earwax, mucus, nastril hair

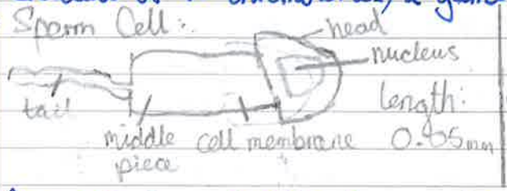
Skeleton — Main roles of the skeleton:
- Provides support eg. pelvis lets you sit and holds up the upper body
- Protection to organs eg. the ribs form a cage to protect the lungs and heart
- Produce movement (along with muscles)
- Learn bone names in diagram

Joints
- A joint is where two bones meet: there are three types

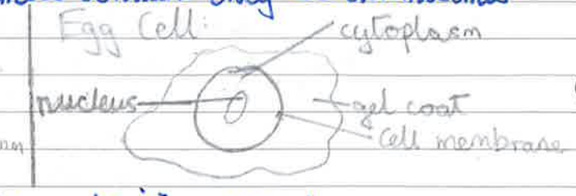
Ball and Socket	Hinge	Fixed
The bones can move in any direction. One bone has a round end so it fits into the round hole of the other bone	The bones can only move in one direction, but cannot move in any other directions	Where two bones meet but there is no movement at all. eg. skull

- Muscle is tissue that can contract and makes up part of the body. It is attached to bones by tendons that don't stretch
- A muscle works by shortening and pulling and can release and stop pulling but can't push the joint back. There will be another muscle that works against it to pull it back into position. Muscles always work in pairs against each other. This is called an antagonistic pair eg. biceps and triceps
- While tendon connects muscle to bone, ligaments connect bone to bone

Human reproduction
- A gamete is a sex cell
- The male gamete is a sperm cell
- The female gamete is an egg cell
- Instead of 46 chromosomes, a gamete contains only 23 chromosomes
- Sperm Cell:



- Egg Cell:



- A zygote is a fertilised egg cell containing 46 chromosomes
- LEARN DIAGRAM OF MALE REPRODUCTIVE ORGAN

Name	Use
Glands	Contains seminal fluids that mixes with sperm and nourishes it
Testes	Where the sperm is made
Urethra	Carries the sperm and urine out of the body
Scrotum	Holds and secures the testes
Sperm Duct	Transports the sperm away from the testes
Penis	The means of delivering all fluids out of the body

- Sperm cells have long tails and streamlined bodies as they have to swim. They also have enzymes in the head to digest away the membrane of the ovum. The sperm is also mixed with a chemical liquid that allows them to survive in acidic environments

- LEARN DIAGRAM OF FEMALE REPRODUCTIVE ORGANS

Name	Use
Ovary	Where an egg is made
Uterus	Where the embryo develops
Oviduct	A tube that carries the egg from the ovary to the uterus
Uterine Lining	Lined with tissue and has a rich blood supply. Where the embryo is implanted
Cervix	Protects the womb and widens at childbirth
Vagina	Part of the birth canal and connects the uterus to the outside of the body

- The menstrual cycle is a monthly cycle of the female reproductive system
- Every 28 days an ovum is released. It travels down the oviduct and into the uterus. If no sperm is present the ovum and the uterine lining leave the vagina. This is a period called menstruation which lasts 3-7 days
- If sperm is present the sperm will fertilise the egg and form a zygote. A placenta is then formed when the zygote connects to the uterine lining.
- Identical twins are formed if the zygote splits into two and 2 similar looking babies are formed
- Non identical babies are formed when two ovum are released and both are fertilised and become not similar looking babies
- During sexual intercourse, ejaculated sperm are released into the vagina and penetrate the egg to fertilise it and form a zygote. It undergoes cell division (mitosis) and forms a ball of cells. The zygote becomes and embryo that connects to the uterine lining
- The placenta has a network of capillaries and food and oxygen diffuse into the baby's blood. The placenta acts as a barrier to harmful substances but some substances like chemicals in cigarette smoke, alcohol and drugs can get through the placenta. The blood doesn't physically mix
- Once a placenta has formed it is only at this time is a woman said to be pregnant and a baby starts to develop
- After 6 weeks the embryo has a brain and a beating heart. It is 1cm long. The embryo floats in a sac of amniotic fluid that protects it. So that the embryo gets food and oxygen the umbilical cord connects it to the placenta and also the woman

Exercise
- Our muscles work hard during exercise so more energy is needed
- The energy for the body is stored in food and is released in foods like sugar (glucose) during aerobic respiration
- Word equation: glucose + oxygen → water + carbon dioxide + (energy)
- Aerobic respiration is the release of energy with oxygen, so oxygen is needed too
- When we exercise we can't always breathe fast enough for oxygen to get to the muscles so anaerobic (without oxygen) respiration can be used to release energy for a short time. When this happens, lactic acid (a toxin) builds up and causes muscles to ache. So, after exercise, your heart