# TSAA – Friday. 27th May

## Classwork

### CACHE MEMORY

Most PCs are held back not by the speed of their main processor, but by the time it takes to move data in and out of memory. One of the most important techniques for getting around this bottleneck is the memory cache.

The idea is to use a small number of very fast memory chips as a buffer or cache between main memory and the processor. Whenever the processor needs to read data it looks in this cache area first. If it finds the data in the cache then this counts as a 'cache hit' and the processor need not go through the more laborious process of reading data from the main memory. Only if the data is not in the cache does it need to access main memory, but in the process it copies whatever it finds into the cache so that it is there ready for the next time it is needed. The whole process is controlled by a group of logic circuits called the cache controller.

One of the cache controller's main jobs is to look after 'cache coherency' which means ensuring that any changes written to main memory are reflected within the cache and vice versa. There are several techniques for achieving this, the most obvious being for the processor to write directly to both the cache and main memory at the same time. This is known as a 'write-through' cache and is the safest solution, but also the slowest.

The main alternative is the 'write-back' cache which allows the processor to write changes only to the cache and not to main memory. Cache entries that have changed are flagged as 'dirty', telling the cache controller to write their contents back to main memory before using the space to cache new data. A write-back cache speeds up the write process, but does require a more intelligent cache controller.

Most cache controllers move a 'line' of data rather than just a single item each time they need to transfer data between main memory and the cache. This tends to improve the chance of a cache hit as most programs spend their time stepping through instructions stored sequentially in memory, rather than jumping about from one area to another. The amount of data transferred each time is known as the 'line size'.

| Word | Translation | Example in Spanish | Example in English |
|---|---|---|---|
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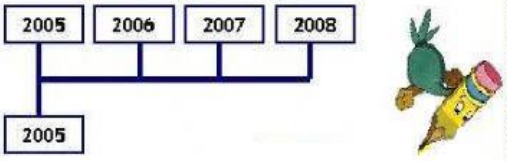
- Find synonyms in the text for these words

1. Essential (line 4) _____
2. Quick (line 6) _____
3. Chief (line 7) _____
4. Enter (line 14) _____
5. Evident (line 24) _____
6. Enable (line 30) _____
7. Need (36) _____
8. Information (45) _____

# PRESENT PERFECT WITH FOR AND SINCE

We use FOR when we are talking about a period of time.
We use SINCE when we are talking about the start of the period.






She has lived in London FOR three years.
She has lived in London SINCE 2005

Put these time expressions in the correct list.

- yesterday
- two months
- a week
- June
- Wednesday
- six hours
- last month
- five days
- 1992
- fifteen minutes
- a long time
- ten years
- last summer
- a short time
- I was ten
- eight o'clock

| FOR | SINCE |
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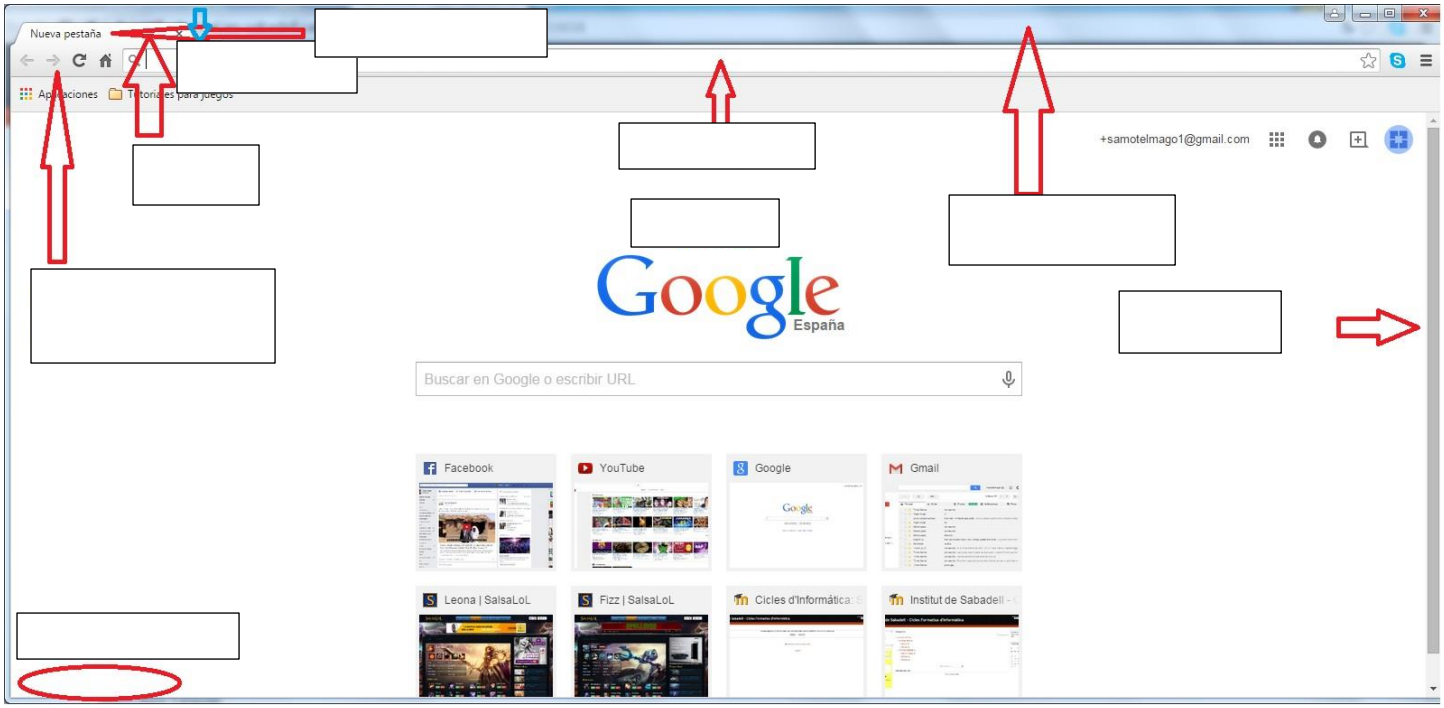
Complete the sentences using Present Perfect (remember to use the 3rd column of the verbs) Then, choose for or since .

E.g. She ___has lived___(live) in London for / since five years.

1) Nick ___known___ (know) Tom for / since he moved to London.
2) Mrs Harris ___was___ (be) a teacher for / since twelve years.
3) Felix ___lives___(live) in Paris for / since 1998.
4) You ___doesn't played___ (not/ play) the piano for / since several weeks.
5) I ___don't saw___ (not/ see) Emma for / since last week.
6) They ___studied___ (study) English for / since three months.
7) Sarah ___doesn't spoke___ (not/speak) to Eva for / since five days.
8) We ___were there___ (be) there for / since three hours.
9) He ___looked___ (look) for his keys for / since a long time.

- Write examples using the present perfect tense

1. _____
2. _____
3. _____




BACK AND FORWARD BUTTONS – TITLE BAR – STATUS BAR – TOOLBAR ICONS – ADDRESS BAR

BROWSER – SCROLL BARS – TAB BUTTON – DISPLAY WINDOW

**SOFTWARE, BACKUP, SERVER, BOOT, BROWSE, CACHE, CODE, CRASH, CURSOR, DASHBOARD, DATABASE, DELETE, DESKTOP, FIRMWARE, FOLDER, FREEWARE, INSTALL, VIRUS**

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|---|---|
| 1. SCRAH | ..... |
| 2. HRDBDSOAA | ..... |
| 3. OOTB | ..... |
| 4. OWSREB | ..... |
| 5. WMERIARF | ..... |
| 6. FEAREWER | ..... |
| 7. CSORRU | ..... |
| 8. FEAOWSTR | ..... |
| 9. OFLRED | ..... |
| 10. TEDSKPO | ..... |
| 11. LDTEEE | ..... |
| 12. SUIRV | ..... |
| 13. TLLISAN | ..... |
| 14. RRESVE | ..... |
| 15. ACHEC | ..... |
| 16. ECDO | ..... |
| 17. DBSTAAAE | ..... |
| 18. ABPCUK | ..... |

Ordená para formar las palabras de la caja y buscá su traducción si es necesario.