Rocks and soils

Lesson 1 Identify different types of rock.

What are the 3 types of natural rock?

Metamorphic, igneous, sedimentary, heated, cooling.

Lesson 2 learn how different rock types are made.

Which rock is made by lots of layers of sediment?

Layers, minerals, hot, cold, sediment.

Lesson 3 investigate the properties of different rocks.

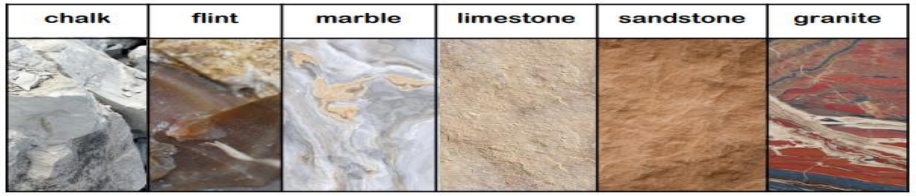
Name one thing you did to make this test fair.

Permeable, soft, hard, limestone, granite.

What is soil made from?

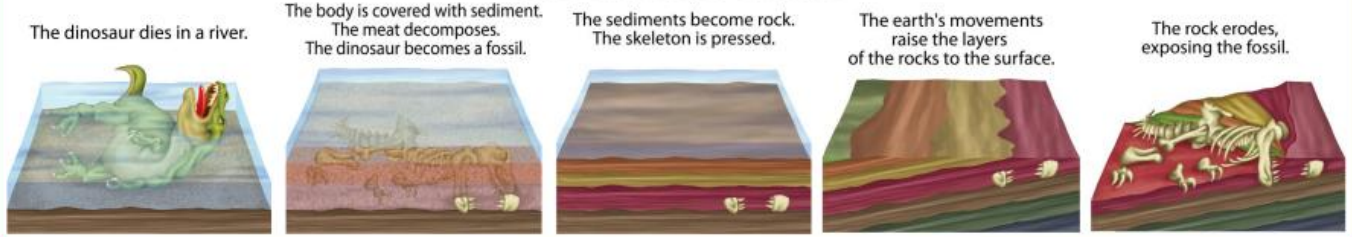
AIR – Oxygen, carbon dioxide, nitrogen
ORGANIC MATTER – Living and dead plants and animals.
WATER – Air and water fill the gaps between particles of soil.
MINERALS – Broken down rock.

How can animals move? What is in food?



Igneous Rock	Metamorphic Rock	Sedimentary Rock
		
Far underground the temperature is so hot, rock melts into a liquid (molten rock). When the liquid is underground, it is called magma and it can cool to form igneous rock.	Metamorphic rocks are formed under the surface of the earth from the change (metamorphosis) that occurs under the intense heat and pressure (squeezing).	These rocks form under the sea. Rocks are broken into small pieces by wind and water (erosion). They settle as mud, sand, minerals and even remains of living things. Over time layers build up and the pressure turns this sediment into rock.

How fossils are formed.



Careers connected this topic

Geologist, archaeologist, farmer, gardener

Year 3

Autumn 1

Lesson 4 learn what soil is made up of and it's importance.

What is organic matter?

Decompose, fragment, chalky, sandy, clay

Lesson 5 learn how fossils are formed. TAPS

What is coal?

Sediment, embedded, extinct, amber, fossil

Lesson 6 Research Mary Anning.

What is the most interesting fact you found out about Mary

Mary Anning, Fossil, formation, ammonite, paleotologist.

Lesson 7

Can you explain all you have learned from this topic?

Vocab-all words from previous lessons.

Animals inc humans

Fair test | research | observation

Pattern seeking | identify/classify | problem solving

What happens to food when we eat it?

Lesson 1 Identify the organs in the digestive system.

Can you label the different parts of the digestive system?

Digestive system measurements

Small intestine, large intestine, digestive system, oesophagus, stomach

Lesson 2 Understand the different function of each tooth

Why do we have different teeth?

Jaw, gum, molar, canine, incisor

Plaque, enamel, cavity, tooth decay, fluoride.

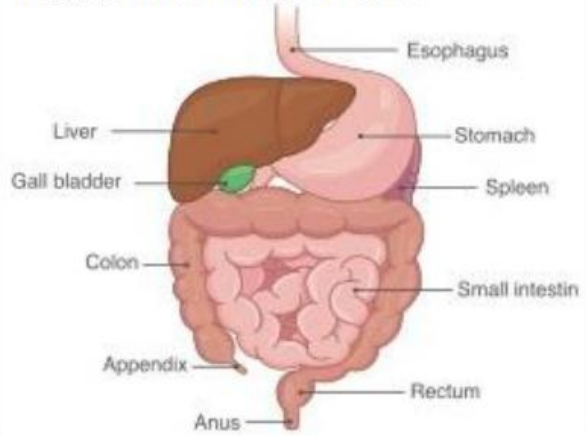
Lesson 3 explore the digestive system in humans

Can you explain the function of the different parts of the digestive system?

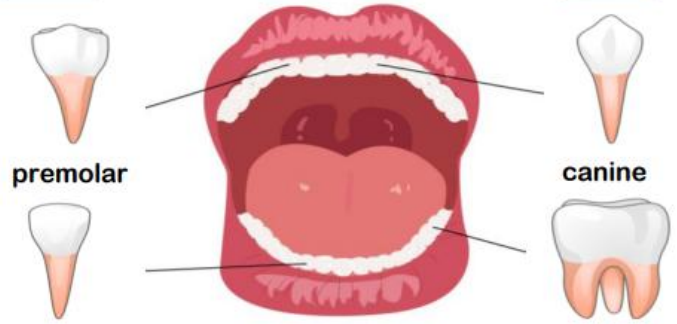
Gall bladder, absorb, saliva, liver, peristalsis

The Digestive System

- The digestive system begins with the **mouth** and **teeth** where food is ingested and chewed.
- Saliva is mixed with the food which helps to break it up.
- When the food is small enough to be swallowed, it is pushed down the **oesophagus** by muscles to the stomach.
- In the stomach, food is mixed further.
- The mixed food is then sent to the **small intestine** which absorbs nutrients from the food.
- Any leftover broken down food then moves on to the **large intestine**.
- The food minus the nutrients arrives in the **rectum** where muscles turn it into faeces (poo). It is stored here until it is pushed out by the **anus**. This is called excretion.



Types of Teeth and their function

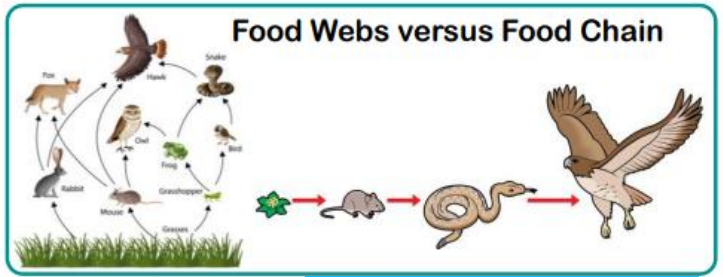


Different teeth have different functions
Teeth of animals are designed for the foods they eats

- **Herbivores** (e.g., horses) have little use for canines and mainly use incisors and molars
- **Carnivores** (e.g., Lion) mainly use canines and incisors, they don't have molars (have premolars – small molars)
- **Omnivores** (e.g., humans) use all three

Tooth enamel is the hardest substance in the human body
Humans have two sets of teeth; milk teeth and adult teeth

Food Webs versus Food Chain



Careers connected to this topic: doctor, vet, dentist, physiotherapist, farmer.

Year 4

Autumn 1

Lesson 4 investigate food chains.

Can you draw a food chain?

Consumer, producer, predator, prey, ecosystem

Lesson 5 explore food webs.

Can you explain the difference between a predator and prey?

Why are people cutting down rain forests and what effect does it have?

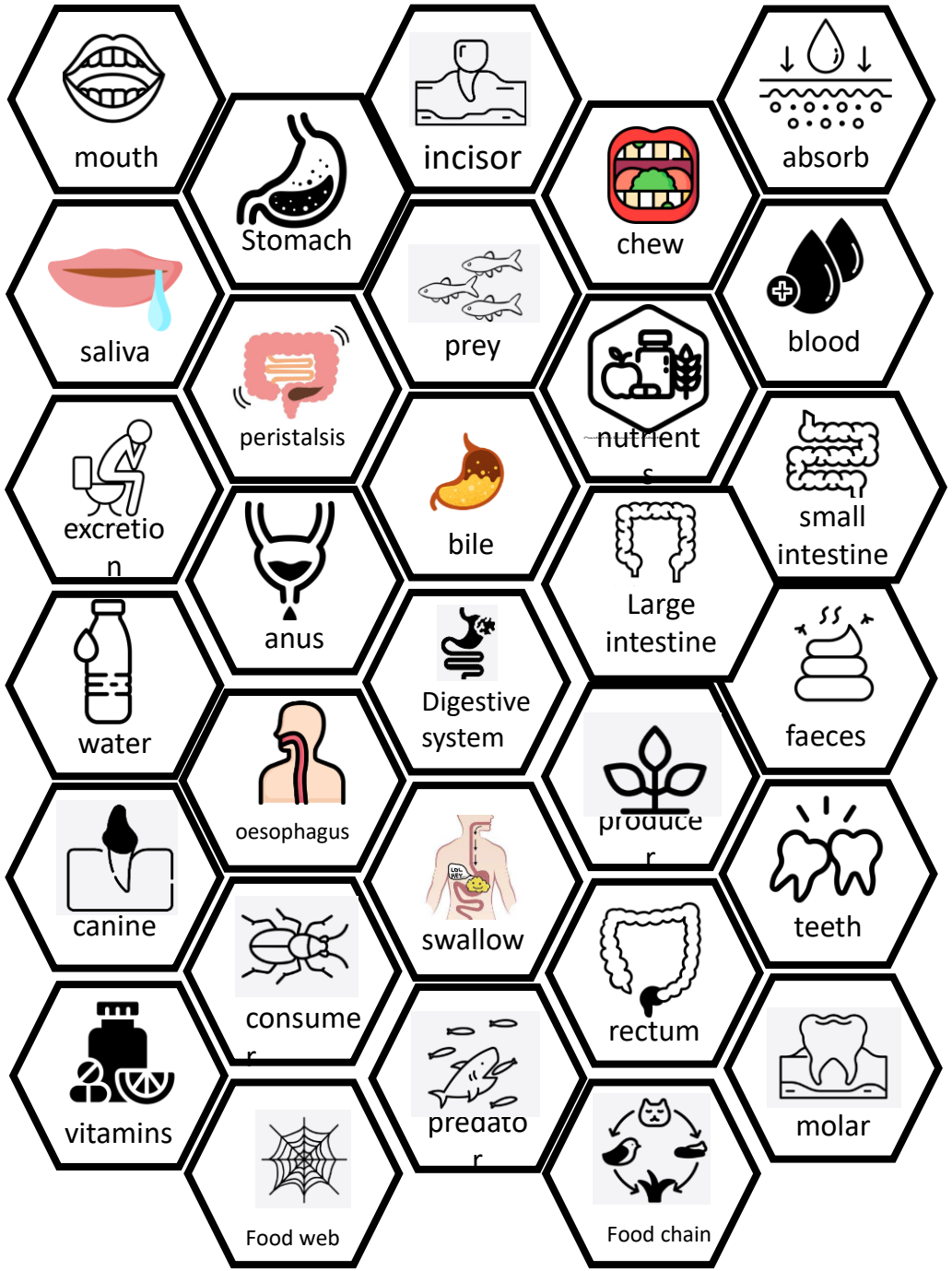
Tundra, threatened, interdependence, food web

Lesson 6

Double page spread.

Can you explain all you have learned from this topic?

Vocab-all words from previous


mouth
Stomach
incisor
chew
absorb
saliva
prey
blood
peristalsis
nutrients
excretion
bile
small intestine
anus
Large intestine
water
Digestive system
faeces
oesophagus
producer
canine
swallow
teeth
consumer
rectum
vitamins
predator
molar
Food web
Food chain

Fair test research observation

FORCES

Pattern seeking identify/classify problem solving

Year 5

Autumn 1

How do machines work?

Lesson 1 Understand gravity

Is gravity a contact or non contact force?

Weight, mass, astronomy, gravity, Sir Isaac Newton

Lesson 2 examine the connection between air resistance and parachutes.

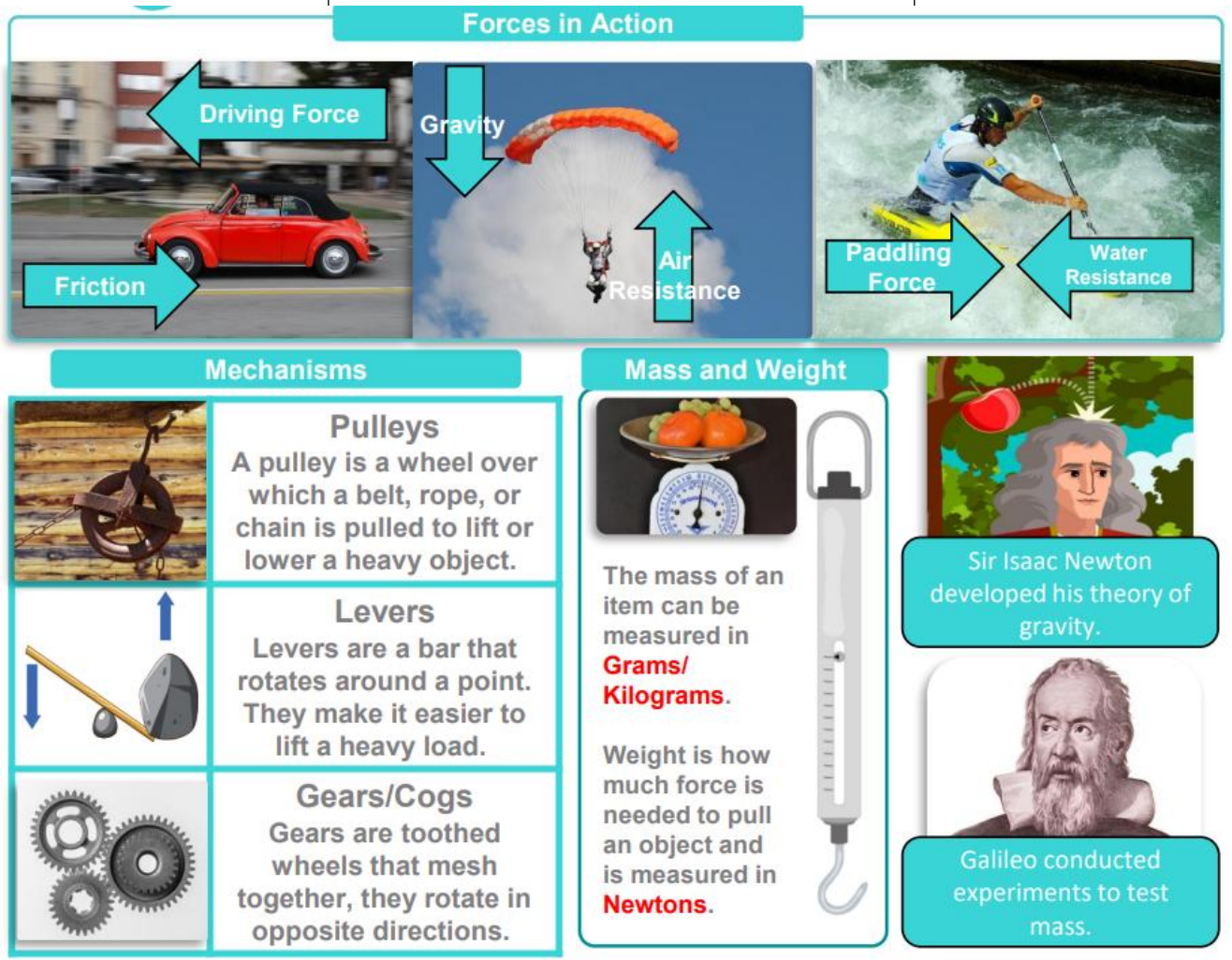
What is the purpose of a parachute?

Opposing, air resistance, parachute, streamlined

Lesson 3 explore factors that effect water resistance

Explain the similarities and differences between air c water resistance.

_streamlined, upthrust, buoyant, water resistance, sink



Careers connected this topic aerodynamics engineer, forensic investigator

Lesson 4 investigate friction on different surfaces

What is the difference between friction and gravity?

Newton meter, resistance, lubricant, Newton, friction

Lesson 5 investigate levers and pulleys

Can you give examples of levers you use in your life?

Load, pulley, lever, pivot, fulcrum

Lesson 6 investigate gears

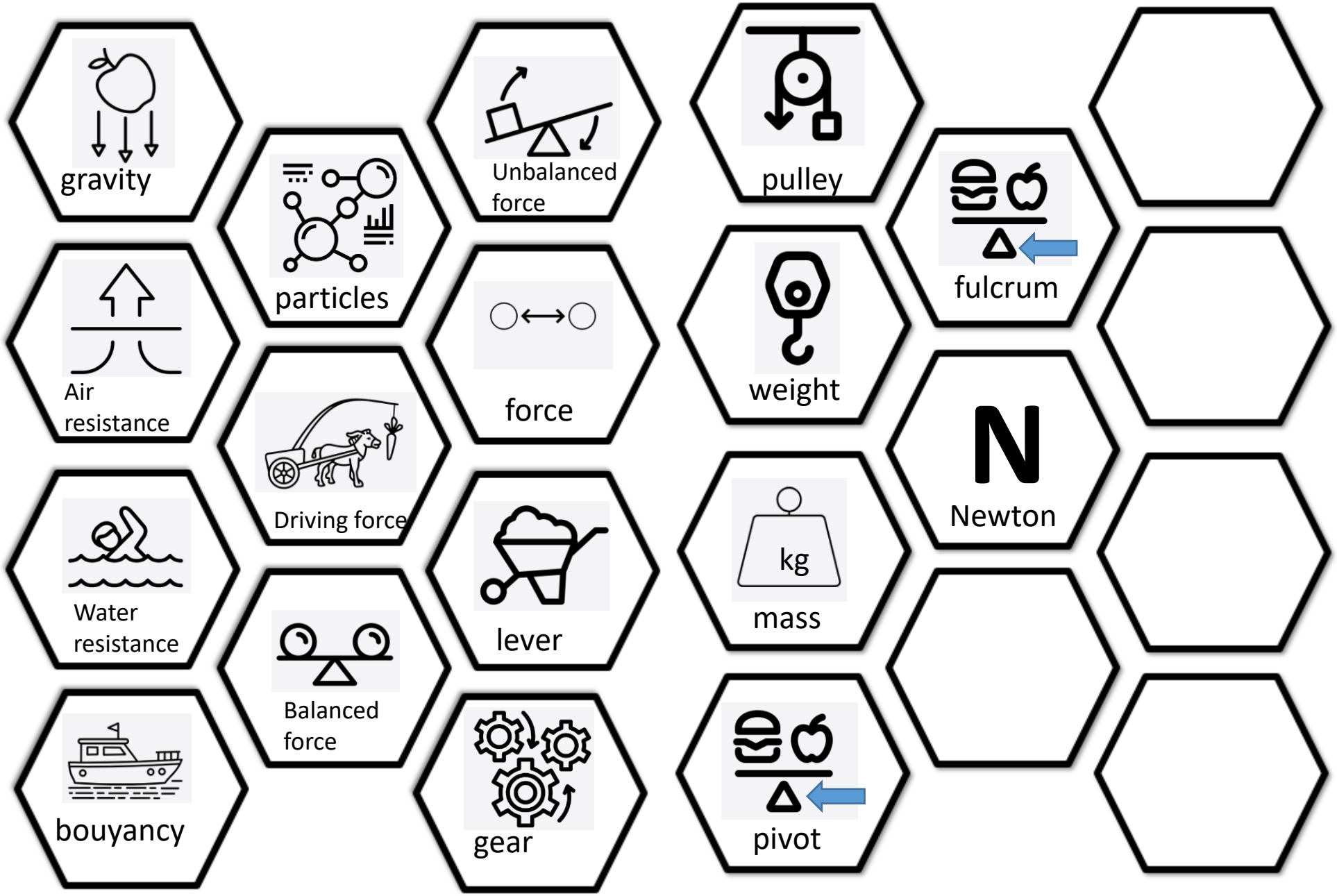
Can you explain how a gear converts energy?

Gear, mesh, mechanism, rack and pinion, bevel gear

Lesson 7

Can you explain all you have learned from this topic?

Vocab-all words from previous lessons.


gravity
Unbalanced force
pulley
particles
fulcrum
Air resistance
force
weight
Driving force
N
Newton
Water resistance
lever
kg
mass
Balanced force
bouyancy
gear
pivot

Animals inc humans

Fair testing | research | Observation over time | Pattern seeking | Identify and classify | Problem solving

What affects the health of humans?

Lesson 1 Understanding the function of the heart and the role it plays

How does the heart keep oxygenated and deoxygenated blood apart?

Ventricle, atrium, vessel, circulatory system, valves

Lesson 2 identifying and comparing blood vessels

Why do arteries have a thicker muscle wall?

Vessel, vein, capillary, artery, microscope

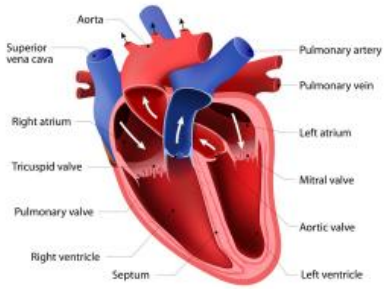
Lesson 3 explore blood

Describe what happens to your blood when you graze your knee.

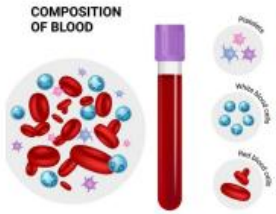
Blood, plasma, red blood cells, white blood cells, platelets

The Heart

The heart pumps blood, carrying nutrients and oxygen, around every part of the body.



The red vessels are **arteries** and the blue vessels are **veins**. **Arteries** have thick, muscular walls and carry **oxygenated** blood from the heart to the rest of the body. **Veins** carry **deoxygenated** blood back to the heart and have thinner walls. **Capillaries** are microscopic vessels which link the veins and arteries together.



Red blood cells carry **oxygen**. **White blood cells** fight infection as part of the immune system. **Platelets** help to clot (thicken) the blood and form a scab. **Plasma** is the fluid part of the blood, which transports

Looking After Our Heart

To keep our heart and body healthy, we need to:

- eat a balanced diet (not too much sugar or fat);
- exercise regularly;
- drink approximately 2 litres of water a day;
- limit alcohol intake, in adults;
- get approximately 8 hours of sleep.

Drugs, including alcohol, can cause liver damage, poor sleep, high blood pressure, and different types of cancer. Drugs can be classified into four groups – painkillers, stimulants, depressants and hallucinogens.

Careers connected this topic: doctor, research scientist, physiotherapist, occupational therapist

Year 6

Autumn 1

Lesson 4 learn how the body transports water and nutrients

Explain the terms osmosis and diffusion

Concentration, absorb, osmosis, diffusion, nutrient

Lesson 5 investigate what affects our heart rate

Explain the importance of exercise and healthy lifestyle choices

Pulse, diet, BPM-beats per minute, exercise, heart rate

Lesson 6 learn about the impact of drugs and alcohol

Why is it important to live a healthy lifestyle?

Hallucinogen, painkiller, drug, stimulant, depressant

Lesson 7

Double page spread.

Can you explain all you have learned from this topic?

Vocab-all words from previous lessons.