First substance for NMR!?

How much substance do I need?

For ^{1}H-spectra:
5-10 mg for quick measurements at the 200 MHz-spectrometer.
Less (down to 1 mg) is acceptable for protons, the measurement will just take more time (for example 15-20 min instead of 2 min at 500 MHz).

For ^{13}C-spectra:
The amount of substance and amount of carbon atoms in the molecule have great influence on the time of measurement.
~ 0.5 mg per expected carbon signal is enough (500 MHz)
Note: Two-dimensional spectra (HSQC, HMBC) are much more sensitive for small amounts of substance than one-dimensional spectra (^{13}C-CPD or ^{13}C-DEPT)

How much solvent should I use?

The solvent level should be exactly 4 cm (+/-2 mm).
Higher levels give shimming problems which might result in an asymmetry of all signals; lower levels can't be measured at all.
The substance should be dissolved completely, unsolved particles disturb the measurement.
(For substances of low solubility change the solvent and/or use less amount of substance, maybe centrifuge)

How do I fill out the form?

READABLE and COMPLETELY!
The structure must be comprehensible.
Information about the quantity is obligatory! Weighed on a scale or at least estimated!!
Your telephone number is needed in case of queries.
After checking the sample purity in a 1D-^{1}H-NMR-spektrum on the 200 MHz instrument, if you need further measurements, fill in the number of the already measured spectrum (e.g. Prak-OCG-160525-15). Likewise if the substance has already been measured at 500 or 600 MHz (e.g. I511Meye_1234).

What kind of spectra do I need?

Always one spectrum of 200 MHz to check the purity.
If you need the full characterization:
COSY is only needed, if there are more than three coupling protons.
HSQC shows the direct coupling of ^{1}H-^{13}C (bonded!).
HSQC-DEPT version shows negative (red) signals for CH_2-groups
HMBC is useful to characterize quarternary carbons which couple to a proton via 3 bonds, and as well, if the amount of substance is too small to achieve a one-dimensional ^{13}C-Spectrum.
NOESY is necessary in case you want to observe couplings through space. (Only needed in special cases)
^{19}F measurement is as fast as proton measurement.
^{11}Bor, ^{29}Si, ^{31}P, ^{51}V, ^{91}Zr, ^{119}Sn are standard experiments, for other nuclei just inquire.

Feel free to ask, if you are unsure about anything! ☺