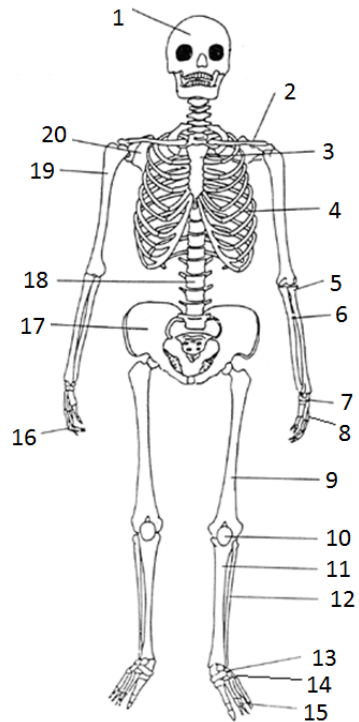


Location of the major bones



Activity 1 – stickers of the skeleton –
How many major bones can you name on this
skeleton?

What was your score out of 20?

Extension – choose a sporting action and state
which bones would be used in this movement.

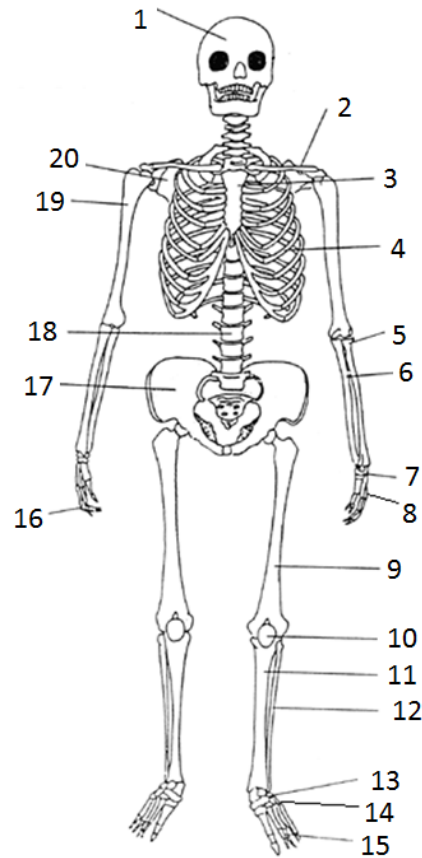




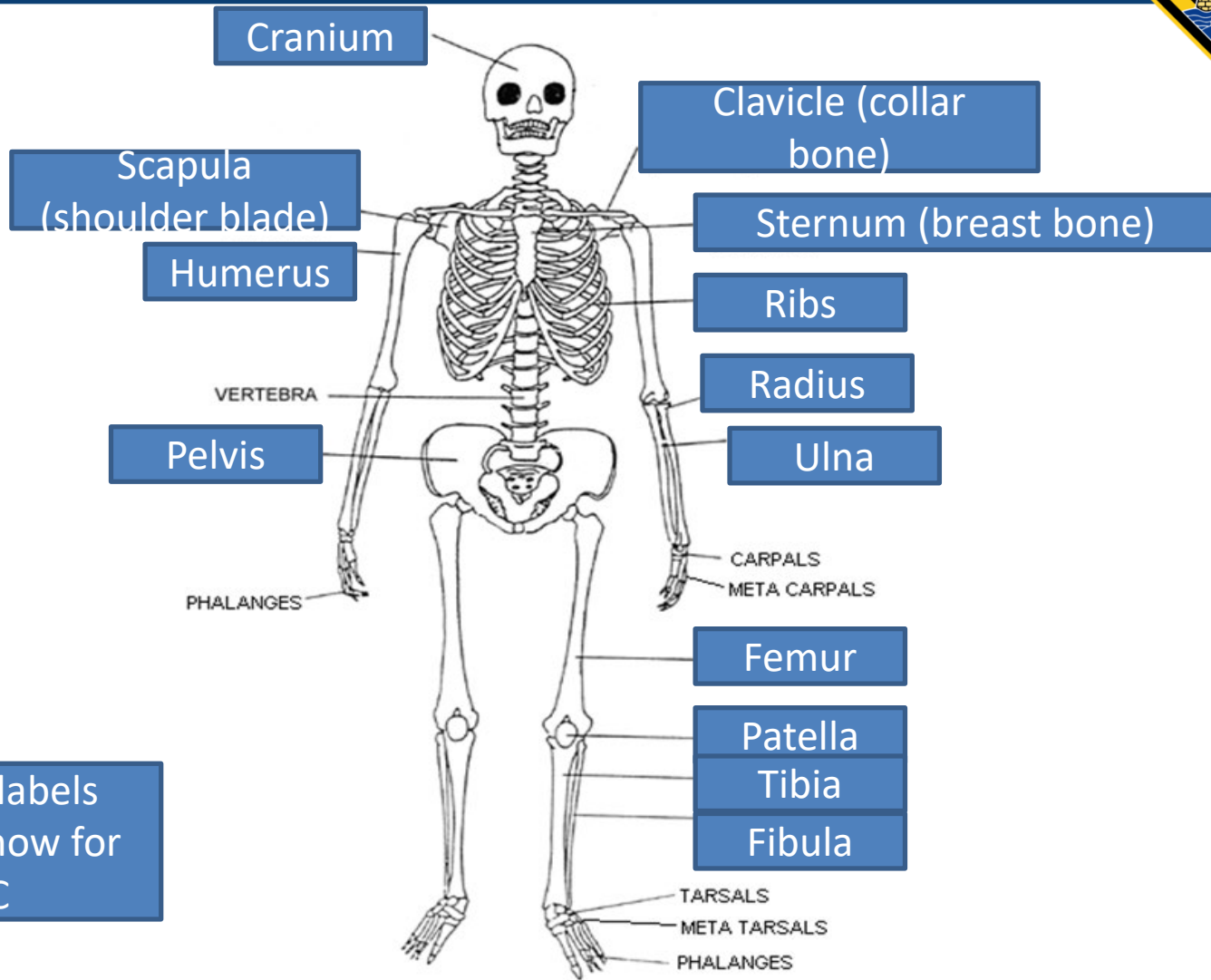
Learning Focus – The role of your skeleton

Learning outcomes

1. Describe the location of the major muscles (Pass)
2. Describe the location of the major bones (Pass)
3. Describe 5 functions of the skeletal system



Label the skeleton using the blank worksheet on SMH OR just draw a rough sketch in your book to complete the task.



The blue labels
NEED to know for
BTEC





Activity 1

Label a new blank sheet of the skeleton with the blue labelled bones only.
Explain the 5 different types of bones.

This is to go in your folder / on powerpoint



Main Functions of the musculoskeletal system

- Describe the 5 main functions
- Source of blood cell production –
- Storage of minerals –
- Protection -
- Support -
- Attachment of muscles and aids movement-



Production of blood cells

Red blood cells are produced in the bone marrow of long bones.

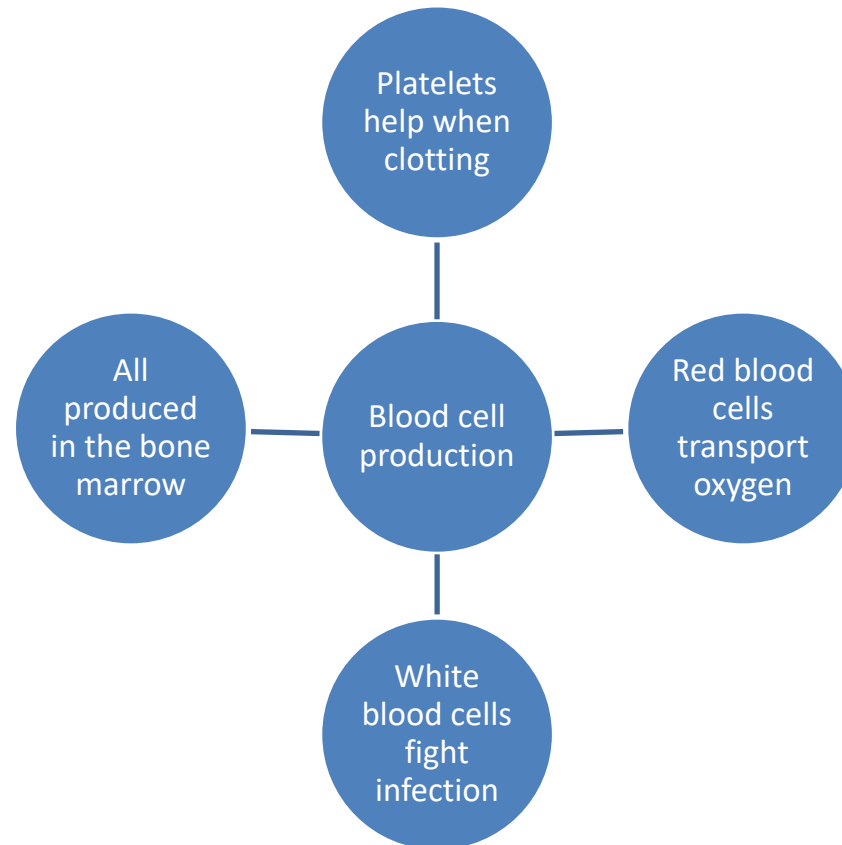
Having more red blood cells means you have the ability to carry more oxygen, which can help sports performance.

The following types of blood cell are produced in the bone marrow. They are all beneficial to physical performance.

- Platelets help clotting when cut
- Red blood cells transport oxygen to working muscles
- White blood cells help fight infection



- In your own words describe how blood cell production is a function.....
- Explain why this is needed for sports performers





Mineral storage

Bones store 4 minerals

- Calcium – important for bone and teeth formation, clotting blood and muscle contractions
- Phosphorous – important for bone and teeth formation and energy metabolism
- Sodium – important for muscle contraction and nerve pulses
- Potassium – important for muscle contraction and the functioning of the nervous system



- In your own words describe how mineral storage is a function.....
- Explain why this is needed for sports performers





Protection

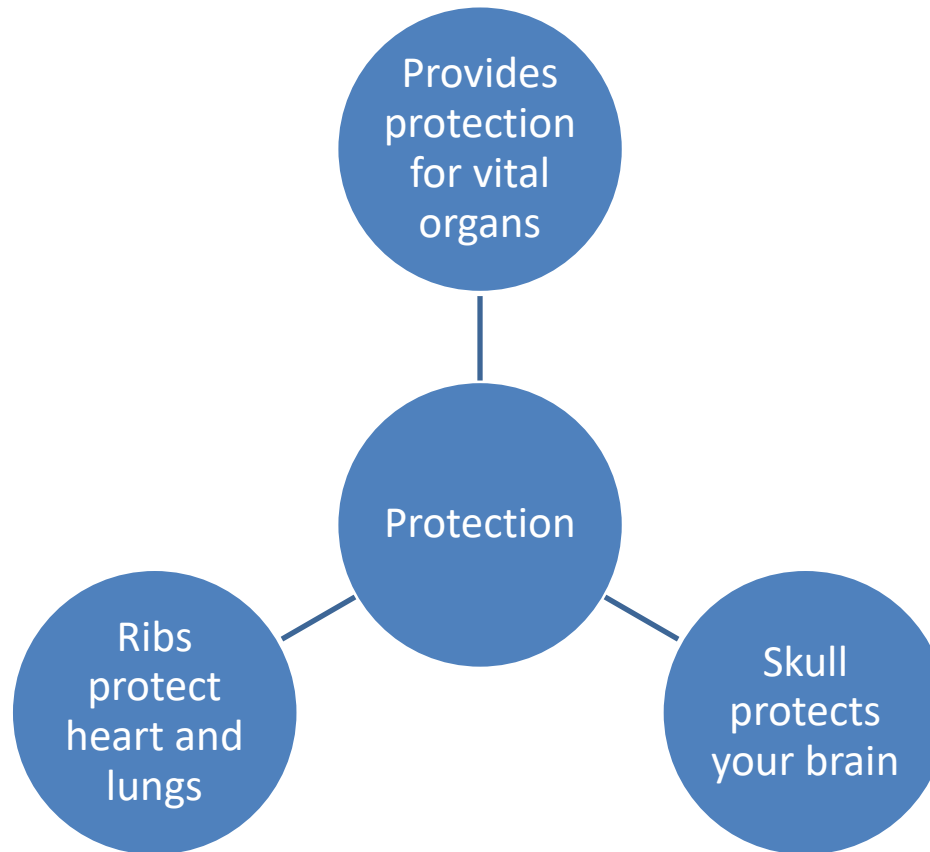
Your skeleton provides protection for your vital organs, including the heart and lungs

Eg

- Your skull protects your brain if an opponent follows through wildly with their hockey stick and it hits you on the head during a game.
- Rib cage protects heart and lungs when being tackled
- Vertebral column protects the spinal cord



- In your own words describe how protection is a function.....
- Explain why this is needed for sports performers



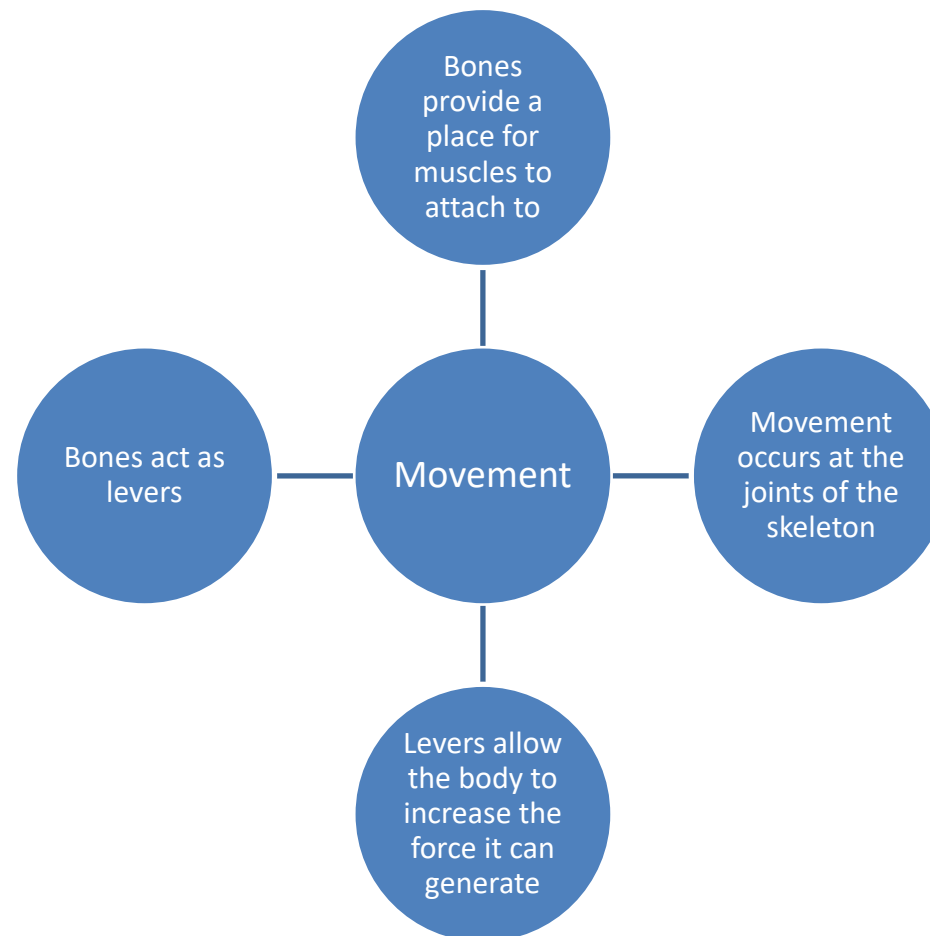


Attachment of muscles and aids movement

- Muscles are attached to bones via tendons. Bones have joints that allow movement. When a muscle contracts, the tendon it is connected to pulls on the bone and produces movement.
- The joints between bones permit movement but without healthy muscle attachment sites (tendons) and joints, athletes would not be able to compete effectively.
- Bones also act as levers. Levers allow the body to increase the force it can generate or increase the speed of the movement. For example a tennis player with longer levers will generate more force on a serve.



- In your own words describe how movement is a function.....
- Explain why this is needed for sports performers





Support and Shape

- Your skeleton provides a framework for your body and therefore supports you, without this you would not be able to be in an upright position.
- The skeleton provides the support that enables a gymnast to balance when performing a handstand.
- Your skeleton gives you shape. When your skeleton grows as you change from a child to an adult, your shape changes with it.



Practice questions

1) Name bones:

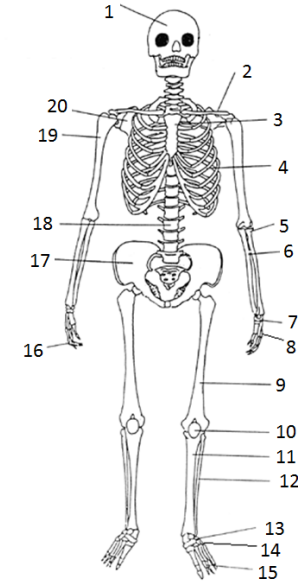
20,

12,

17,

6,

1,



Each correct answer is worth 1 mark



Questions to answer:

1) Support is one function of the skeleton. Name 2 others (2)

2) Describe a function of the skeleton with a sporting example. (2)

Use your labelled skeleton to help you

3) How do muscles help you move? (4)

Use these terms – Muscles – Tendons – Bones – Levers – Contract – Relax

4) What are tendons and what is their role in movement? (4)

Use these terms – Connective Tissue – Bones – Muscles – Pull on a bone when a muscle contracts



Complete the worksheet (SMH) on functions of the skeletal system. Fill in the gaps!

FUNCTIONS OF THE SKELETON

Protection

- Bones are very _____.
- They protect delicate organs like the _____.
- _____ and the _____.

Support

- The skeleton is a _____ for the rest of the body.
- The skeleton supports the _____.
- Without the skeleton we would _____.

Movement

- There are lots of different types of _____ in the body.
- _____ attached to bones by _____ provide different types of movement.

Blood Production

- Red and White blood cells are produced in the _____ of long bones. For, example the femur, which is located in the _____.

Storing Minerals

- Bones store mineral salts, which contain _____. We must have calcium in our diet to prevent this calcium being used. Calcium can be found in foods such as _____ and _____.

Shape

- Our shape is created by our skeleton due to the location and different shapes of our _____.