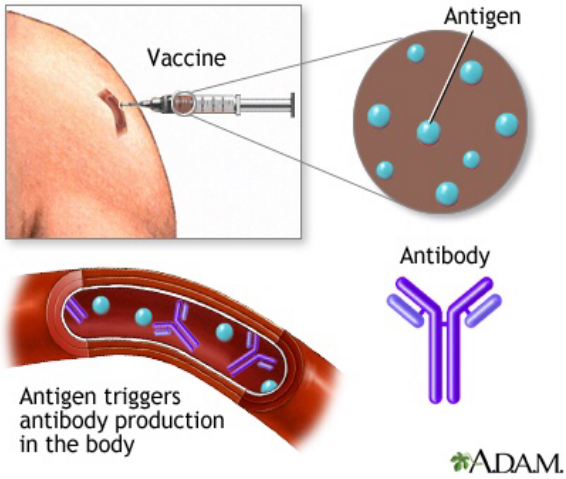
Vaccination

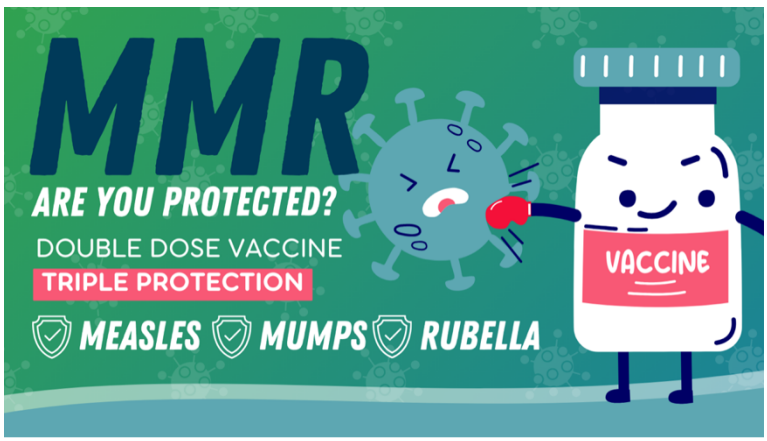
Vaccine

- A vaccine is defined as any substance which is used to stimulate the production of antibodies, in turn providing immunity against one or a few diseases.



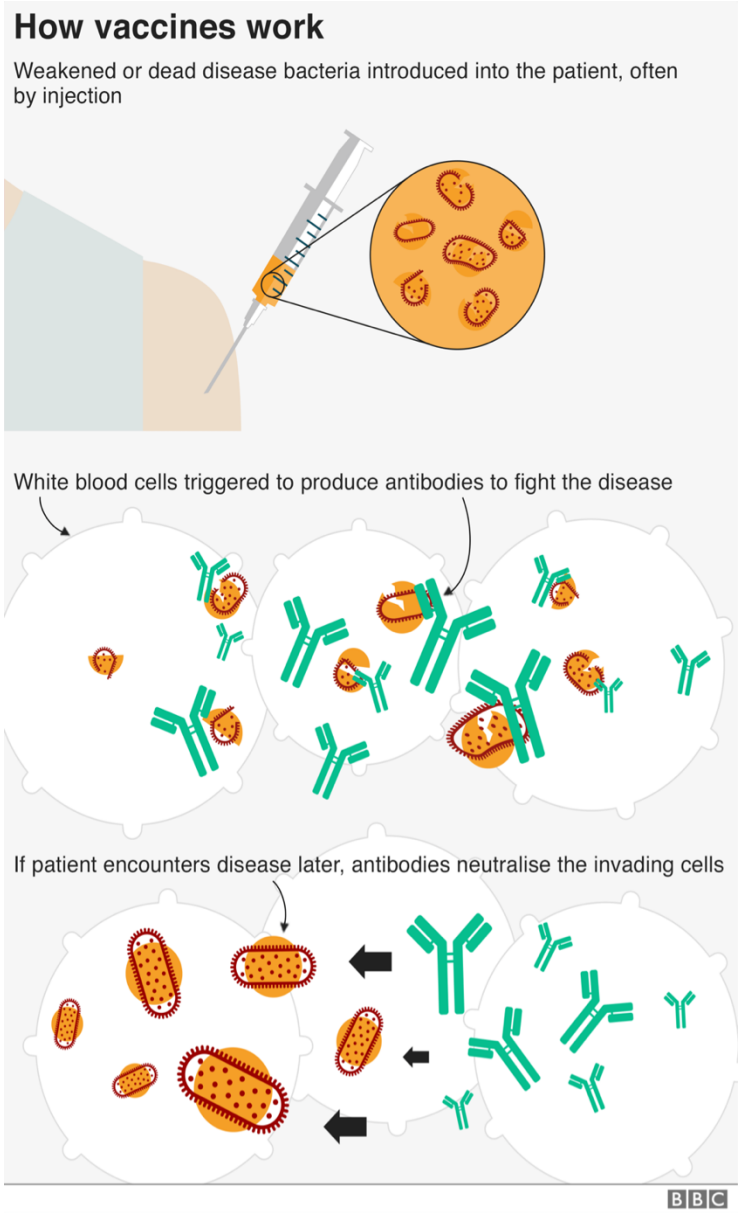
Vaccination:

- It is the process which involve the injecting small amount of dead or inactive pathogens, these carry antigen which cause your body to produce antibodies to attack pathogens.
- MMR vaccine contain the weekend version of virus that cause these disease measles, mumps and rubella.



How Does Vaccination Work?

- **Vaccinations use inactive or dead pathogens.** Obviously we do not want to infect the individual using a vaccination, otherwise they could get a disease. So instead we give a dead, weakened or inactivated pathogen, which still has the same antigens as the normal pathogen (needed to activate the immune response) but is harmless.
- **Vaccines enable the immune response to occur quickly.** Vaccinations can allow the body to rapidly eliminate a live infection for the first time within seven days, with the peak of the immune response occurring within the first three days.



Pros and Cons of Vaccination

Advantages	Disadvantages
Epidemics can be prevented	Possibility that it won't work
Can achieve herd immunity	Can get side effects e.g. swelling, or fevers
Can wipe out diseases entirely e.g. small pox	Can get serious side effects e.g. seizures but this is very rare

Fig 5. Table outlining the advantages and disadvantages of vaccination programmes.