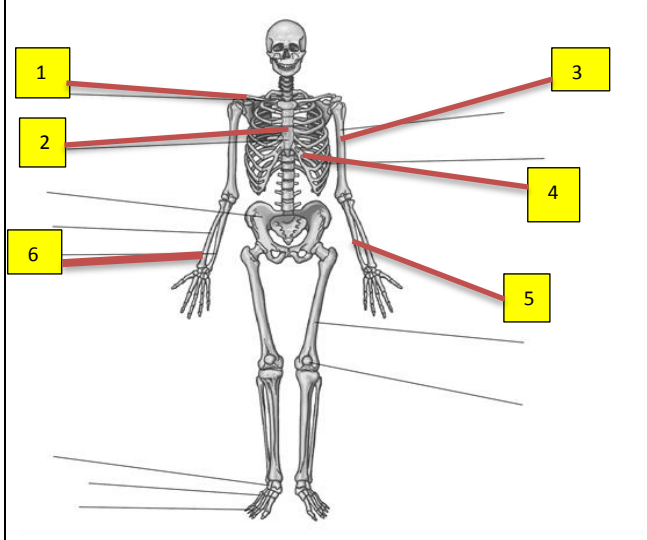
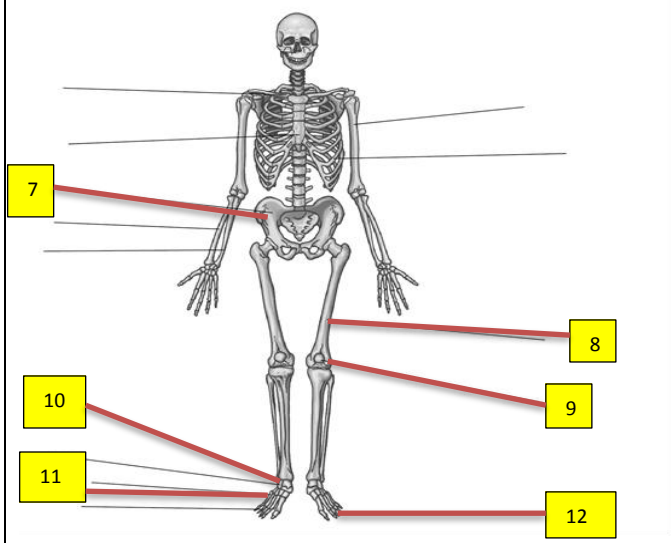
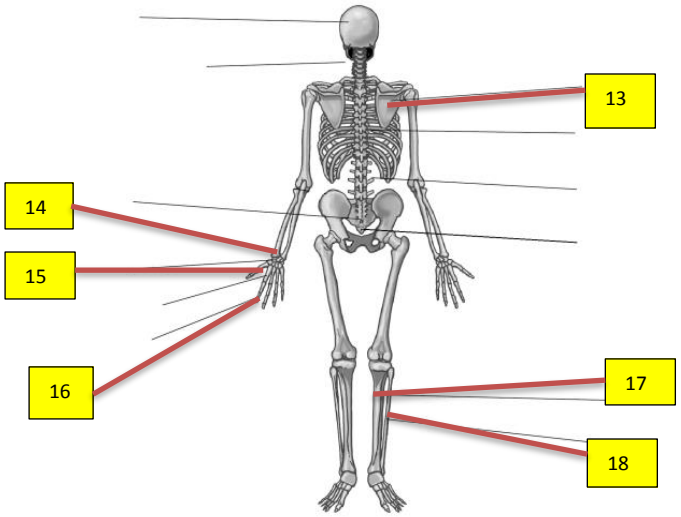
PHYSICAL EDUCATION – Year 8, Term 1 – THE SKELETAL SYSTEM

THE ROLE OF THE SKELETON	BONES OF THE UPPER BODY	BONES OF THE LOWER BODY
Functions of the skeleton for sport: 1. Protection of vital organs **2.** Muscle attachment **3.** Joints for movement **4.** Storing calcium and phosphorus 5. Red and white blood cell production		
1. Staying safe in sport is vital, the skeleton plays a key role in this. The **cranium** (skull) protects the brain. The **spine** protects the spinal cord. The **ribs & sternum** protect the heart & lungs. 2. The muscles you use in sport need strong points to attach to. Bones provide that framework. The muscles are attached by **tendons** & the bones anchors that muscles can pull on as they move. 3. When 2 or more bones come together this is called a **joint**, this allows movement to occur. 4. Essential for developing & maintaining the strong & healthy bones needed for exercise. 5. Made in the middle of long bones, in the **bone marrow**. Red blood cells needed for transporting O_2 around the body, white cells to fight infections.	**1. Clavicle –** the collar bone. **2. Sternum -** the chest bone **3. Humerus –** long bone in the upper arm. **4. Rib –** attached to the sternum & spine to protect vital organs. **5. Ulna –** bone in lower arm (in line with little finger) **6. Radius –** bone in lower arm (in line with the thumb), the one that turns/rotates.	**7. Pelvis –** lower part of the abdomen next to the hips. **8. Femur –** large bone in the upper leg, thigh bone. **9. Patella –** kneecap. **10. Tarsals –** ankle bones. **11. Metatarsals –** bone of the foot. **12. Phalanges –** toes.

PHYSICAL EDUCATION – Year 8, Term 1 – THE SKELETAL SYSTEM

OTHER BONES OF THE BODY	JOINTS OF THE BODY	QUESTIONS/ACTIVITIES
	**Classification of joints:** For sport & physical activity the best way to group joints is according to how they function for movement: 1. **PIVOT** 2. **HINGE** 3. **BALL and SOCKET** 4. **CONDYLOID** **LIGAMENTS** attach bone to bone.	**1. Which gel-like substance helps to lubricate the movement of joints?** a) Articular cartilage b) Bursae c) Synovial fluid **2. Which two bones connect at the shoulder?** a) Scapula and sternum b} Scapula and humerus c} Humerus and sternum **3. Which function of the skeleton is most relevant during a powerful tackle in rugby?** a) Protection b) Mineral storage c) Blood cell production **4. Which function of the skeleton is most relevant during a powerful tackle in rugby?** a) Protection b) Mineral production c) Blood cell production **5. Identify two different types of movement that can take place at the shoulder joint.** 1. 2. 6.**Name the three bones that form the elbow joint.** 1. 2. 3.
13. Scapula – Shoulder blade. **14. Carpals –** wrist bones. **15. Metacarpals –** bones in the hand **16. Phalanges –** fingers. **17. Tibia –** shin bone. **18. Fibula –** calf bone.	1. **Pivot joint:** allows bones to rotate. You have 3 **pivot joints** in your body – wrist, elbow & neck. Each time you turn your head or rotate your wrist you use a **pivot joint**. 2. **Hinge joint:** allows only forward (**extension**) or backward (**flexion**) movement. There are 3 **hinge joints** in your body – knee, elbow & ankle. 3. **Ball and Socket joint –** allows movement in all directions, **flexion**, **extension**, **abduction** (away from the body), **adduction** (towards the body) and **rotation**. There are 2 **ball and socket joints** in your body – shoulder & hip. 4. **Condyloid joint –** similar to a ball & socket joint, but the ball rests against the end of a bone, rather than inside a socket. This allows a circular motion. The wrist is a **condyloid joint** – you can flex it, extend it, turn your hand inwards (adduction) & outwards (abduction).	

PHYSICAL EDUCATION – Year 8, Term 1 – THE SKELETAL SYSTEM