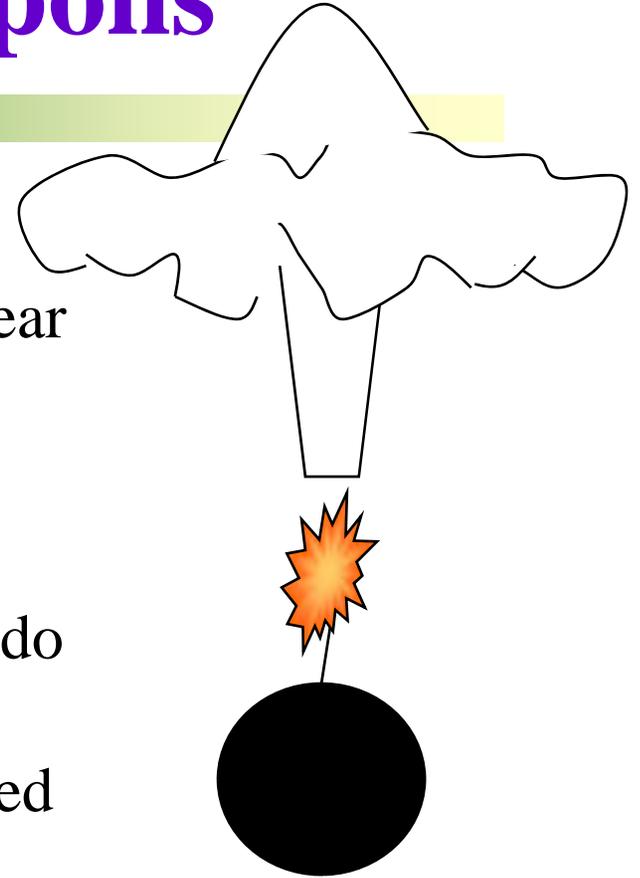




Dirty Bombs

Radioactive Weapons

- **Atomic bombs**, such as those dropped over Japan in World War II, involve nuclear reactions and produce a sudden intense radiation exposure and large amounts of radiation contamination.
- “**Dirty bombs**” are regular bombs which do not involve nuclear reactions, but contain radioactive material which can be dispersed by the explosion of the bomb.



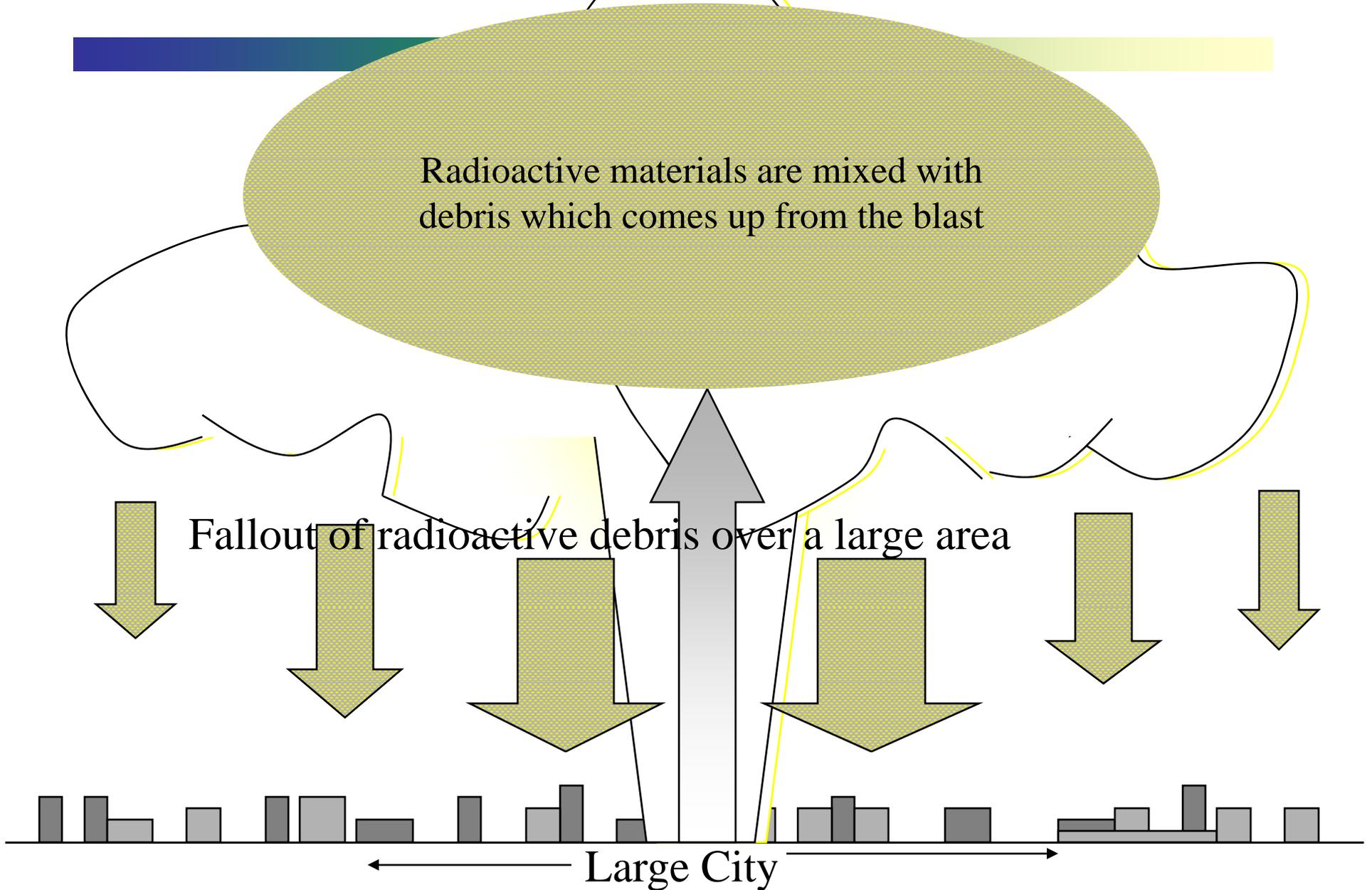
These weapons are NOT the same! Even though both contain radioactive material, the amount of the damage and exposure they produce are different by many orders of magnitude.

ATOMIC BOMB

Radioactive materials are mixed with debris which comes up from the blast

Fallout of radioactive debris over a large area

Large City



Dirty BOMB

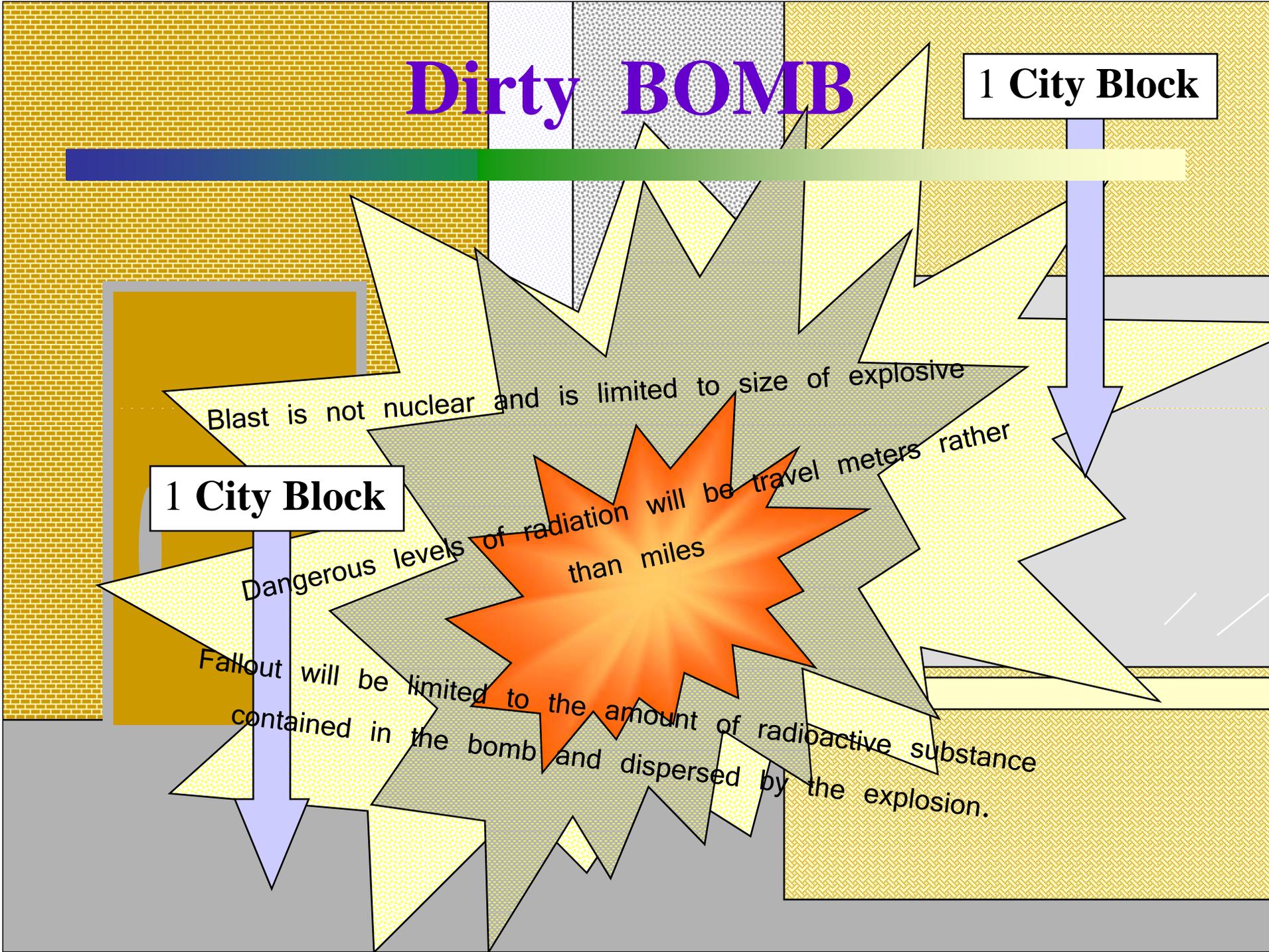
1 City Block

1 City Block

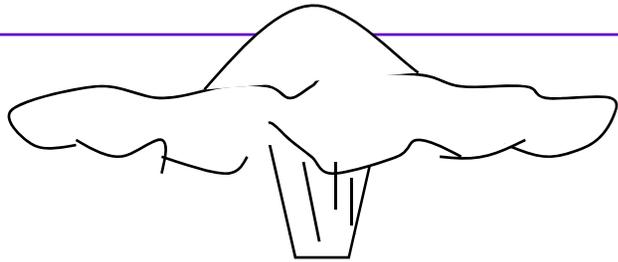
Blast is not nuclear and is limited to size of explosive

Dangerous levels of radiation will be travel meters rather than miles

Fallout will be limited to the amount of radioactive substance contained in the bomb and dispersed by the explosion.



RADIATION



Atomic Bombs

- Large lethal Radiation Zone(miles)
- Atmospheric fallout (global)
- High Risk



Dirty Bombs

- Very small lethal radiation zone (ft)
- Limited fallout (local)
- Minimal Risk

Problems with Dirty Bombs



1. Panic

2. Clean-up Costs \$\$\$

3. Health Effects

Problems with Dirty Bombs



1. DON'T Panic

- Dose decreases rapidly with time and distance from the bomb- leave the area quickly
- Shielding is an effective protection- take cover and cover as much of your skin as possible.
- Knowledge can help put risk and fear into perspective

Problems with Dirty Bombs



2. Clean-up Costs do not need to be outrageous \$\$\$

- No health effects have been seen up to 30 times background level
- The contamination site is limited, and could be cleaned up to near background level.

Problems with Dirty Bombs



3. Health Effects from a dirty bomb are much greater from the blast of the bomb than from the radiation involved.

Sources of Damage from a Dirty Bomb

Blast



- External Radiation
 - Depends on material
 - Can be shielded
- Internally Deposited Radioactive Material
 - Depends on material
 - Must be inhaled or ingested

“Radiation Pill”



Potassium Iodide “pills” offer partial protection against thyroid cancer if given very early in the exposure. They limit the amount of radioactive Iodine¹³¹ that can be deposited in the thyroid gland.

- Doesn't protect from blast
- Doesn't protect from external exposure
- Doesn't protect from other radioactive material
- Doesn't protect from other cancers
- There is no effective “radiation pill”

Dirty Bombs

- Knowledge can help put risk and fear into perspective
- For more information:
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