

Attributed to Newton

A PUR-80 10 line BASIC game for the Sharp MZ-80K.

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Game Description:

Using good judgement and skill, work out which of the 20 phrases presented to you are attributed to Sir Isaac Newton.

Simply answer Y if you think the phrase is attributed to Newton. All other responses mean that you think it is not his wisdom.

Each phrase is allocated a number of Newton points. If a phrase scores 18 points or more, it means it is attributed to Newton. As words always score the same number of points during each game, it should become easier to work out which phrases are attributed to Newton as the game progresses.

Your aim is for your wisdom score to be as close to 100% by the end of the game as possible.

Gameplay screenshot:

```
1. Pears bash donkeys
Wisdom attributed to Newton? Y
Oh dear!
That was Einstein, relatively speaking
Newton points 12, Your wisdom is 0%

2. Apples eat gravity
Wisdom attributed to Newton? N
Oh dear!
Newton points 21, Your wisdom is 0%

3. Mice love plants
Wisdom attributed to Newton? N
```

Code and documentation:

```
LIST
1  DATA Apples, Bananas, Carrots, Eggs, Fish, Fruit, Grapes, Ham, Ice Cream, Jam, Ketchup, Lemon, Marmalade, Nuts, Onions, Peaches, Pineapples, Potatoes, Quinces, Radishes, Spinach, Tomatoes, Turnips, Veggies, Walnuts, Yams, Zucchini
2  DIM S$(100), V$(100), A$(100)
3  N=INT(100*RND)+1
4  S$=""
5  V$=""
6  A$=""
7  O=0
8  IF N<10 THEN O=O+1
9  IF N<10 THEN PRINT "Einstein said: " & S$ & V$ & A$
10 PRINT "The phrase is: " & S$ & V$ & A$
11 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
12 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
13 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
14 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
15 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
16 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
17 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
18 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
19 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
20 IF N<10 THEN PRINT "The phrase is: " & S$ & V$ & A$
```

Lines 1-3 – Game data. U is set to the number of phrases.

Line 4 – String array variables holding each part of the phrase (S\$,V\$ and A\$). N stores a random number of points per word so that the phrase's 'Newton points' can be calculated using function FNA().

Lines 4-5 – Initialise game data and clear the screen.

Line 6 – Generate a random phrase and calculate the number of Newton points it has (stored in numeric variable O).

Lines 6-7 – Print out the phrase and ask if it is attributed to Newton.

Line 8 – If the guess is "Y" and O>17 or if it is "N" and O<18 add one to the score and tell the player they have given the right answer. Branch to line 10.

Line 9 – Reached only if the guess is incorrect. If the guess was that the phrase was attributed to Newton, tell the player who really said it (Einstein, of course).

Line 10 – Display the number of Newton points the phrase was worth, to enable the player to guess better next time. Display the wisdom percentage of the player. If this isn't the twentieth phrase display the next one.

Emulator:



The one available from <http://takeda-toshiya.my.coocan.jp/mz80k/index.html> is recommended. Follow the link at the top of this page to the common source code project, download and extract the binary archive (for Windows XP/Vista/7/8/8.1/10).

In the emulator directory this process creates, you need to install the MZ-80K European fonts and monitor program. These can be downloaded from:

SP-1002 monitor ROM: <https://original.sharpmz.org/mz-80k/download/80kmoni.zip> (ipl.rom)

MZ-80K fonts (EU): <https://original.sharpmz.org/mz-80k/download/80kcg.zip> (font.rom)

Unzip, and rename the monitor ROM to ipl.rom and the font file to font.rom. Place them in the emulator directory (where the mz80k.exe file will be found).

 font.rom	24/01/2021 10:08	ROM File	2 KB
 ipl.rom	24/01/2021 10:37	ROM File	4 KB
 mz80k.exe	24/01/2021 10:13	Application	847 KB

If all is well, running mz80k.exe should display the following:



Next, load a copy of the Sharp SP-5025 BASIC interpreter. The MZ-80K was supplied with BASIC on tape, rather than it being pre-loaded in ROM.

A copy of the SP-5025 BASIC interpreter can be downloaded from here:

<https://original.sharpmz.org/download/sp-5025.zip>

Unzip the file and load the resulting .mzf file into the emulator by:

1. Typing LOAD <return> into the emulator window
2. Selecting CMT -> Play from the emulator menu and selecting the BASIC SP-5025.mzf you have just downloaded.

If all is well, the emulator window should now look like this:



The screenshot shows a window titled "SHARP MZ-80K/C - 61 fps (100 %)" with a menu bar containing "Control", "CMT", "FD1", "FD2", "FD3", "FD4", "Device", and "Host". The main display area is black with white text showing the following sequence:

```
** MONITOR SP-1002 **
*LOAD
LOADING BASIC SP-5025
* SHARP BASIC SP-5025
34680 BYTES
READY
```

At the bottom of the window, a status bar shows "FD: ■■■■ CMT: Stop (99 %)".

3. Select CMT->Eject to remove the BASIC tape from the emulated tape drive
4. Type LOAD <return> into the emulator window
5. Select CMT->Play from the emulator menu and select the Newton MZ80K.mzf file provided for the contest.

If all is well, typing LIST <return> into the emulator after the program has loaded should result in the program being displayed. (Note – if the program fails to load, try rewinding the tape in the CMT menu and then using the play button it provides. The tape controls in the emulator are idiosyncratic, to say the least).

You're now ready to RUN! Enjoy!