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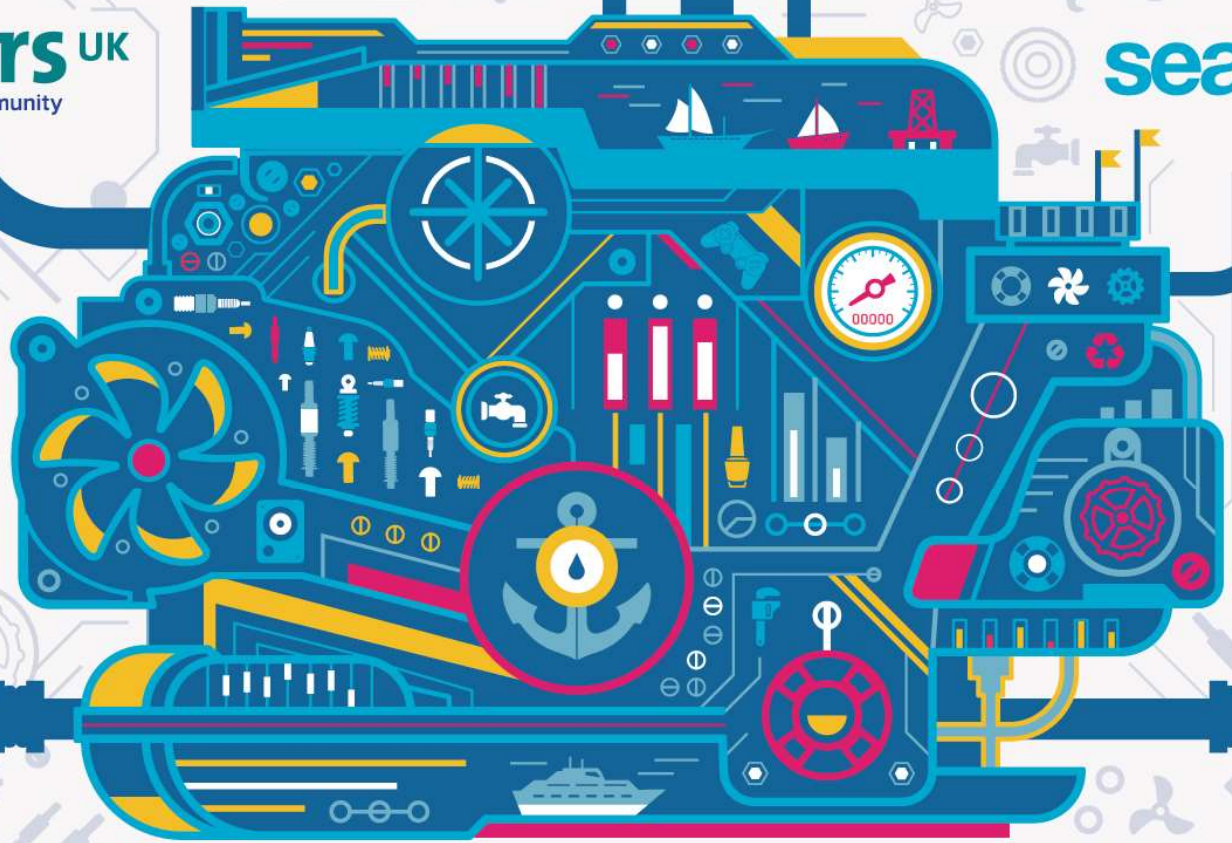


STEM Quiz 2
Age range 11 – 16

STEM Quiz 2 (Age 11 – 16)

This quiz can be played in teams or individually, and is suitable for ages 11 to 16
There are five rounds to the quiz:

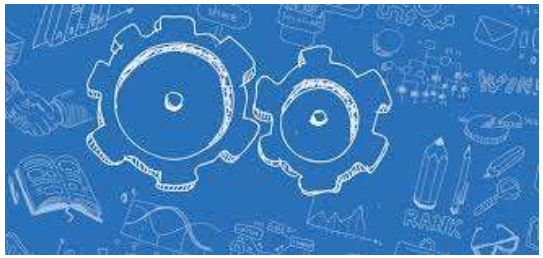
Round 1: Our World in Motion
Questions about the wonders of our world in motion

Round 2: Physics and Space
Questions about forces, motion, energy and space

Round 3: Engineering
Questions about famous feats of engineering and the way things work

Round 4: Chemistry
Questions about materials, changes and chemicals

Round 5: Biology
Questions about living things



Round 1: Our World in Motion

1) What is the fastest animal in the world?

A Cheetah

B Sail fish

C Peregrine falcon

D The three toed sloth

2) What are the moving plates of the earth's crust called?

A Dinner plates

B Tectonic plates

C Volcanic plates

D Hydraulic plates

Round 1: Our World in Motion

3) When animals move a long way to another habitat in search of food, it is known as?

A Immigration

B Moving house

C Migration

D Displacement

4) The sea has two high tides and two low tides per day. What causes the sea to move like this?

A The gravitational pull of the sun and the moon

B Wind

C The earth’s magnetic field

D The heat of the sun

Round 1: Our World in Motion

5) What is the approximate speed of light?

- **A** Three thousand metres per second
- **B** Three million metres per second
- **C** Three hundred million metres per second
- **D** Three billion metres per second

Round 2: Physics and Space

1) What is the name given to the rocks in orbit around the Sun between Mars and Jupiter?

A Satellites

B Moons

C Asteroids

D Kuiper belt objects

2) A wind turbine transforms movement energy mainly into what other form of energy?

A Heat

B Sound

C Light

D Electrical

Round 2: Physics and Space

3) How long does the earth take to complete one orbit of the sun?

A A day

B A week

C A month

D A year

4) What type of materials are good thermal conductors and good electrical conductors?

A Plastics

B Glass

C Metals

D Ceramics

Round 2: Physics and Space

5) In Albert Einstein's famous equation, $E=mc^2$, what does the letter E stand for?

- **A** Einstein
- **B** Energy
- **C** Explosion
- **D** Entropy

Round 3: Engineering

1) Which of these famous engineering projects was completed most recently?

A The Millennium Dome

B The Birmingham Bull Ring

C The Channel Tunnel

D The Airbus A380 superjumbo jet

2) How could an engineer help reduce the amount of greenhouse gasses we produce?

A By designing faster ways of digging coal from the ground

B By studying the effects of greenhouse gasses on our climate

C By building extra power stations

D By designing cars that use less fuel

Round 3: Engineering

3) What kind of engineer might help to produce artificial limbs for humans?

A Automotive engineer

B Electrical engineer

C Biomedical engineer

D Aeronautical engineer

4) How are computers connected to the internet?

A Through satellite signals

B Through metal wires

C Through optical fibres

D Through power lines

Round 3: Engineering

5) What is the world speed record for a solar powered car?

- **A** 74 kilometres per hour
- **B** 88 kilometres per hour
- **C** 97 kilometres per hour
- **D** 115 kilometres per hour

Round 4: Chemistry

1) To separate solid salt from a solution, what would you do to the solution?

A Filter it

B Heat it to evaporate the liquid

C Drink the solution

D Cool the solution to 0 degrees Celsius

2) A kettle boiling is an example of?

A An irreversible process

B A chemical reaction

C An oxidation reaction

D A change of state

Round 4: Chemistry

3) Roughly how many atoms make up the head of a pin?

A One thousand

B One million

C One trillion

D One billion trillion

4) Rusting is an example of what kind of reaction?

A Reversible

B Physical

C Irreversible

D Explosive

Round 4: Chemistry

5) Which is the only pure metal that is liquid at room temperature?

- **A** Iron
- **B** Tin
- **C** Tungsten
- **D** Mercury

Round 5: Biology

1) Yeast and bacteria are examples of what?

A Elements

B Plants

C Micro-organisms

D Mammals

2) As well as certain nutrients and oxygen, what other three things do plants need to grow?

A Sugar, air and water

B Carbon dioxide, water and light

C Earth, wind and fire

D Shade, air and sand

Round 5: Biology

3) Which organ in your body contains hydrochloric acid?

A Stomach

B Eye

C Liver

D Kidneys

4) Excess fertilisers from fields that wash into rivers and streams can cause algae to overgrow. What is the main problem with this?

A The algae looks bad

B All algae is poisonous

C The algae smells horrible

D Algae blocks out light, causing other water plants to die

Round 5: Biology

5) What proportion of food crops are pollinated by insects, birds or animals?

- **A** One third
- **B** Two thirds
- **C** All of them
- **D** None of them

End of Quiz