A context switch is pretty much when the computer decides to stop running one thing and then run another thing, and it sort of swaps them out in some way. The OS kind of copies stuff over and then loads other stuff, and the CPU then knows what to do next. It is basically like switching tabs in a browser but for threads, so it changes whatever it needs so the new thing can run, and that is about it. The details are not super clear but the OS handles it for you so you don't really have to think too much about it once it happens.

When a lot of threads wake up at the same time, the kernel then has to figure out which one it wants to run. It probably looks at the threads and then picks them, maybe by priority or maybe in the order they woke up in, but in general the OS will try to keep the system from getting too slow by just picking one that seems right. It might also shuffle them around a bit or do something with queues, but the main idea is that the kernel picks the next one somehow, and this can cause delays if it has a lot to look at.

A page fault is when you try to read some memory and it is not there for some reason, and the computer gets confused and has to go get it. It might be on disk, or maybe it was not loaded yet, so the OS has to load it back in or fix something in the memory tables. Once that is done it can keep going, but sometimes this is slow because disks are slower than RAM and the OS has to do extra steps.

Locks can cause issues because when you lock things, other threads can't go in, so the more threads you have, the more likely it is things slow down. Sometimes the lock might take a while or it can get stuck, which makes the whole process worse. Even if there is not a real conflict, a lock that is used a lot can still make the program not run as fast because it adds extra steps.

A system call is when a program needs the OS to do something for it like write a file or open something, so it calls into the system. The CPU switches modes and then does the work in some special mode, and then it switches back. This is important because only the OS can do certain things, so the program has to ask for them. The exact process is complicated but the OS handles all of it so the user just gets the result.