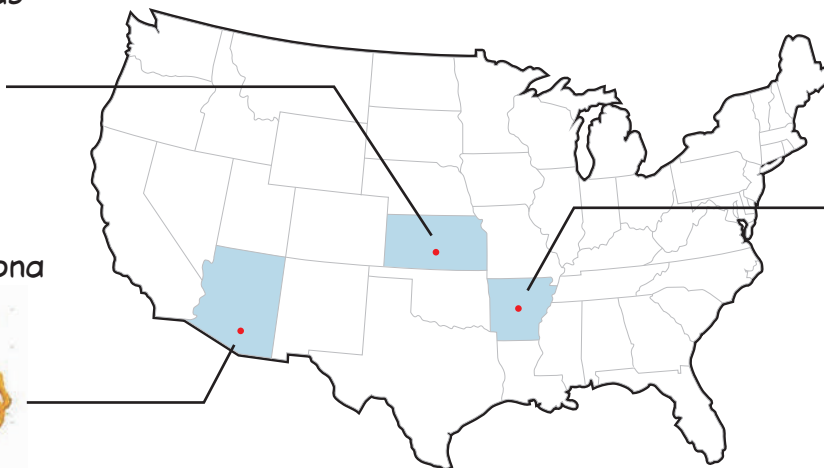
PEACE THROUGH DETERRENCE was the primary mission of the Titan II Missiles

The US had 54 Titan II missiles located near 3 cities:

Wichita, Kansas



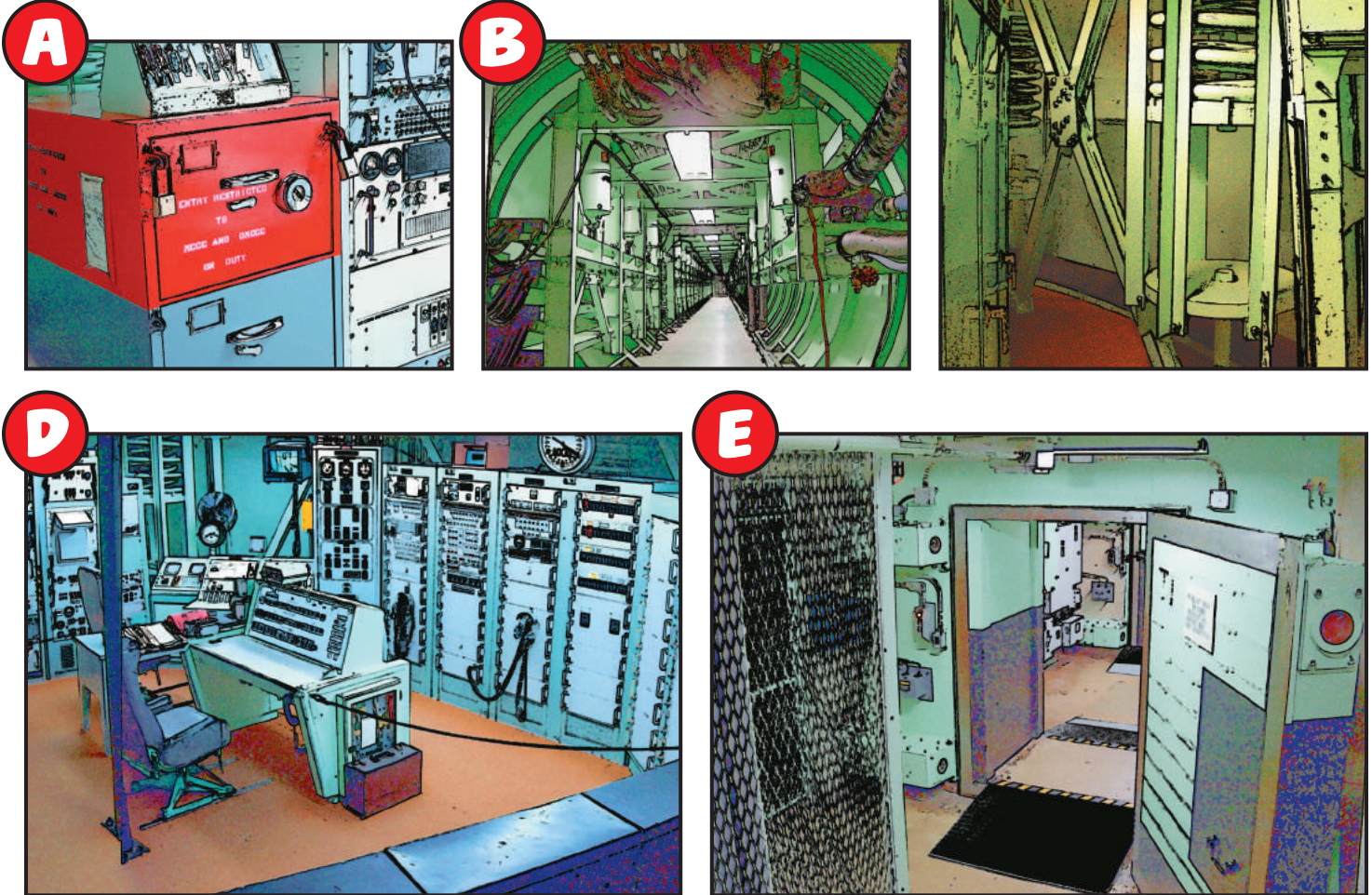
Tucson, Arizona



Little Rock, Arkansas



Access Portal and Control Center



Write the letter of the correct picture for each description in the blanks.

- _____ 1. Blast doors protected the crew from nuclear explosions and from the missile.
- _____ 2. From the Launch Control Center (LCC) the crew could monitor and launch the missile.
- _____ 3. The Emergency War Orders Safe contained the authentication information and launch keys.
- _____ 4. Giant springs protected the crew and equipment from shock waves and vibrations.
- _____ 5. The long cableway leads to the missile silo.

NAME: _____

Silo word search



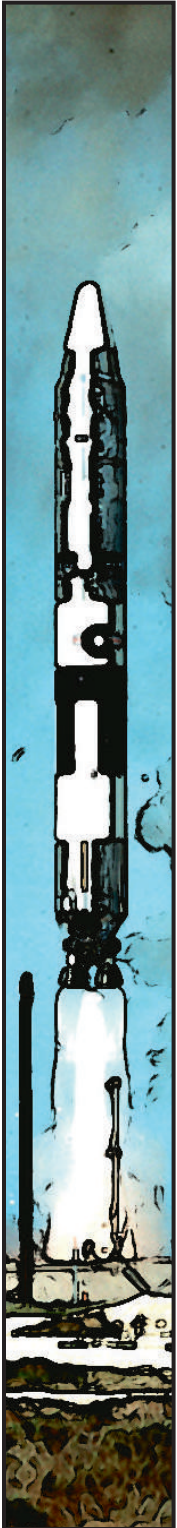
Find the following words in the puzzle. Words are hidden ➡, ↓, and ↘.

ARIZONA
ARKANSAS
ARMSRACE
COLDWAR
DETERRENCE

ICBM
KANSAS
MISSILE
MISSION
CONTROL

NEARMISS
PEACE
PRESIDENT
RETALIATORY
TITAN

Questions about the mission of Titan II missiles



1. Titan II missiles were built during a time in history known as the _____.
2. The _____ was the only person who could give the order to launch the Titan II missiles.
3. Titan II missiles would not be used to start a war. They would be used only if our enemies attacked us first. This means the Titan II missiles were _____ weapons.
4. Which two countries were involved in the Cold War? The _____ and the _____.
5. What do you call it when two enemies stockpile weapons? _____.
6. Where were the Titan II missiles located?
_____, _____
_____, _____
_____, _____
7. Titan II missiles could travel across continents.
What kind of missiles can do this? _____
8. The primary mission of the Titan II was "Peace through _____."

WORD BANK:

ICBM
Arms race
United States
Little Rock, Arkansas

Cold War
President
Wichita, Kansas
near miss

Tucson, Arizona
retaliatory
deterrence
Former Soviet Union

The Airframe

The missile is made out of several pieces. There is the first stage, the interstage, the spacer-adapter, and the reentry vehicle.

See if you can put the missile together in the proper sequence. Write the letter of each piece in order from top to bottom!

HINT: A diagram that will help you with this activity can be found in the Museum store.

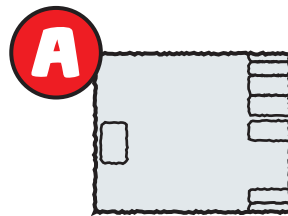
1. _____

2. _____

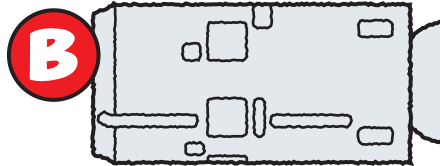
3. _____

4. _____

5. _____



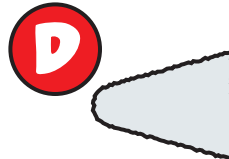
INTERSTAGE



STAGE II



SPACER-ADAPTER

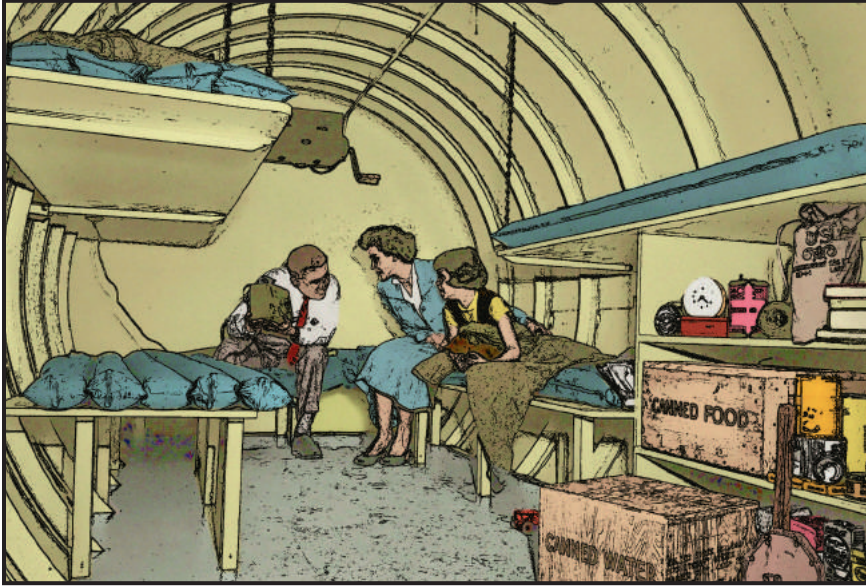


REENTRY VEHICLE



STAGE I

Fortress against fallout



"Make your home a fortress against fallout" is one of the slogans used by the US government to prepare Americans for life after a nuclear attack. "Fallout shelters" or "bomb shelters" were built underground and stocked with supplies that would be used by families until they were given the "all clear" by their local Civil Defense Commander. Only then would people emerge from their shelter.

What kind of supplies would you put into a fallout shelter for you and your family?
List five items below and explain why you chose them:

ITEM

REASON

1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

Design your own patch!

Each Titan II missile wing had its own patch with pictures that represented a thought or idea.

Here is the Strategic Air Command (SAC) patch. Four elements make up the patch. They are:

1. A fist from a suit of armor
2. A lightning bolt
3. The sky
4. A laurel wreath (from the laurel plant – often used to symbolize peace)

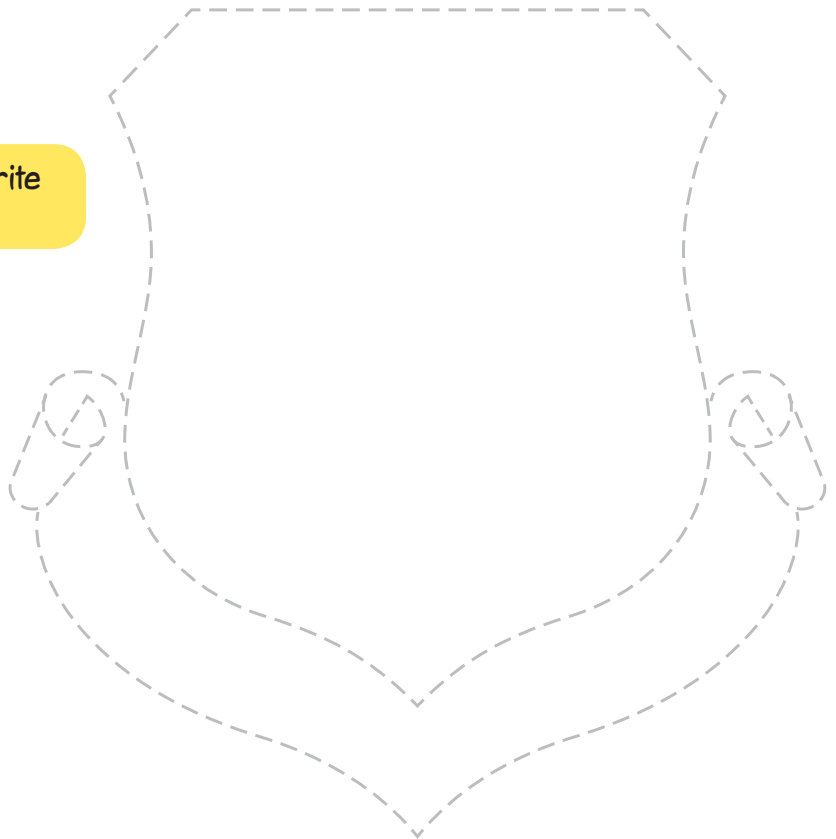
What do you think these four things in the SAC patch mean? (See the bottom of the page for the answer).



If you designed your own patch, what would you put on it? You'd probably put your name on it, or the group that you belong to. What else can you put on your patch?

Design your own patch here and then write what you want the patch to represent.

MY PATCH REPRESENTS:



ANSWER: An armored fist (strength) striking through the sky at lightning speed to preserve peace.

Military phonetic alphabet

When the Command Post transmits a launch order to the Missile Crews, it uses the **MILITARY PHONETIC ALPHABET** below to be sure the message is understood.

A Alpha	H Hotel	O Oscar	V Victor
B Bravo	I India	P Papa	W Whiskey
C Charlie	J Juliet	Q Quebec	X X-ray
D Delta	K Kilo	R Romeo	Y Yankee
E Echo	L Lima	S Sierra	Z Zulu
F Foxtrot	M Mike	T Tango	
G Golf	N November	U Uniform	

- 1.** Spell your first name using the Military Phonetic Alphabet:
(Example: "Sally" = Sierra - Alpha - Lima - Lima - Yankee.)

- 2.** Write your full name, then translate it using the Military Phonetic Alphabet.

ORIGINAL NAME:

TRANSLATION:

- 3.** Now try reading your name to a partner, using the Military Phonetic Alphabet.
Can your partner understand it?

Code in!

You can't get in underground without your secret code!

Generate your code letters with a "one-time pad" just like the crew did!

Find your "PIN" number in the classroom.

Pin here ↓	EXAMPLE										Code here ↓	Pin here ↓	NOW YOU TRY										Code here ↓
— 0	1	2	3	4	5	6	7	8	9	—	— 0	1	2	3	4	5	6	7	8	9	—		
L	M	N	O	P	Q	R	S	T	U	—	F	G	H	I	J	K	L	M	N	O	—		
— 0	1	2	3	4	5	6	7	8	9	—	— 0	1	2	3	4	5	6	7	8	9	—		
V	W	X	Y	Z	A	B	C	D	E	—	P	Q	R	S	T	U	V	W	X	Y	—		
— 0	1	2	3	4	5	6	7	8	9	—	— 0	1	2	3	4	5	6	7	8	9	—		
F	G	H	I	J	K	L	M	N	O	—	Z	A	B	C	D	E	F	G	H	I	—		
— 0	1	2	3	4	5	6	7	8	9	—	— 0	1	2	3	4	5	6	7	8	9	—		
P	Q	R	S	T	U	V	W	X	Y	—	J	K	L	M	N	O	P	Q	R	S	—		
— 0	1	2	3	4	5	6	7	8	9	—	— 0	1	2	3	4	5	6	7	8	9	—		
Z	A	B	C	D	E	F	G	H	I	—	T	U	V	W	X	Y	Z	A	B	C	—		
— 0	1	2	3	4	5	6	7	8	9	—	— 0	1	2	3	4	5	6	7	8	9	—		
J	K	L	M	N	O	P	Q	R	S	—	D	E	F	G	H	I	J	K	L	M	—		

Be sure to read your code with the
Military Phonetic Alphabet!

Gallery exploration

Explore the Exhibit Gallery to find answers to the following questions.



1. Who launched the first man-made satellite to orbit the earth:

- ☐ United States ☐ Great Britain
☐ China ☐ Soviet Union

2. On March 16, 1966, this astronaut took his first space flight on a Titan II missile as part of the Gemini 8 mission. He would later become the first person to walk on the moon on July 20, 1969:

- ☐ Neil Armstrong ☐ John Glenn
☐ Buzz Aldrin

3. The launch keys and codes were stored in the:

- ☐ Crews' quarters ☐ Red Safe
☐ Commander's briefcase

4. The nuclear triad consisted of land-based ICBMs like the (choose 2):

- ☐ Polaris ☐ Titan II ☐ Trident
☐ Minuteman ☐ Pershing

land-based bombers like the (choose one):

- ☐ B-17 ☐ B-52 ☐ B-58

and Sea-Launched Ballistic Missiles carried on (choose one):

- ☐ Destroyers ☐ Cruisers
☐ Submarines

5. After deactivation, some Titan IIs were used for what purpose?

- ☐ Launch satellites ☐ Astronaut training
☐ Spare parts

6. What *Star Trek* movie was filmed, in part, at the Titan Missile Museum?

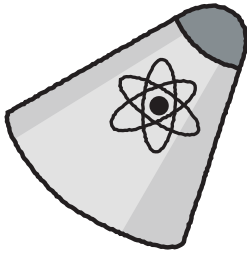
- ☐ *Star Trek - Beyond* ☐ *Star Trek - Nemesis*
☐ *Star Trek - First Contact*

7. What protected the warhead from heat and stress during the flight?

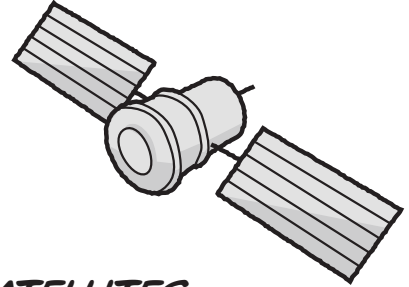
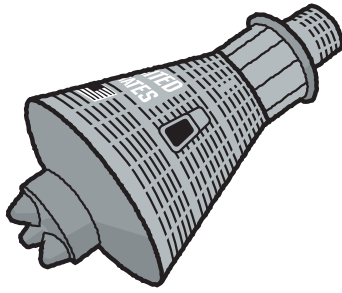
- ☐ Re-entry vehicle ☐ Water
☐ RFHCO

Rocket or missile?

What's the difference between a **ROCKET** and a **MISSILE**? It's what's on top that counts!



MISSILES carry
BOMBS...



ROCKETS carry **ASTRONAUTS** or **SATELLITES...**

...**TITAN II** carried **BOTH!**

Help this **ASTRONAUT**
find the way from outer space
to inside the **CAPSULE**.



Answer page!

ACCESS PORTAL & CONTROL CENTER



1. **E** Blast doors



2. **D** Launch Control Center



3. **A** Emergency War Orders Safe



5. **B** Cableway

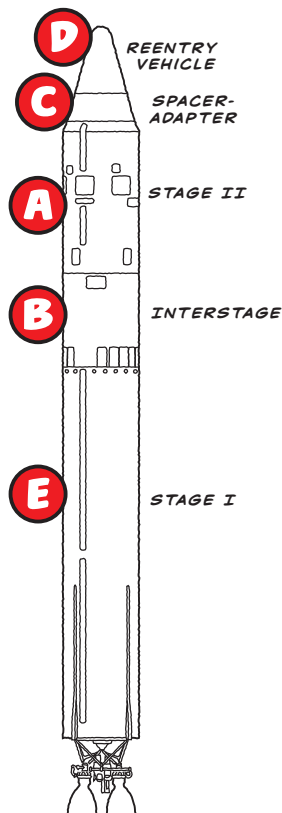


4. **C** Giant springs

MISSION OF TITAN II MISSILES

1. Cold War
2. President
3. retaliatory
4. United States, former Soviet Union
5. arms race
6. Tucson, Arizona, Little Rock, Arkansas, Wichita, Kansas
7. ICBM
8. deterrence

AIRFRAME



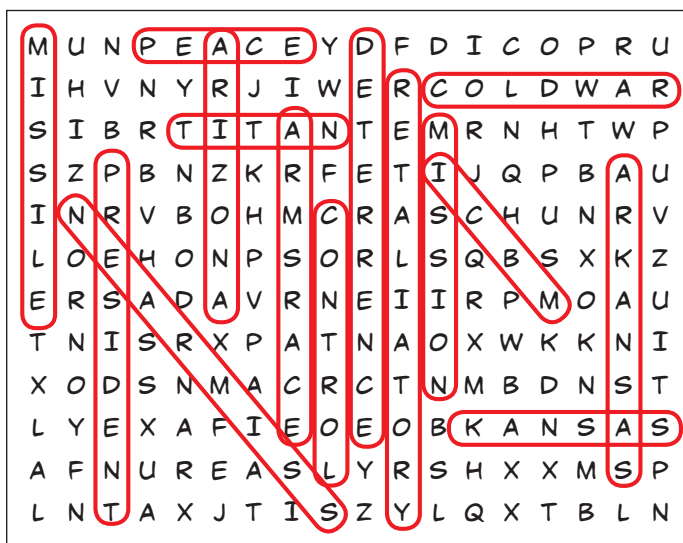
GALLERY EXPLORATION

1. Sputnik
2. Neil Armstrong
3. 1960
4. Levels 3 through 7
5. Red Safe
6. Rocket Fuel Handler's Clothing Outlet
7. 1947
8. Re-entry vehicle
9. Titan II and Minuteman missiles, B52s, submarines
10. to launch satellites
11. *Star Trek-First Contact*
12. Rivet Cap

RE-ENTRY VEHICLE MAZE



SILo WORD SEARCH





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TITAN MISSILE MUSEUM

JUNIOR MISSILEER

THIS DESIGNATION HAS BEEN AWARDED TO:

FOR SUCCESSFUL COMPLETION OF THE JUNIOR MISSILEER PROGRAM WORKBOOK!

SIGNATURE

DATE

