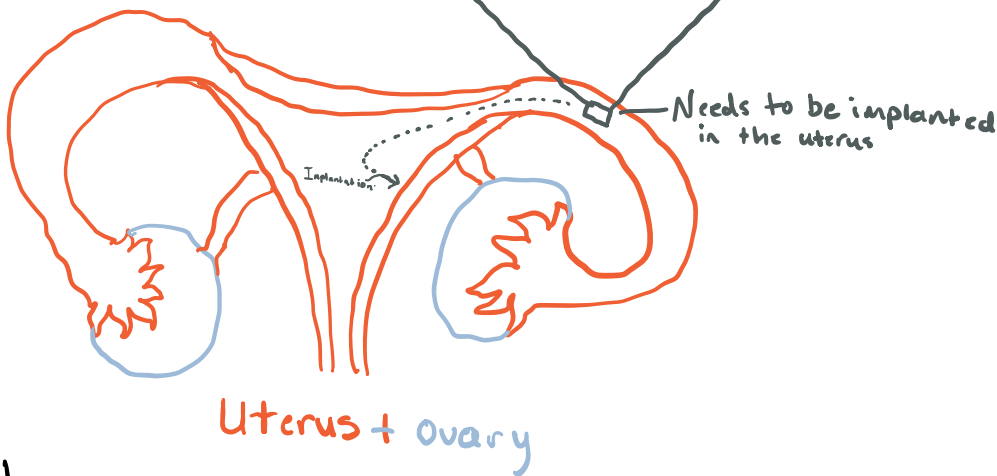
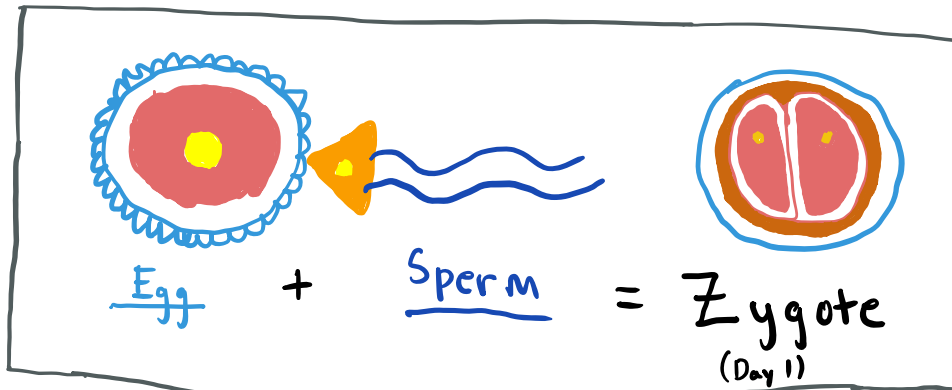


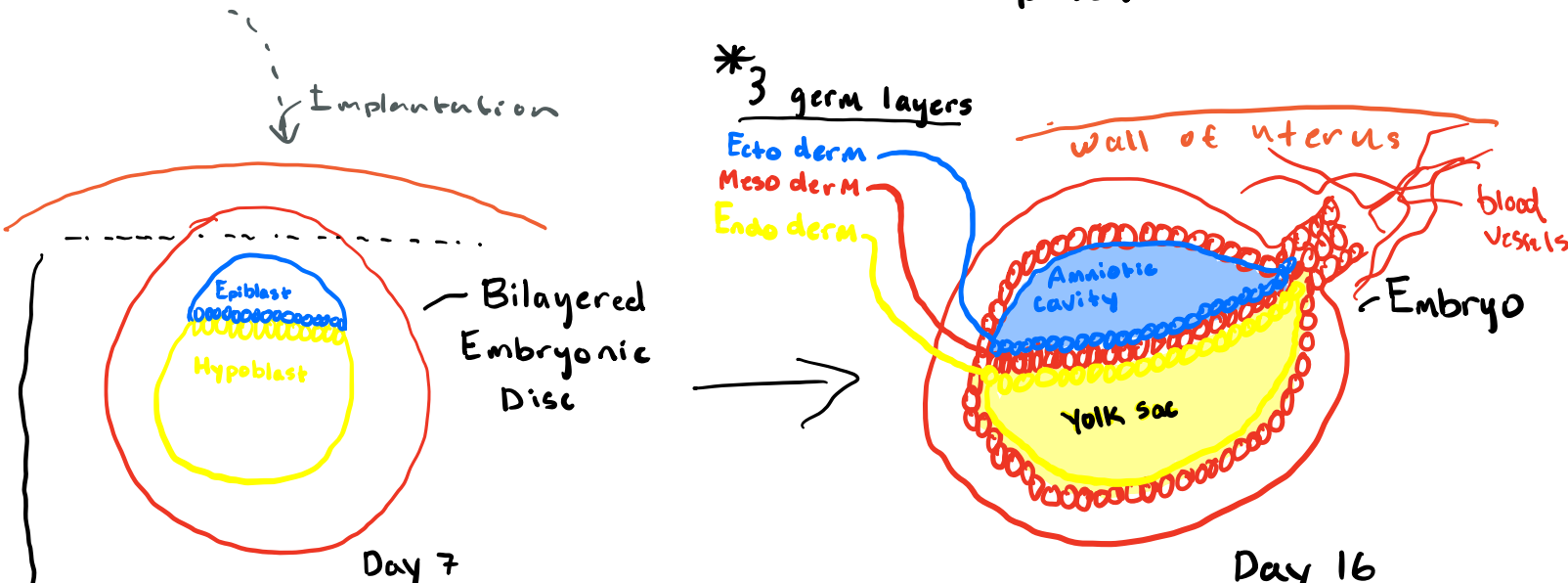
HOW ARE BABIES MADE?

- ↳ Many chickens were harmed from this research
- ↳ Many chickens are also harmed when we eat them

Step 1: Sex / Fertilization



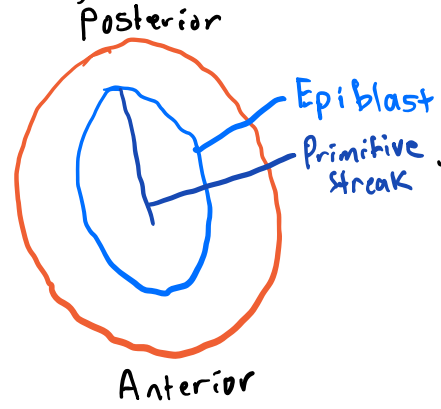
Step 2: Implantation / Development



* How do the 3 germ layer form and why?

This is the how

Looking from top-down & cutting off the lid of cell



The primitive streak down the middle of the epiblast is releasing signals called Wnt (Wingless + Int-1) and Bmp (Bone morphogenic protein).

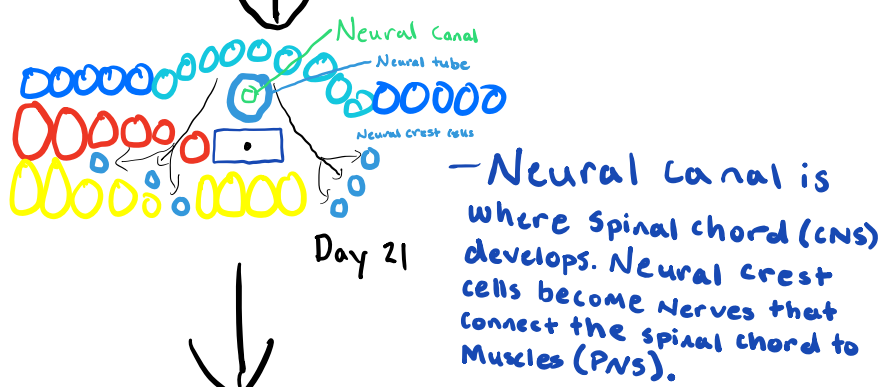
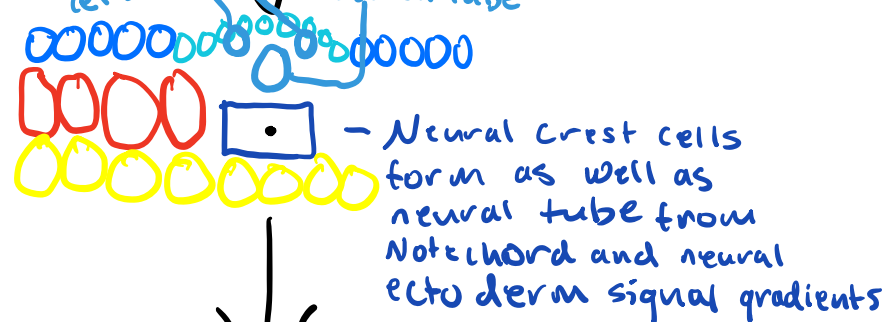
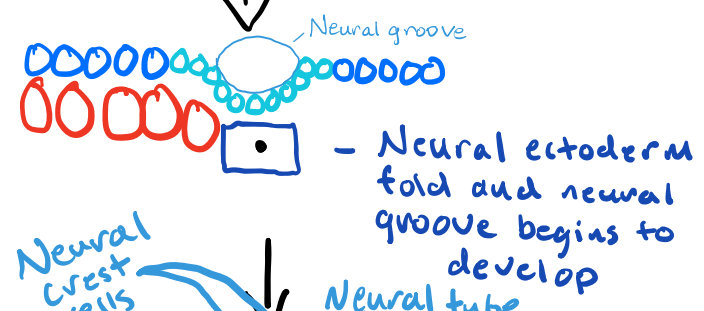
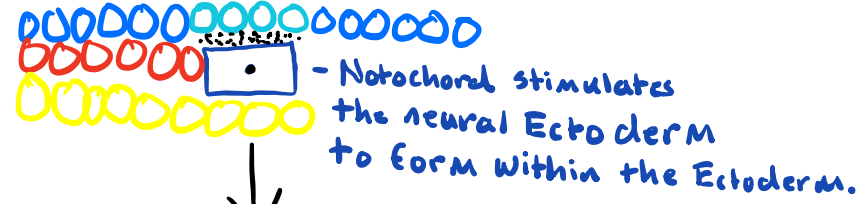
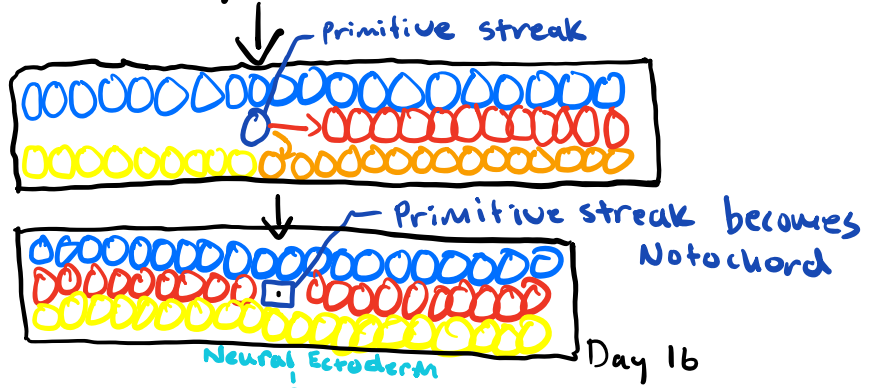
All germ layers come from Epiblast

Why?

The best answer is signal gradients. The miracle is that these totipotent cells and this chaos is somehow organized to produce the same result.

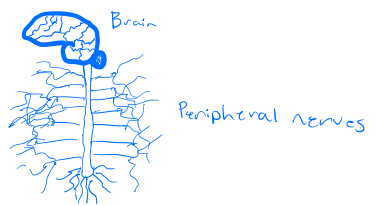
Another more pertinent why.

The germ layers eventually differentiate to form major body systems.



Ectoderm

L Majority of nervous tissue



L Also involved in the pharyngeal apparatus which is involved in bone and muscle

This entire process is

formation is head anatomy.

Called neurulation.

L Skin (epidermis)
Most external layer of the skin.

This next part is tough to visualize but lets try it. Bear with me because this is how structures like the heart and brain end up in final place.

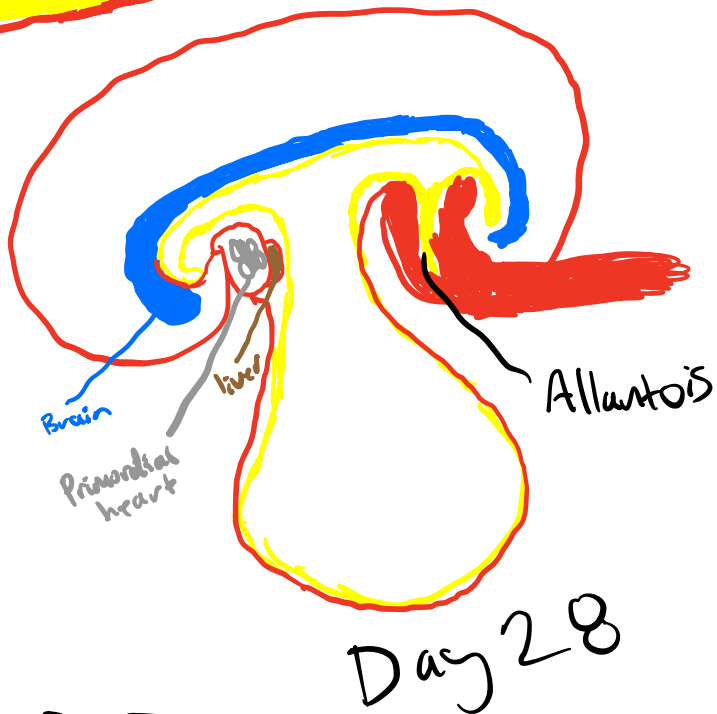
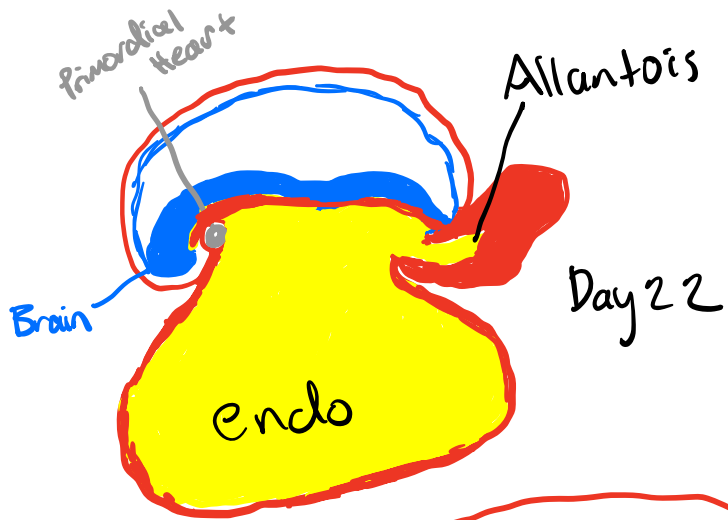
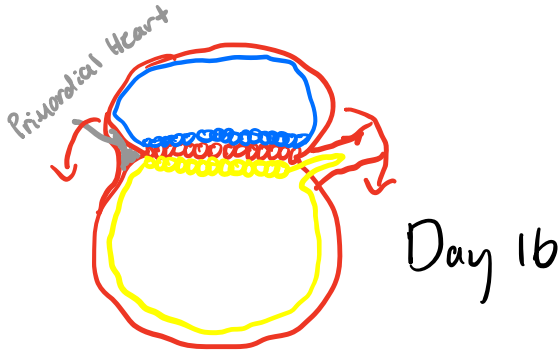
Mesoderm - Its everywhere

L Skin (dermis)
Deeper layer of skin

L Basically everything that isn't ecto or endo is mesoderm.

L Its involved in so much that it is divided further into the

- paraxial mesoderm
- intermediate mesoderm
- lateral plate mesoderm



Endoderm

L primitive gut tube (GI tract).

L Allantois or genital and urinary system.

We'll pause here for now

