Notes for teachers:

This game helps students see how many different people, skills, materials and luck contributed

to the creation of the first atomic weapons

It is based on a real game that is just too complicated for classroom use

This is my simplification that (hopefully) retains the teaching involved in the original

You will need:

One six-sided die

The cards cut into individual cards (you will need enough for each student)

**Manhattan Project Game**

The world is at war!

You are the leader of your own nation

A team of pesky scientists comes and tells you that other (enemy) nations are constructing

nuclear weapons

You need to keep up!!

You start the process with your team of scientists

You will need another team of scientists and a university research facility to create ideas needed

for the bomb – one idea for a U235 bomb, two for a Pu239 bomb

You will need a uranium mine and at least one team of workers to mine yellowcake – uranium

ore

You will need an aircraft factory, a team of engineers and at least one team of workers to build

fighter planes and bomber planes for delivery of the weapons

You will need a uranium enrichment facility, a team of scientists, a team of engineers and at

least one team of workers to retrieve U235 from yellowcake ore for a Uranium bomb

OR you will need a breeder reactor, a team of scientists, a team of engineers and at

least one team of workers to retrieve Pu239 ore from yellowcake for a Plutonium bomb

You can make **either** a Uranium or a Plutonium bomb – **you don’t have to make both**

**Positions needed:**

**Keeper of the Universities** – distributes university cards

**Keeper of the Mines** – distributes mine cards

**Keeper of the Factories** – distributes factory cards

**Keeper of the Enrichment Facilities** – distributes enrichment facility cards

**Keeper of the Breeder Reactors** – distributes reactor cards

**Keeper of the Workers** – distributes the worker teams cards

**Keeper of the Scientists** – distributes the scientist teams cards

**Keeper of the Engineers** – distributes the engineer teams cards

**Keeper of the Yellowcake –** distributes yellowcake ore tokens

**Keeper of the U235 –** distributes U235 tokens

**Keeper of the Pu239** – distributes Pu239 tokens

**Keeper of the Airplanes –** distributes airplane markers

**Keeper of the Ideas –** distributes idea markers

When you have 2 teams of scientists and a university, you can get an “idea” marker

(maximum of 2)

When you have at least one team of workers and a mine, you can get a yellowcake for

each team (maximum of 6), if you have two teams of workers, you can get 2 yellowcakes

If you have a team of engineers and workers and a factory, you can get planes (only one type

of plane: fighter or bomber in a turn)

If you have a team of scientists, engineers and workers, at least one yellowcake and an

enrichment facility, you can get a U235 marker (you must trade in one yellowcake), if

you have two teams of workers, you can get two U235 markers for two yellowcakes

If you have a team of scientists, engineers and workers, at least one yellowcake and a breeder

reactor, you can get a Pu239 marker (you must trade in one yellowcake), if you have two teams of workers, you can get two Pu239 markers for two yellowcakes

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| • | The first time you roll a “1” you get a university research department | The second “1”, you get another team of scientists (maximum of 2) | When you have 2 teams of scientists stationed at your university, another “1” gets you the first “idea” marker, another gets the second |
| •    • | The first time you roll a “2” you find a uranium mine | The second or third “2”, you get a team of workers (maximum of 2) | When you have at least one team of workers stationed at the mine, another “2” gets you a yellowcake for each team (maximum of 6) |
| •  •  • | The first time you roll a “3” you build an aircraft factory | The second or third “3”, you get a team of engineers (maximum of 2) | If you have a team of engineers and workers at the factory, another “3” gets you a plane (maximum - one of each type of plane) |
| • •    • • | The first time you roll a “4” you build a uranium enrichment facility | Another “4” can get you a team of workers, scientists or engineers (your choice) with a maximum of two teams of each type or: | If you have a team of scientists, engineers and workers stationed at the facility, another “4” gets you a U235 marker (you must trade in one yellowcake). If you have two teams of workers, you can get two U235 markers for two yellowcakes. |
| • •  •  • • | The first time you roll a “5” you build a breeder reactor to synthesize plutonium | Another “5” can get you a team of workers, scientists or engineers (your choice) with a maximum of two teams of each type or: | If you have a team of scientists, engineers and workers stationed at the facility, another “5” gets you a Pu239 marker (you must trade in one yellowcake)  If you have two teams of  workers, you can get two Pu239 markers for two yellowcakes. |
| • • •    • • • | Skip a turn |  |  |

When you have at least one U235 marker and one “idea” marker, you can test a bomb

(you don’t have to… you can wait until you have more fuel)

When you have at least one Pu239 marker and two “idea” markers, you can test a bomb

(you don’t have to… you can wait until you have more fuel)

**To test your bomb**, roll the die:

If the sum of your fuel markers and the points on the die sum to a value greater than or

equal to seven, you have a successful bomb test!

If not, you lose the fuel markers used in the test

The first nation to have a successful bomb test **and** both types of aircraft to deliver the bomb **WINS!!!!!!**

The person who creates the bomb first wins

**I was the keeper of the:**

**I was the first to successfully test my bomb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**



**!**

**!!**

