Count nouns are those that name things that occur in discrete units

Examples: problem, particle, occurrence, sample, capacitor, collision, calculation, analysis

Count nouns can be modified by a number (one atom, 50 000 collisions per ms, 24 sensors, a dozen apples)

Count nouns may be singular or plural

Singular count nouns can take an indefinite article (a or an)

Count nouns may be modified by a quantifier (e.g., every, each, several, many, few)
Count nouns usually* made plural by adding an s or an es to the end of the word

Some notable exceptions in scientific writing:
Words ending in is change to es—analysis, basis, thesis
Words ending in ix or ex change to ices—appendix, vortex
Words ending in um change to a—colloquium, datum

*It’s English—we always have exceptions

What about data?

In scientific writing, data is a plural noun and takes a plural verb—the data show

The Associated Press style guide now says data takes a singular verb, but we have higher standards in physics
Mass nouns are those that name things that are treated as undifferentiated units

Examples: flour, water, equipment, evidence, knowledge, research, jargon, physics, damage, information, work, advice, progress, stuff

Mass nouns are indivisible; are almost always* expressed as a singular in English and take a singular verb

Although they are treated as singular, mass nouns cannot take an indefinite article (a or an)

Mass nouns cannot be modified by most quantifiers (e.g., many, few, several, each)

Some mass nouns (those that can be weighed or measured) can be modified by a number if a unit of measure is specified (2 kg of flour, 3 ml of water)

*It’s English—we always have exceptions

A mass noun is a grammatical construct

Whether a noun is a mass noun has nothing to do with the inherent qualities of the object or objects to which the noun refers

* car, truck, SUV, motorcycle, freeway, lane (count nouns)

* traffic (mass noun)

* transportation (mass noun)

* rush hour (mass noun)
Dividing a mass noun into its constituent parts requires adding another word or using a completely different word*

clothing \(\rightarrow\) *article* of clothing; shirt, dress
equipment \(\rightarrow\) *piece* of equipment; microscope, drill press
pollution \(\rightarrow\) pollutant; heavy metal, \(\text{CO}_2\)
literature \(\rightarrow\) literary work; article, monograph, poem
text \(\rightarrow\) letters, words, phrase, sentence, page, chapter
research \(\rightarrow\) experiment, project, study, investigation, calculation, analysis

*note that the words for the parts are *count nouns*

Common mistake—making mass nouns plural (which changes the meaning)

damage (mass) = physical harm that impairs an object’s value, usefulness, or normal function
damages (mass) = a sum of money claimed or awarded by a court to compensate a victim for a loss or injury
text (mass) = the collection of words on a page or screen
texts (count) = individual books or manuscripts (think textbooks)
work (mass) = activity involving mental or physical effort
works (count) = individual products of human (usually artistic) endeavor—think *works* of art—OR an industrial complex or engineering structure (*steelworks*)
OR (mass) an internal mechanism (the *works* of a watch)
Use the correct modifier!

<table>
<thead>
<tr>
<th>Mass Nouns</th>
<th>Count Nouns</th>
</tr>
</thead>
<tbody>
<tr>
<td>no indefinite articles ((a \text{ or } an))</td>
<td>can take any article</td>
</tr>
<tr>
<td>more than</td>
<td>more than</td>
</tr>
<tr>
<td>less than (weighed or measured)</td>
<td>fewer than (counted)</td>
</tr>
<tr>
<td>amount of (weighed or measured)</td>
<td>number of (counted)</td>
</tr>
<tr>
<td>as much as (weighed or measured)</td>
<td>as many as (counted)</td>
</tr>
</tbody>
</table>

Writing “The Raman studies showed the effects of varying excitation energies on the type and amount of defects in graphene” is not strictly wrong, and people will understand what you mean, but it sounds witless. *Defects* are counted, not weighed or measured.

Common mistake—using the wrong modifier

“Suppressing epidemics with a limited amount of immunization units”

*units* are counted; should be *number*

“Quantum, classical, and total amount of correlations in a quantum state”

*correlations* are counted; should be *number*

“Nonlinear optics with less than one photon”

*photons* are counted; should be *fewer than*

(How can you have less than one photon?)

(all titles from PRL articles, <sigh>
Some words may be used as both mass and count nouns, but their meanings are different

chicken (count noun—animal)

chicken (mass noun—foodstuff)

Some words may be used as both mass and count nouns, but their meanings are different

faculty (mass noun—professors)

faculties (count noun—a person's senses or intellect)
A collective noun refers to a collection of individual people or things taken as a whole

Examples: audience, committee, faculty, ensemble, class, team, array, group, bunch

Most collective nouns are treated as singular in US English and take singular verbs and singular pronouns

The committee nominates the club’s officers.
The committee tabled its discussion of the budget.

If the members of a group are not acting in unison, plural verbs and pronouns might be used

The committee are fighting among themselves.
The committee adjourned to stretch their legs.

Collective nouns can be mass (audience) or count (team)

To recap:

Count nouns = discrete, individual units
Mass nouns = cannot be divided
Don’t make mass nouns plural
Don’t use an indefinite article with a mass noun
Use the right qualifier!
Collective nouns are usually singular in US English

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