1 Verbs

Remember two important rules when you use verbs:

1. The number of subject determines the number of verb
2. Do not mix uncoherent tenses

1.1 Number and person

When the subject is singular third person (she/he/it), the verb needs suffix -s (in the present, positive sentence). The auxiliary verbs have their own special forms (is, can, has, does).

Be careful with special phrases:

"A number of new experiments were done" (plural)
"Plenty of time was spent..." (singular)
"A few data points belong to cluster X" (plural)

1.2 Tenses (temporal forms)

- In scientific writing, the default is present (is). With present, you can combine perfect (has been) (and future, will be) if needed, but not the other tenses.
- Use past tense (was) only for good reasons. It expresses that something belongs to the past and has already finished. E.g. when you report your experiments.
• Past perfect (had been) is seldom needed. It is used, when you describe something in past tense, and you refer to something which has happened before it. E.g. "We tested the system with data which had been collected in Programming 1 course."

1.3 Active or passive voice, which person?

1.3.1 Use of passive voice

• In active voice the actor is known, while in passive voice it is unknown.

• In the basic form of passive ("sg is done"), you can express also the actor ("sg is done by sy"). Expressing the actor is always more informative!

• It is often recommended to prefer active voice, but in scientific writing passive voice is sometimes convenient. It allows us to draw the reader’s attention to the phenomenon or event, instead of actor. E.g. "The probabilities are updated by Bayes rule", "The values are recorded every minute".

• Often the purpose determines the voice. Usually we want to begin with a familiar word and put the new information in the end. E.g. before an equation or a definition, we can say "The model is defined as follows.".

• However, do not overuse passive, and do not chain passive expressions. As a rule of thumb, use only one passive per sentence

• Read Section 11 in Strunk: "Elements of style"! (link in the course page)

1.3.2 "It is" and "There is/are"

• A formal subject "it" is sometimes used in passive expressions: "It is often recommended [reference] that..."

• Typical verbs in this expression are: say, suppose, consider, expect.

• "There is/there are" is a similar expression, but now we don’t need the passive. This expression is used when the real subject (what is somewhere) comes later and we haven’t mentioned it before.

E.g. "There was only one outlier in the data set 1" c.v. "The outlier was in the data set 1."
• The verb is nearly always "be" (sometimes "exist" or something else)
• Notice that the verb follows the real subject’s number.
  E.g. "There were a lot of outliers in the data set 1."
• "There is" expression is seldom needed in scientific writing, and often you can circumvent it:
  "The data set 1 contained a lot of outliers."

1.3.3 Other passive expressions

• "We" can be used as passive. E.g. "In Chapter \(X\), we define the basic concepts." However, it is better to say "The basic concepts are defined in Chapter \(X\)."
• "You" is sometimes used as passive, especially in manuals. Don’t use it in scientific text!
• "People" when you refer generally to people. Quite vague expression, not recommendable!

1.3.4 Person?

• Basic rule: avoid the first person (no opinions, but facts). However, sometimes we can use "we" as a passive expression. Problem: whom you are referring to, if you write alone?

• Referring to yourself: you can talk about "the author”. E.g. "All programs have been implemented by the author." Notice that I don’t guarantee that your supervisor likes this! Some supervisors prefer "I".

• Gender-neutral language: when you refer to an unknown user, student, etc. try to use gender-neutral language.
  – The most common way is to say "she/he" ("s/he") or "he or she". Some authors are careful about the order of her/him, as well! E.g. you can use every second time "she or he" and every second time "he or she". Remember to put the other pronouns in the same order ("She/he tries her/his best")
  – "One" is neutral, but sounds often awkward. "The learner can define one's own learning goals"
  – Sometimes you can avoid the problem by using plural.
1.4 Other notes

- Do not use short forms "isn’t, can’t, doesn’t", but "is it, cannot, does not".
- "be verb+ing" form when something is currently happening or takes some time. E.g. "Thread 2 can be started in the same time when thread 1 is running"
- Some verbs require that the following verb is in -ing form:
  \{enjoy, avoid, succeed in, finish, keep, mind, practice, risk\} + doing
  E.g. "Students enjoyed learning new things"
- Special phrases: "be used to", "be (un)likely to"

1.5 Noun syndrom

"Noun syndrom" = use of common verbs \{be, do, have, make, \...\} + a noun

E.g. "We can get better understanding...", "Different people have different responses to the methods"
⇒ Prefer illustrative verbs!

**Task:** How would you correct the previous sentences?

**Useful verbs:**
represent, analyze, compare, demonstrate, illustrate, summarize, conclude, list, define, report, model, implement, design, consider, involve, simplify, generalize, perform, be based on sg., take into account sg., depend on sg, increase, decrease, evaluate, predict, assign, require, satisfy, ...

**Task:** What is the difference between the following concepts? Give examples when they are used!

evaluate – assess
compute – calculate
derive – infer – conclude
approximate – estimate
discover – find
1.6 Often needed irregular verbs

The following list contains irregular verbs which are sometimes needed in computer science expressions, excluding the most common ones (which all of you know!):

choose – chose – chosen
find – found – found
hide – hid – hidden
hold – held – held
lead – led – led
lose – lost – lost
rise – rose – risen
seek – sought – sought
show – showed – shown
spin – spun – spun
split – split – split
spread – spread – spread
stick – stuck – stuck

In addition, the last consonant can be doubled before -ed, if

• if the spell is short and stressed: planned, dropped,
• the consonant is ‘l’: travelled, modelled, biassed

Notice: American English is not so strict, and ispell can complain about correct spelling!