## Discribe the events that took place 16<sup>th</sup> July 1945 in Alamogordo New Mexico.

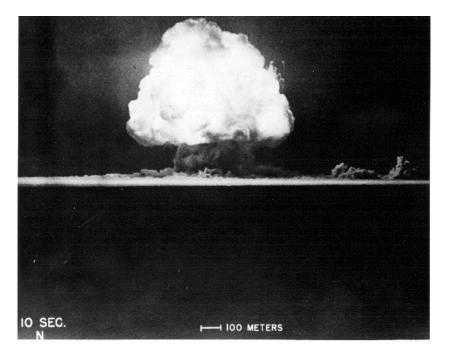
<u>Robert Oppenheimer</u> was made director of the Los Alamos lab, and in 1943 he gathered about 200 of the best scientists in the field to live and work there. They designed two bombs, one using uranium (called "Little Boy") and one using plutonium ("Fat Man"). By early 1945, the plants at Oak Ridge and Hanford had produced enough raw material for testing. On July 13, 1945, at a site called Trinity 100 km northwest of Alamogordo, a plutonium bomb was assembled and brought to the top of a tower. The test was postponed by thunderstorms. On July 16, the bomb was detonated, producing an intense flash of light seen by observers in bunkers 10 km away and a fireball that expanded to 600 meters in two seconds. It grew to a height of more than 12 kilometers, boiling up in the shape of a mushroom. Forty seconds later, the blast of air from the bomb reached the observation bunkers, along with a long and deafening roar of sound. The explosive power, equivalent to 18.6 kilotons of TNT, was almost four times larger than predicted.

Some of the Los Alamos scientists had circulated a petition asking President Truman to give Japan a warning and a chance to surrender before using the bomb. Some signed, some didn't, but the project remained a secret until the end.

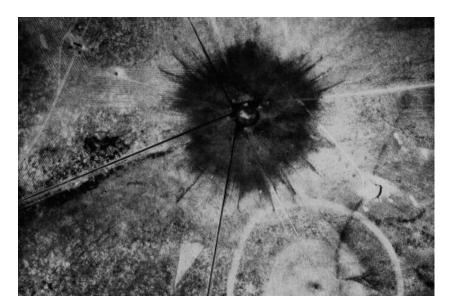
Twenty-one days after the test, the B-29 bomber Enola Gay dropped the uranium bomb on Hiroshima, Japan. Three days later the plutonium bomb was used to bomb Nagasaki. The two bombs killed approximately 150,000 people when they fell. Earlier in the year, intense bombing of Tokyo with conventional bombs had killed about 100,000 people without causing Japan to surrender, but on August 15, 1945, Japan officially surrendered, bringing an end to World War II.

After the war, hydrogen bombs and other nuclear weapons continued to be developed by the United States and its former ally the Soviet Union. The competition between the ideologically different nations led to an "arms race" that shaped the postwar decades both economically and philosophically. Nuclear fission was also put to civilian use in power generators in several countries. They made cheap electricity and were a source of radioisotopes for other types of research, but came with their share of problems and dangers. Reactors are still in use, but in many places have fallen out of favor as an energy source.

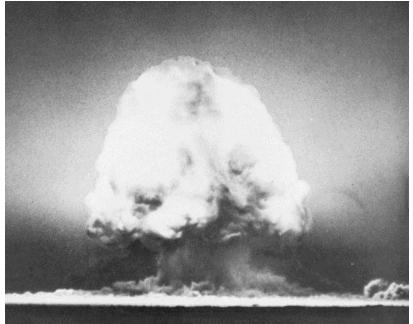


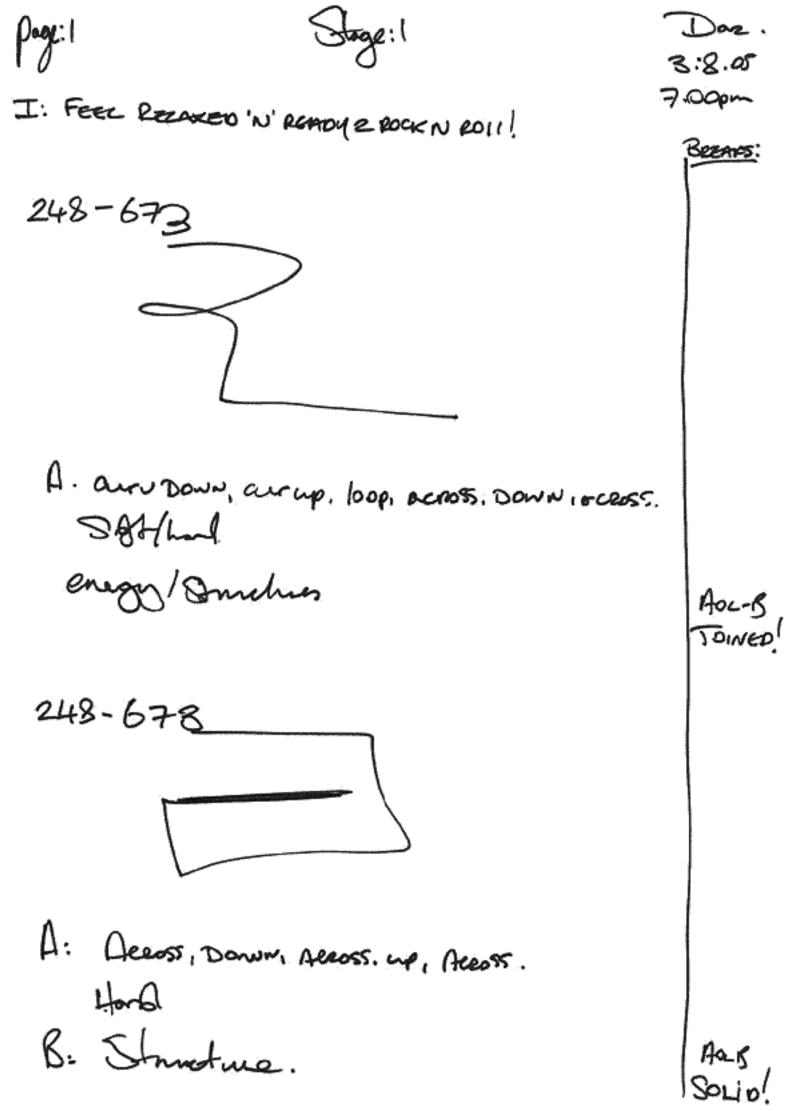


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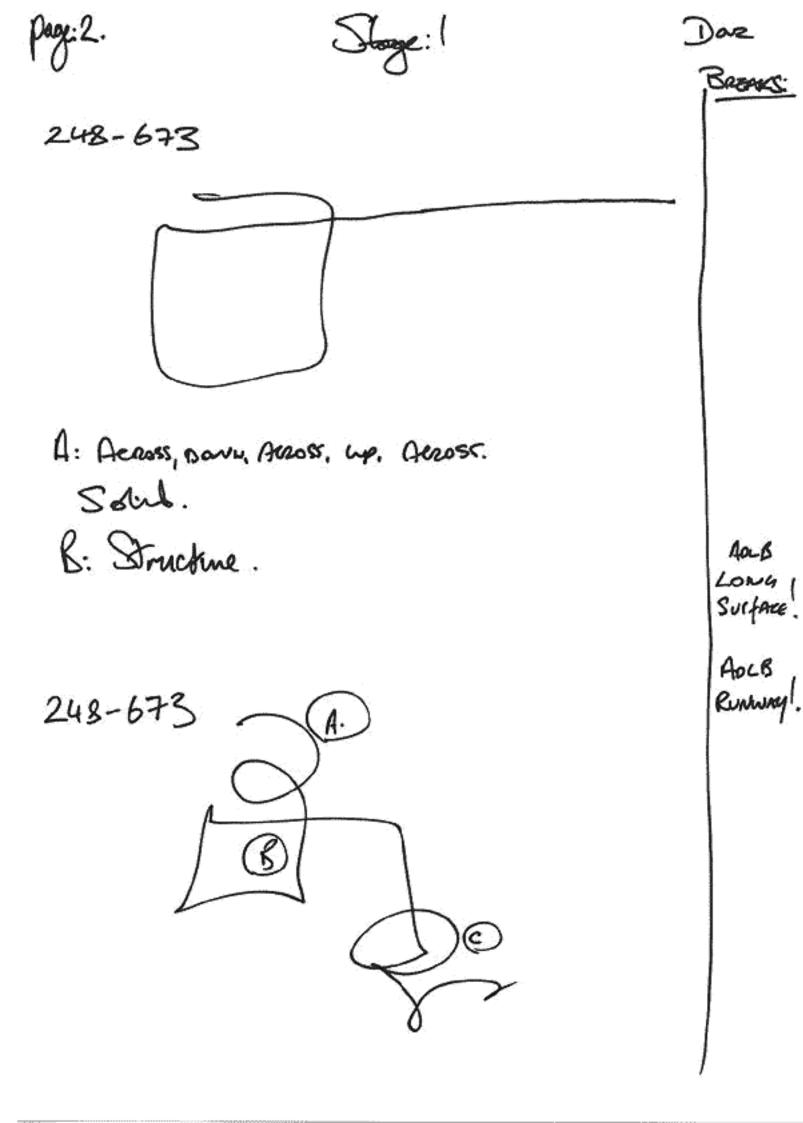








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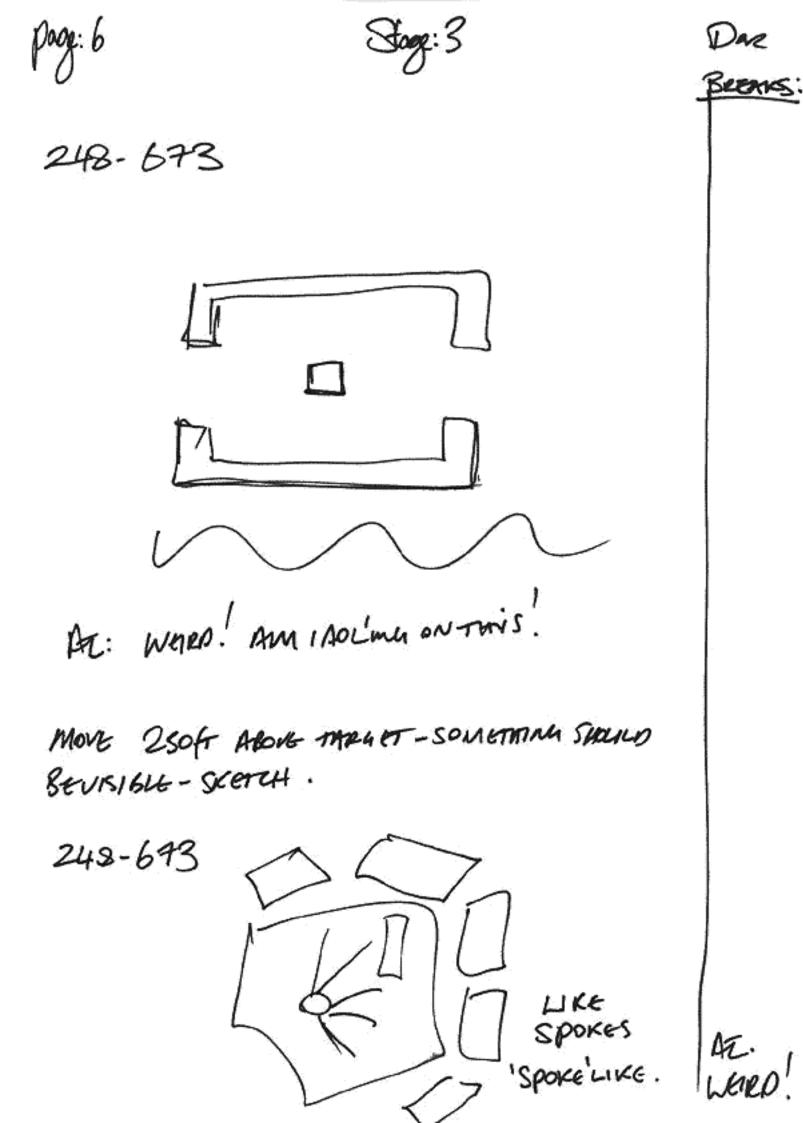
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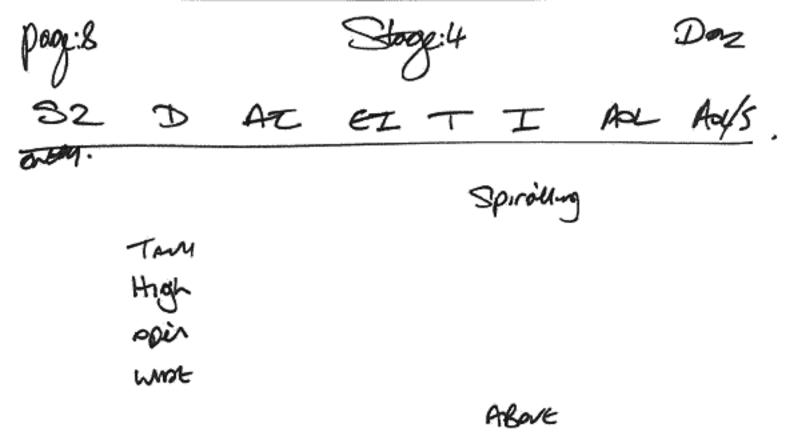
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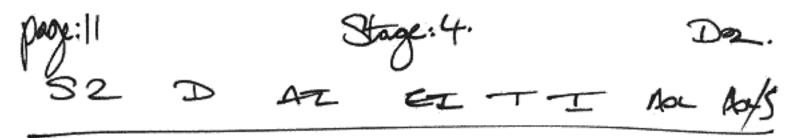
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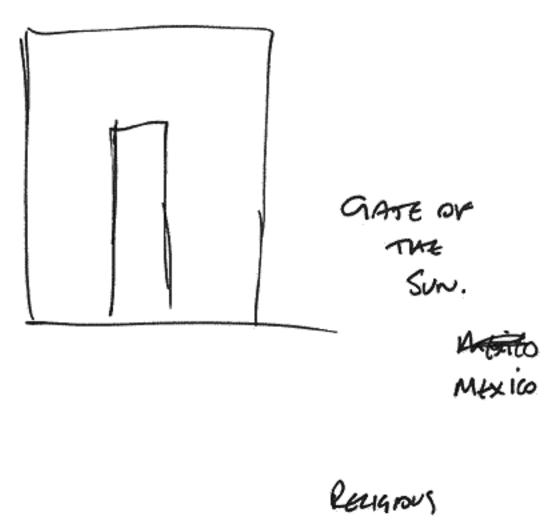
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