Appendix 4.4 – Expected Words for Walkabout

**Expected Words for Walkabout**

Uncle Sam Propaganda Skewed

U.S. Nuclear War Dangerous

Evil Fear Stereotypes

War Hatred Gamble

Spying Unpredictable Crapshoot

NATO UN Uncertainty

Peace Barb Wire Disrespectful

Politics Reckless Warheads

Bully U.S. veto power Useless

Fear-mongering Lies Manipulation

Education Exaggeration Killing Children

Comparison Schools Children

Bias Opinion Reality?

Nuclear Reactor Radiation Solidarity

Guerrilla War Invasion Terrorists

Prejudice United Runaway

Puppets Conference Deformity

Arms Race Cuban Missile Crisis Berlin Wall

Appendix 4.5 – Teacher Supplementary Notes

Notes on Events of the Timeline:

Sheet 1

YALTA 1945 –

The Yalta Conference was held towards the end of World War II. So you’re asking yourself: "What does some stupid conference have to do with the Cold War?". Well, many decisions were made at this conference which led to many fronts of the Cold War, most notably, Germany.

The Yalta Conference was held in a resort town called Yalta on February 4th-11th in 1945. The "Big Three" met there to decide the fate of post-war Europe. The United States was represented by Franklin D. Roosevelt, Great Britain was represented by Winston Churchill, and Josef Stalin was there on the Soviet Union’s behalf. The goal of this conference was to discuss many aspects of the time. Among them were:

* The dividing up of Germany
* The formation of the United Nations
* German war reparations
* The entry of Soviet forces into the Far-Eastern front (Japan)
* The final, and most difficult issue, the future of Poland

POTSDAM 1945 –

The Potsdam conference was held in Potsdam, Germany from July 17, 1945 through August 2, 1945, and was mostly called to discuss how a defeated Germany should be dealt with. At this conference, the borders of the occupation zones were determined, and other decisions such as the collection of reparations and the demilitarization of Germany were discussed. At the close of the conference, the Potsdam Agreement was issued, that announced the above policies. It is also known that President Truman revealed the existence of atomic weaponry to Stalin at this conference, as the first atomic test took place just before the conference.

Sheet 2

The UN:

United Nations Charter, which was signed on June 26, 1945 by the 50 countries. The UN officially came into existence on October 24, 1945, the charter having been ratified by China, France, the Soviet Union, the United Kingdom, the United States, and other countries.

The United Nations consists of two main bodies: the General Assembly and the Security Council. The General Assembly included delegates from all the charter countries, and allowed new members to join, with a vote of approval from two-thirds of the General Assembly. The General Assembly was to meet annual, and its tasks included to create a budget, receive annual reports from UN agencies, and to choose the members of the Security Council and other bodies.

The Security Council is primarily responsible for the maintenance of international peace and security. It functions continuously, and a representative form each of its members is present at all time at the United Nations' headquarters. The security council began with eleven members- five permanent and six elected by the General Assembly for two year terms.

NATO:

After World War II the countries of Western Europe found themselves too weak politically and militarily to prevent the spread of the communist "iron curtain" on a national level. The alliance of France and the United Kingdom through the Brussels Treaty was found to be minuscule when compared to the Communist Soviet Union. Very little time passed before this weakness was realized and Western Europe turned to a more inclusive North Atlantic Treaty, an agreement that involved a total of 12 nations including the United Kingdom and the United States. NATO was officially established on April 4, 1949 with the signing of the North Atlantic Treaty. The Western European powers relied on the massive nuclear arsenal of the United States to deter a Soviet ground invasion. Eventually NATO technology rendered the power of Soviet Union’s ground forces irrelevant. After the fall of communism the need for a military alliance diminished and NATO was transformed from a military force to a political force.

Sheet 3

1950 – 1960 Escaping Berlin

The city of Berlin became a centerpiece of the Cold War, playing a particularly significant role in Europe. East met West in this divided city where the Berlin wall was a tangible symbol of the "Iron Curtain."

After World War II, Germany was divided into four occupation zones administered by four nations: the United States, Great Britain, France, and the Soviet Union. Furthermore, Berlin, located in the Soviet occupation zone which was to become East Germany, was itself similarly divided into four sectors. Communism was instituted in the area controlled by the U.S.S.R. while the governments in the three remaining areas were modeled after the political systems of the West.

The open border between the Soviet sector and the Western controlled sectors in Berlin allowed hundreds of thousands of East Europeans to escape Soviet rule and persercution. Not only did this have a negative impact upon the economies of East Europe, but it served as a political embarrassment for the Soviet Union.

The three Western powers and the the U.S.S.R. were in conflict over the future political structure of Germany. The Western nations began to carry out their plans, which included a common currency for the three zones and three sectors controlled by them, in 1948. The Soviet Union objected to their plans for a common currency and threatened to blockade Berlin if they did not yield. The four nations were unable to resolve the issue, so on June 24, 1948, the Soviet Union stopped all shipments to Berlin from West Germany and cut off electricity to the three Western sectors of Berlin, leaving about 2.5 million people without future supplies and without power.

The Berlin blockade lasted 320 days as Great Britain and the United States supplied up to 13,000 tons of food, fuel, and other items daily in an airlift codenamed "Operation Vittles" to the West Berlin. A total of 200,000 flights were made and a total of 1.5 million tons in supplies were delivered. Finally, the blockade ended on May 12, 1949 and the Soviet Union gave in to Western plans.

An uprising occurred in East Germany in 1953 which culminated in a general strike on June 17, 1953 to protest the lowering of wages and the lack of significant political and economic changes. Tens of thousands of workers striked and there were large demonstrations. This uprising, however, was swiftly put down by Soviet troops.

The border between East and West Germany began to close with the placement of barbed wire and machine-gun nests. Yet the Berlin border remained open until 1961 due to an agreement of 1949. In its continued use as an escape route, an estimated 2,750,000 East Europeans crossed over into Western territory, despite East Germany's attempts at regulation.

Sheet 4

Warsaw Pact (originally Warsaw Treaty of Friendship, Cooperation, and Mutual Assistance)

Established 6 years after NATO, the Warsaw Pact was formed as communist military alliance to maintain power over Eastern Europe. Although the ground forces of possessed by the Warsaw Pact were far superior to those of NATO, their technology soon fell far behind. After many democratic revolutions within the Warsaw Pact it was labeled "nonexistent" in 1991.

Sheet 5

Sputnik 1

Sputnik 1 was launched into Earth’s orbit on October 4th 1957. It was the first man made satellite and was made by the Soviet Union. To put sputnik into space the soviets used a powerful rocket to launch it high above Earth and shoot it  to the ground at a very high speed. It's primary purpose was to send back temperatures of space. It did so in the form of beeps. Sputnik weighed 405 lbs, and It's diameter  is 23 inches across. Sputnik was in orbit around the earth for 3 months after it's launch in 1957. Then after it's 3 month journey in space it burned up in the atmosphere. It was a very big step that launched the space race.

Sputnik 2

On November 3, 1957 Russia launched sputnik 2, it was the first satellite to carry a passenger into space. The passenger was a female dog called Laika. Laika  weighed 25 pounds, and was 8 inches tall. The satellite she went into space with weighed a whopping 1,120 Lbs! Unfortunately the rocket carried life support for only a few days so Laika died. Her flight proved that humans could go into space. She paved the way for astronauts today.

Sheet 6

**U-2 incident; Francis Gary Powers**

Two weeks before a May 1960 summit meeting in Paris, an American U-2 spy plane carrying high-powered cameras was shot down. Washington denied that its planes had flown in Soviet air space, but the Soviets displayed CIA pilot, Francis Gary Powers, and his pictures. Washington then refused to apologize and the Soviets walked out of the Paris summit. Soviets traded Powers for their own Soviet spy.

Sheet 7

Berlin Wall

The Berlin Wall was constructed in 1961 to provide a physical barrier between East and West Berlin. The city had been divided into a Soviet occupational zone and a joint U.S., France, and Great Britain occupational zone after World War II, with each zone being governed by the country(ies) controlling it. The German Democratic Republic (GDR), although under communist rule, was the official name of the Soviet controlled East German State, of which East Berlin was the capital. West Germany was known as the Federal Republic of Germany (FRG). Because Berlin lay 110 miles inside the GDR, and because many East Germans fled to the west by means of West Berlin, the 103 mile long, 12 foot- high Berlin Wall was built, completely surrounding the Western part of the city.

In the 12 years between the establishment of East Germany in 1949 and the construction of the wall, over 2.7 million East Germans fled to West Berlin. This shift in population severely depleted the work force and caused other economic problems in East Germany, so the Soviet Union took drastic measures, including the Berlin Wall, to prevent further defection. After the wall was built, more than 80 people were shot or otherwise murdered in attempts to emigrate to West Berlin, and countless numbers were imprisoned. There were only two openings in the wall, both of which were heavily guarded, fortified checkpoints. For more than 28 years the wall was a major symbol of both the Cold War and the oppressive Soviet regime, but it became obsolete in 1989 when Hungary opened its borders to East Germans. With Hungary open, emigrants could pass through to West Germany with little difficulty. In a desperate last attempt to restore stability, the East German leader Egon Krenz decided to grant passage through the Berlin Wall itself. On November 9, 1989, East Germans poured into West Germany, partially destroying the wall on the way, while communist officials watched their regime crumble. In West Germany, the immigrants were welcomed with a gift of 100 marks ($50), as their East German money had become worthless. East and West Germany then worked together to remove the wall and reunite themselves as the Federal Republic of Germany in 1990.

Sheet 8

Historians are not really sure how the character "Uncle Sam" was created or how he was named. Theories say that "Uncle Sam" was named after Samuel Wilson, who was born in Arlington, Massachusetts on September 13, 1766. During the War of 1812, Wilson was in the business of slaughtering and packing meat, and he provided large shipments to the U.S. Army. The meat was put into barrels stamped "U.S." Someone who saw the initials said (as a joke) that they stood for "Uncle Sam" Wilson. The suggestion that the meat came from "Uncle Sam" led to the idea that "Uncle Sam" symbolized the U.S. federal government. Uncle Sam's traditional features, which include the little white goatee and star-spangled suit, was invented by political cartoonists and artists. Thomas Nast, a well-known 19th century  political cartoonist, was the cartoonist to draw the earliest cartoons of Uncle Sam. Samuel Wilson did not look like the Uncle Sam of today; for example, Samuel Wilson didn't have a goatee like Uncle Sam does.

Uncle Sam



Sheet 9

Propaganda

Propaganda is designed to manipulate the emotions and instincts of the general public. Relying on such low level emotions as hate and fear, it uses incomplete or incorrect information while avoiding logical arguments. It repeats ideas and catchphrases, often uses scapegoats, and relates itself with the high ideals. It tries to curtail individual thought, denounces or suppresses contradictory facts, and acts as a distraction. Mass communication is necessary for the success of propaganda. Furthermore, the technology utilized in communication is very important. This basic model of propaganda had already proven itself successful in Nazi Germany and during the cold war it was used, albeit to a lesser extent, in the United States. Television, film, radio, and other forms of media were put to use.

Sheet 10

# The Hydrogen Bomb

The Hydrogen bomb works on a different physical principle known as [nuclear fusion](http://library.thinkquest.org/3471/fusion.html). In nuclear fusion, the nuclei of atoms join together, or fuse to form a heavier nucleus. This happens only under very hot conditions. The explosion of an atomic bomb attached to a hydrogen bomb provides the heat to start fusion. Hydrogen nuclei fuse to form helium and as this happens, huge amounts of energy are released from the hydrogen nuclei, producing a huge explosion.

Fusion releases energy due to the overall loss in mass. If you add up the masses of the particles which go into a fusion reaction, and you add up the masses of the particles which come out, there is frequently a difference. According to Einstein's famous law relating [energy and mass](http://library.thinkquest.org/3471/energy_mass_equivalence.html),

, http://library.thinkquest.org/3471/emc.gif

the "mass difference" can take the form of energy. Fusion reactions involving nuclei lighter than iron typically release energy, but fusion reactions involving nuclei heavier than iron typically absorb energy. The amount of energy released depends on the specifics of the reaction. The reaction used in the hydrogen bomb, though, produces one of the greatest changes in mass.

The hydrogen bomb is thousands of times more powerful than an atomic bomb. There have not been any hydrogen bombs used in warfare however, there have been hydrogen bomb tests. Most of these tests are done underwater due to risk of destruction. To give you an idea of how strong the H-bomb is, think about this. This atomic bomb dropped on Hiroshima, Japan which killed over 140,000 people had the power of 13 kilotons. A common hydrogen bomb has the power of up to 10 megatons. All the explosions in World War II totalled "only" 2 megatons -- 20% of the power of ONE common hydrogen bomb.

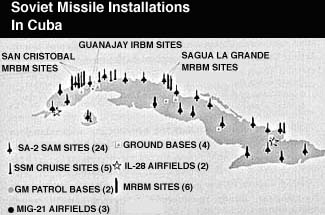
Sheet 11

The Cuban Missile Crisis

The Cuban Missile Crisis was the closest the world ever came to nuclear war. The United States armed forces were at their highest state of readiness ever and Soviet field commanders in Cuba were prepared to use battlefield nuclear weapons to defend the island if it was invaded. Luckily, thanks to the bravery of two men, [President John F. Kennedy](http://library.thinkquest.org/11046/people/j_kennedy.html) and [Premier Nikita Khrushchev](http://library.thinkquest.org/11046/people/khrushchev.html), war was averted.

In 1962, the Soviet Union was desperately behind the United States in the arms race. Soviet missiles were only powerful enough to be launched against Europe but U.S. missiles were capable of striking the entire Soviet Union. In late April 1962, Soviet Premier Nikita Khrushchev conceived the idea of placing intermediate-range missiles in Cuba. A deployment in Cuba would double the Soviet strategic arsenal and provide a real deterrent to a potential U.S. attack against the Soviet Union.

Meanwhile, [Fidel Castro](http://library.thinkquest.org/11046/people/castro.html) was looking for a way to defend his island nation from an attack by the U.S. Ever since the failed [Bay of Pigs](http://library.thinkquest.org/11046/days/bay_of_pigs.html) invasion in 1961, Castro felt a second attack was inevitable. Consequently, he approved of Khrushchev's plan to place missiles on the island. In the summer of 1962 the Soviet Union worked quickly and secretly to build its missile installations in Cuba.

For the United States, the crisis began on October 15, 1962 when[reconnaissance photographs](http://library.thinkquest.org/11046/recon/photos.html) revealed Soviet missiles under construction in Cuba. Early the next day, President John Kennedy was informed of the missile installations. Kennedy immediately organized the [EX-COMM](http://library.thinkquest.org/11046/people/ex-comm.html), a group of his twelve most important advisors to handle the crisis. After seven days of guarded and intense debate within the upper echelons of government, Kennedy concluded to impose a naval quarantine around Cuba. He wished to prevent the arrival of more Soviet offensive weapons on the island. On October 22,[Kennedy announced the discovery](http://library.thinkquest.org/11046/sitroom/jfk_speech.html) of the missile installations to the public and his decision to quarantine the island. He also proclaimed that any nuclear missile launched from Cuba would be regarded as an attack on the United States by the Soviet Union and demanded that the Soviets remove all of their offensive weapons from Cuba.

During the public phase of the Crisis, tensions began to build on both sides. Kennedy eventually ordered [low-level reconnaissance](http://library.thinkquest.org/11046/recon/low_level.html) missions once every two hours. On the 25th Kennedy pulled the quarantine line back and raised military readiness to DEFCON 2. Then on the 26th EX-COMM heard from Khrushchev in an impassioned letter. He proposed removing Soviet missiles and personnel if the U.S. would guarantee not to invade Cuba. October 27 was the worst day of the crisis. A [U-2](http://library.thinkquest.org/11046/recon/high_level.html) was shot down over Cuba and EX-COMM received a second letter from Khrushchev demanding the removal of U.S. missiles in Turkey in exchange for Soviet missiles in Cuba. [Attorney General Robert Kennedy](http://library.thinkquest.org/11046/people/r_kennedy.html) suggested ignoring the second letter and contacted Soviet Ambassador Anatoly Dobrynin to tell him of the U.S. agreement with the first.

Tensions finally began to ease on October 28 when Khrushchev announced that he would dismantle the installations and return the missiles to the Soviet Union, expressing his trust that the United States would not invade Cuba. Further negotiations were held to implement the October 28 agreement, including a United States demand that Soviet light bombers be removed from Cuba, and specifying the exact form and conditions of United States assurances not to invade Cuba.

Sheet 12

The Vietnam War

American leaders have been opposed to communist ideals even since 1848 when Karl Marx and Friedrich Engels published some of the doctrines of communism.  This is because the communist system of government limits private ownership of property, allowing more people to share in a nation's wealth.  This system directly opposes the United State's capitalist system, which advocates free enterprise and private ownership.  The two systems cannot exist in the same country at the same time because individuals and businesses who own private property will lose it to the government.

At first, communism didn't pose a great threat to the United States and other capitalist nations.  However, following World War II, things had changed.  The Soviet Union had taken control of eastern Europe and set up communist "satellite" nations.  In 1949, fears of communism increased when communist forces took control of China.  This event stunned the United States, when communist forces had now seized control of the most populous nation in the world.  It also meant that communist forces now controlled an unbroken mass of territory that stretch from central Europe, across Asia, to the Pacific Ocean.

American officials began to use the term domino theory to describe the communist threat in Asia.  They believed if the communists were able to gain control of a  country, then the surrounding countries would also fall prey to communism.  They applied this theory to Vietnam, where Vietnamese communists would eventually topple governments in surrounding nations, such as Laos and Cambodia, eventually giving rise to a totally communist Indochina.

In 1950, the U.S. formally announced its policy of containment, following the invasion of South Korea by communist North Korea.  This policy frankly said the United States would provide both economic and military aid to those countries that required assistance in repelling communist forces.

Meanwhile, both the governments of the Soviet Union and China had officially recognized Ho Chi Minh's government as the legal government of Vietnam.  As the U.S. increased aid to the French, who controlled South Vietnam, the Soviet Union and China increased their support of the Vietminh, which ruled North Vietnam.  As 1950 drew to a close, an all-out battle between the Vietminh and the French was set.

Sheet 13

The Afghan War

Afghanistan War from 1979–92, conflict between anti-Communist Muslim Afghan guerrillas (mujahidin) and Afghan government and Soviet forces. The conflict had its origins in the 1978 coup that overthrew Afghan president Sardar Muhammad Daud Khan, who had come to power by ousting the king in 1973. The president was assassinated and a pro-Soviet Communist government under Noor Mohammed Taraki was established. In 1979 another coup, which brought Hafizullah Amin to power, provoked an invasion (Dec., 1979) by Soviet forces and the installation of Babrak Karmal as president.

The Soviet invasion, which sparked Afghan resistance, initially involved an estimated 30,000 troops, a force that ultimately grew to 100,000. The mujahidin were supported by aid from the United States, China, and Saudi Arabia, channelled through Pakistan, and from Iran. Although the USSR had superior weapons and complete air control, the rebels successfully eluded them. The conflict largely settled into a stalemate, with Soviet and government forces controlling the urban areas, and the Afghan guerrillas operating fairly freely in mountainous rural regions. As the war progressed, the rebels improved their organization and tactics and began using imported and captured weapons, including U.S. antiaircraft missiles, to neutralize the technological advantages of the USSR.

In 1986, Karmal resigned and Mohammad Najibullah became head of a collective leadership. In Feb., 1988, President Mikhail Gorbachev announced the withdrawal of USSR troops, which was completed one year later. Soviet citizens had become increasingly discontented with the war, which dragged on without success but with continuing casualties. In the spring of 1992, Najibullah's government collapsed and, after 14 years of rule by the People's Democratic party, Kabul fell to a coalition of mujahidin under the military leadership of Ahmed Shah Massoud.

The war left Afghanistan with severe political, economic, and ecological problems. More than 1 million Afghans died in the war and 5 million became refugees in neighbouring countries. In addition, 15,000 Soviet soldiers were killed and 37,000 wounded. Economic production was drastically curtailed, and much of the land laid waste. At the end of the war more than 5 million mines saturated approximately 2% of the country, where they will pose a threat to human and animal life well into the 21st cent. The disparate guerrilla forces that had triumphed proved unable to unite, and Afghanistan became divided into spheres of control. These political divisions set the stage for the rise of the Taliban later in the decade.

Charlie Wilson

He was best known for leading Congress into supporting Operation Cyclone, the largest-ever Central Intelligence Agency (CIA) covert operations, which under the Reagan Administration supplied military equipment, including anti-aircraft weapons such as Stinger antiaircraft missiles, and paramilitary officers from their Special Activities Division to the Afghan Mujahideen during the Soviet War in Afghanistan.

Mr. Wilson was able to help the Afghans from his seat on the House Appropriations Committee and from another on its subcommittee on foreign operations.

The Soviets had invaded Afghanistan in 1979, invited by the pro-Communist government there in the face of an insurgency.

After he visited a refugee camp in Pakistan at the urging of Ms. Herring and saw wounded and maimed Afghan guerrilla fighters, Mr. Wilson vowed to help them and became a key figure in Congress for doing so, overtly pushing for humanitarian aid and covertly obtaining military help, a risky endeavor against a rival superpower. He often gathered his colleagues’ support by voting for military contracts that would serve their districts.

From a few million dollars in the early 1980s, support for the resistance grew to $750 million a year by the end of the decade. The financing was funnelled to Afghanistan in secret by Mr. Wilson and other lawmakers.

Sheet 14

The Chernobyl Disaster

About 80 miles (130 km) north of Kiev, in what is now the Ukraine, is located the Chernobyl nuclear power plant. At this plant the worst reactor disaster to ever occur took place on April 26, 1986. It happened largely because normal reactor operations were suspended; an experiment was to take place in the reactor. As a result, normal safety guidelines were disregarded, and the accident occurred. However, as with most accidents of this type, it was a result of many small mistakes adding up to create a catastrophe. In the following paragraphs, we will outline just how the event transpired:

Early in the day, before the test, the power output of the reactor was dropped in preparation for the upcoming test. Unexpectedly, the reactor's power output dropped way too much, almost to zero. Because of this drop, some control rods were removed to bring the power back up. (As you recall from the fission power text, the more control rods there are in a reactor, the more free neutrons are absorbed and the less fissioning that goes on. So, more control rods means less energy and power output.) The reactor's power output raised up, and all appeared to be normal.

More preparation for the test began later when two pumps were switched on in the cooling system. They increased water flow out of the reactor, and thus removed heat more quickly. They also caused the water level to lower in a component of the reactor called the steam separator. Because of the low level of water in the steam separator, the operator increased the amount of feed water coming into it, in the hopes that the water level would rise. Also, more control rods were taken out of the reactor to raise internal reactor temperature and pressure, also in the hopes that it would cause the water level in the steam separator to rise. The water level in the steam separator began to rise, so the operator adjusted again the flow of feed water by lowering it. This decreased the amount of heat being removed from the reactor core.

Because many control rods had been removed and the amount of heat being taken from the core by the coolant had been reduced, it began to get very hot. Also, there was relatively low pressure in the core because the amount of incoming water had been decreased. Because of the heat and the low pressure, coolant inside the core began to boil to form steam.

The actual test began with the closing of the turbine feed valves. This should have caused an increase in pressure in the cooling system, which in turn would have caused a decrease in steam in the core. This should have lowered the reactivity in the core. Thus, the normal next step when closing the turbine feed valves was to retract more control rods, increasing reactivity in the core. This is what the operator at Chernobyl did. The only problem was that in this case there was no increase in pressure in the cooling system because of the earlier feed water reduction. This meant that there was already a normal amount of steam in the core, even with the turbine feed valves closed. Thus, by retracting more control rods to make up for a reduction in steam that didn't happen, the operator caused too much steam to be produced in the core.

With the surplus of steam, the reactor's power output increased. Soon, even more steam was being produced. The operator realized there was a problem and SCRAMmed the reactor, completely disabling all fission reactions. However, it was too late. The temperature and pressure inside the reactor had already risen dramatically, and the fuel rods had begun to shatter.

After the fuel rods shattered, two explosions occurred as a result of liquid uranium reacting with steam and from fuel vapor expansion (caused by the intense heat). The reactor containment was broken, and the top of the reactor lifted off. With the containment broken, outside air began to enter the reactor. In this particular Soviet reactor, graphite was used as a moderator instead of water. (water was the coolant) As air entered the core, it reacted with the graphite. Graphite is essentially just carbon, so oxygen from the air chemically combined with the carbon to form CO (carbon monoxide). Carbon monoxide is flammable and soon caught fire. The fire emitted extremely radioactive smoke into the area surrounding the reactor. Additionally, the explosion ejected a portion of the reactor fuel into the surrounding atmosphere and countryside. This fuel contained both fission products and transuranic wastes.

During the days following the accident, hundreds of people worked to quell the reactor fire and the escape of radioactive materials. Liquid nitrogen was pumped into the reactor core to cool it down. Helicopters dumped neutron-absorbing materials into the exposed core to prevent it from going critical. Sand and other fire-fighting materials were also dropped into the core to help stop the graphite fire. All in all, over 5000(metric) tons of material were dropped into the core. After the fires were brought under control, construction of what is called "the sarcophagus" began. The word "sarcophagus" is usually used to describe the elaborate coffins the ancient Egyptians used to entomb their dead. In this case, the sarcophagus is a structure erected from about 300,000 metric tons of concrete that surrounds the reactor. It was designed to contain the radioactive waste inside. It has served its purpose well, but, now, ten years after the accident, several flaws have been found in it. Holes have begun to appear in the roof, allowing rainwater to accumulate inside. This water can corrode the structure, further weakening it. Also, birds and other animals have been seen making homes in the sarcophagus. If they should ingest radioactive material, they could spread it around the countryside. Additionally, with time the sarcophagus has become worn down. It is conceivable that an intense event like an earthquake, tornado, or plane crash directly on the sarcophagus could lead to its collapse. This would be catastrophic, as radioactive dust would once again rain down on the surrounding areas. Scientists and engineers are working on ways to repair or replace the structure.

One of the great tragedies of the accident was that the Soviet government tried to cover it up. Clouds of fallout were traveling towards major population centers such as Minsk, and no one was warned. No one outside the Soviet Union knew about the accident until two days later, when scientists in Sweden detected massive amount of radiation being blown from the east.

The effects of the disaster at Chernobyl were very widespread. The World Health Organization (WHO) found that the radiation release from the Chernobyl accident was 200 times that of the Hiroshima and Nagasaki nuclear bombs combined. The fallout was also far-reaching. For a time, radiation levels in a Scotland were 10,000 times the norm. 30 lives were directly lost during the accident or within a few months after it. Many of these lives were those of the workers trying to put out the graphite fire and were lost from radiation poisoning. The radiation released has also had long-term effects on the cancer incidence rate of the surrounding population. According to the Ukrainian Radiological Institute over 2500 deaths resulted from the Chernobyl incident. The WHO has found a significant increase in cancer in the surrounding area. For example, in 1986 (the year of the accident), 2 cases of childhood thyroid cancer occurred in the Gomel administrative district of the Ukraine (this is the region around the plant). In 1993 there were 42 cases, which is 21 times the rate in 1986. The rate of thyroid cancer is particularly high after the Chernobyl accident because much of the radiation was emitted in the form iodine-131, which collects in the thyroid gland, especially in young children. Other cancer incidence rates didn't seem to be affected. For example, leukemia was no more prevalent after the accident than before.

What caused the accident? This is a very hard question to answer. The obvious one is operator error. The operator was not very familiar with the reactor and hadn't been trained enough. Additionally, when the accident occurred, normal safety rules were not being followed because they were running a test. For example, regulations required that at least 15 control rods always remain in the reactor. When the explosion occurred, less than 10 were present. This happened because many of the rods were removed to raise power output. This was one of the direct causes of the accident. Also, the reactor itself was not designed well and was prone to abrupt and massive power surges.

Sheet 15

The End of the Cold War

Reagan and Gorbachev.

The early 1980s witnessed a final period of friction between the United States and the USSR, resulting mainly from the Soviets’ invasion of Afghanistan in 1979 to support a Communist system of government and from the firm line adopted by U.S. president Ronald Reagan after his 1980 election. Reagan saw the USSR as an “evil empire.” He also believed that his rivals in Moscow respected strength first and foremost, and thus he set about to add greatly to American military capabilities. The Soviets initially viewed Reagan as an implacable foe, committed to subverting the Soviet system and possibly willing to risk nuclear war in the process. Then in the mid-1980s Mikhail Gorbachev came to power in the USSR. Gorbachev was determined to stop the increasing decay of the Soviet system and to shed some of his country’s foreign policy burdens. Between 1986 and 1989 he brought a revolution to Soviet foreign policy, abandoning long-held Soviet assumptions and seeking new and far-reaching agreements with the West. Gorbachev’s efforts fundamentally altered the dynamic of East-West relations. Gorbachev and Reagan held a series of summit talk s beginning in 1985, and in 1987 the two leaders agreed to remove a whole class of their countries’ nuclear missiles—those capable of striking Europe and Asia from the USSR and vice versa. The Soviet government began to reduce its forces in Eastern Europe, and in 1989 it pulled its troops out of Afghanistan. That year Communist systems of government began to fell down in the countries of Eastern Europe and the wall that had divided East and West Germany since 1961 was torn down. In 1990 Germany became once again a unified country. In 1991 the USSR dissolved, and Russia and the other Soviet republics emerged as independent states. Even before these dramatic final events, much of the ideological basis for the Cold War competition had disappeared. However, the collapse of Soviet power in Eastern Europe, and then of the USSR itself, lent a crushing finality to the end of the Cold War period.

The Human Way – Baltic Chain

In 1989, as those in Czechoslovakia, Poland and elsewhere were being liberated, Soviet rule still prevailed on the Baltic coast. However, it was in August of 1989 that an event of monumental significance occurred - one which put Estonia, Latvia and Lithuania onto the final road toward renewed independence. The event was the "Baltic Way" human chain, held on 23 August 1989.

The "Baltic Way" human chain was a joint protest action by the popular fronts in each of the countries. On the 50th anniversary of the signing of the Molotov-Ribbentrop Pact, some one million Balts linked hands and created one of the longest human chains in history, linking Vilnius to Riga to Tallinn (a route of some 600 km). This unprecedented protest action against Soviet rule brought the national liberation movements into the spotlight, setting an irreversible course for the three captive nations.

The Molotov-Ribbentrop Pact and its secret protocols sealed the fate of many countries in Europe. Romania lost its Bessarabia region, Poland suffered through another partition and the "four" Baltic states (Estonia, Finland, Latvia, Lithuania) faced invasion by the Red Army. Finland managed to preserve its independence with loss of some international manoeuvrability and territory during the Winter War, which saw many Estonians and some Latvians fighting alongside their Finnish brethren against the Red Army. However, Estonia, Latvia and Lithuania's fate was sealed by the secret Nazi-Soviet agreement, which soon led to their occupation and illegal annexation by the USSR.

Thus a protest against that very event was tantamount to a declaration of renewed independence. The protestors knew that most European countries and large powers - including the United States, Great Britain, France and China - never acknowledged the illegal annexation of the Baltic states. Exiled diplomats from all three countries maintained their diplomatic activities at the UN in New York, Washington, Rome, London and elsewhere. By publicly attacking the mechanism that led to that illegal annexation, the Baltic peoples made it clear to Moscow that there would be no returning to the *status quo*.

The protest grew partly out of the publication of the texts of the secret pact in 1988 - which infuriated locals and Moscow alike, though for different reasons. The protests grew louder and the reprisals stronger. By 1990, all three countries had declared some form of autonomy - a sign of transition towards restored independence. Economic blockades occurred, fuel embargoes in the winter, raids by OMON troops leading to casualties and counter-protests by the local Russian Communists under the banner of Interfront organisations.

The Fall of the Berlin Wall

The Berlin Wall was constructed in 1961 to provide a physical barrier between East and West Berlin. The city had been divided into a Soviet occupational zone and a joint U.S., France, and Great Britain occupational zone after World War II, with each zone being governed by the country(ies) controlling it. The German Democratic Republic (GDR), although under communist rule, was the official name of the Soviet controlled East German State, of which East Berlin was the capital. West Germany was known as the Federal Republic of Germany (FRG). Because Berlin lay 110 miles inside the GDR, and because many East Germans fled to the west by means of West Berlin, the 103 mile long, 12 foot- high Berlin Wall was built, completely surrounding the Western part of the city.

In the 12 years between the establishment of East Germany in 1949 and the construction of the wall, over 2.7 million East Germans fled to West Berlin. This shift in population severely depleted the work force and caused other economic problems in East Germany, so the Soviet Union took drastic measures, including the Berlin Wall, to prevent further defection. After the wall was built, more than 80 people were shot or otherwise murdered in attempts to emigrate to West Berlin, and countless numbers were imprisoned. There were only two openings in the wall, both of which were heavily guarded, fortified checkpoints. For more than 28 years the wall was a major symbol of both the Cold War and the oppressive Soviet regime, but it became obsolete in 1989 when Hungary opened its borders to East Germans. With Hungary open, emigrants could pass through to West Germany with little difficulty. In a desperate last attempt to restore stability, the East German leader Egon Krenz decided to grant passage through the Berlin Wall itself. On November 9, 1989, East Germans poured into West Germany, partially destroying the wall on the way, while communist officials watched their regime crumble. In West Germany, the immigrants were welcomed with a gift of 100 marks ($50), as their East German money had become worthless. East and West Germany then worked together to remove the wall and reunite themselves as the Federal Republic of Germany in 1990.

The fall of the Berlin Wall was a major turning point in recent history. It marked the end of communism in Germany, and was a symbol for the end of communism throughout Europe. Soon after the collapse of the German regime, communist governments began to fall in other nations such as Poland, Romania and Czechoslovakia. In 1991, after a failed coup by Soviet leaders against President Mikhail Gorbachev, the Soviet Union itself dissolved, completely ending the reign of oppression that had begun in 1917. Many European countries that were under Soviet control broke out in civil war, and the former members of the U.S.S.R. became 15 independent republics and formed the Commonwealth of Independent States (CIS).

Appendix 4.6 – Assessment Tasks

**Gorbachev and Reagan Missile Initiative**

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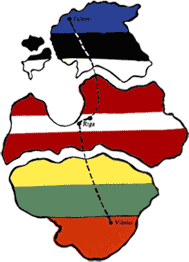
**[](http://www.google.com/imgres?imgurl=http://www.robertamsterdam.com/reagangorby062108.jpg&imgrefurl=http://www.robertamsterdam.com/2008/06/&usg=__C89FBh1rOTMNN1_zYUDfgB1OU48=&h=527&w=400&sz=47&hl=en&start=0&zoom=1&tbnid=IkG-GCFpYL7cjM:&tbnh=143&tbnw=109&ei=5elTTePJNsGC8gbi1IHtCA&prev=/images?q=gorbachev+and+reagan&um=1&hl=en&biw=1006&bih=594&tbs=isch:1&um=1&itbs=1&iact=hc&vpx=328&vpy=86&dur=830&hovh=258&hovw=196&tx=103&ty=167&oei=5elTTePJNsGC8gbi1IHtCA&esq=1&page=1&ndsp=15&ved=1t:429,r:1,s:0)**

**Fall of the Berlin Wall**

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**Two Million Human Chain**

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**YOU TELL THE REST... CREATE ACITVITY SHEET**

1. Create an Activity Sheet of an event with two primary source images that signifies the end of the Cold War from the Soviet perspective.

* One of propaganda and/or photo.

1. Come up with three questions that you will present to the class and answer.

* Use your Activity Sheet Package as a reference.

1. Create a series of three tableaux leading up to the image or following after the image.
2. Prepare a five minute presentation:
3. Present the event, (Year, people involved, country,) Example: 1962, Cuban Missile Crisis, Soviet Union and US on Brink of Nuclear War.
4. Present the image and reasoning behind your groups’ choice. Example: We chose the cartoon of Kruschev and Kennedy riding nuclear bombs because....
5. Present the Questions asked and the answers, Example: 1. For whom is the image intended?
6. Explain the tableaux.

Topics to Choose Between:

The Fall of the Berlin Wall and Reunification of East and West Germany

The Two Million Human Chain – Across Three Baltic Republics to protest Soviet Rule

Gorbachev and Regan nuclear missile resolution

**Activity Sheet Student, Peer and Teacher Checklist of Questions:**

**Activity Sheet Topic;**

What is the event, date, year, country, people involved.

Why did we choose this topic?

What theme did we want to represent?

How did we decide the tableaux?

**Activity Sheet:**

Does my activity sheet have 2 primary source photos?

Does one of my photos represent a form of propaganda?

Does the activity sheet have three distinct and clear questions that invite critical thinking about the primary source images?

**Tableaux for Activity Sheet:**

Do our tableaux follow a pattern that lead up to or follow after the image? Example: 123 Image or Image 123

Do our tableaux flow from one to the other?

**Journal Reflection Assignment**

**Writing in Role: Journal Reflection**. **Due: 1 week after unit ends.**

1. Choose a role from your Activity Sheet 15.

* For example, Ronald Reagan.

1. Pick a topic to write about

- For example, Reduction in Nuclear Weapons

1. Select an audience.

* Defence Secretary

1. Use your Activity Sheet package

* Notes and guiding questions to help you.

**Self Assessment: Journal Reflection - What you understand from this unit.** **Due: 1 week after unit ends.**

1. What information do I think is enduring?
2. What information do I think is important?
3. What information do I think is familiar?

**Teacher Assessment and your learning: Journal Reflection. Due: 1 week after unit ends.**

Write a 1 – 2 paragraph reflection on the instruction of this unit.

1. Were your learning styles taken into consideration during this unit?
2. What did you like about the unit?
3. What did you think was ok?
4. What was tolerable?
5. What did you just not like?

Remember, for every “what” and “were” give a “why”.