Use of the descriptive word “collapse” to describe a process whereby the twin towers were turned to dust without the ability to have top heavy mass interact with mass underneath the pulverized mass sufficient to satisfy the criteria of two of the laws of physics is visibly obvious. The two laws of physics that are violated to such a degree that they are ignored altogether by NIST, in complete and total derivation of the requirements of the DQA are:

**Law of Conservation of Momentum; and**

The amount of momentum (p) that an object has depends on two physical quantities: the mass and the velocity of the moving object.

\[ p_1 = m_1 \times v_1 \]

where \( p \) is the momentum, \( m \) is the mass, and \( v \) the velocity.

If momentum is conserved it can be used to calculate unknown velocities following a collision.

\[ (m_1 \times v_1)_I + (m_2 \times v_2)_I = (m_1 \times v_1)_f + (m_2 \times v_2)_f \]

where the subscript \( I \) signifies initial, before the collision, and \( f \) signifies final, after the collision.

If \( (m_1)_I = 0 \), and \( (v_2)_I = 0 \), then \( (v_2)_f = 0 \).

So, for conservation of momentum, there cannot be pulverization.

If we assume the second mass is initially at rest \( (v_2)_I = 0 \), the equation reduces to

\[ (m_1 \times v_1)_I = (m_1 \times v_1)_f + (m_2 \times v_2)_f \]

As you can see, if mass \( m_1 = m_2 \) and they “stick” together after impact, the equation reduces to

\[ (m_1 \times v_1)_I = (2m_1 \times v_{new})_f \]

or \( v_{new} = (1/2) \times v_1 \)

If two identical masses colliding and sticking together, they will travel at half the speed as the original single mass.

**Law of Conservation of Energy.**
In elastic collisions, the sum of kinetic energy before a collision must equal the sum of kinetic energy after the collision. Conservation of kinetic energy is given by the following formula:

\[
(\frac{1}{2})(m_1 \cdot v_{1}^2)_f + (\frac{1}{2})(m_2 \cdot v_{2}^2)_f = (\frac{1}{2})(m_1 \cdot v_{1}^2)_i + (\frac{1}{2})(m_2 \cdot v_{2}^2)_i + (\text{Pulverize}) + (\text{Fail Floor Supports})
\]

where (Pulverize) is the energy required to pulverize a floor and (Fail Floor Supports) is the energy required to fail the next floor.

If \((\frac{1}{2})(m_1 \cdot v_{1}^2)_I + (\frac{1}{2})(m_2 \cdot v_{2}^2)_I = (\text{Pulverize}) + (\text{Fail Floor Supports})\), there will be no momentum transfer.

In reality, \((\frac{1}{2})(m_1 \cdot v_{1}^2)_I + (\frac{1}{2})(m_2 \cdot v_{2}^2)_I < (\text{Pulverize}) + (\text{Fail Floor Supports})\),

So, for conservation of energy, we must assume there is some additional energy such that,

\[
(\frac{1}{2})(m_1 \cdot v_{1}^2)_I + (\frac{1}{2})(m_2 \cdot v_{2}^2)_I + (\text{Additional Energy}) = (\text{Pulverize}) + (\text{Fail Floor Supports})
\]

where (Additional Energy) is the additional amount of energy needed to have the outcome we observed on 9/11/01.