

Introduction

Question loops are useful recap activities. This loop can be used as revision for simple sound concepts. Key vocabulary for particular topics can be focused on each time the loop is played. There will be several sets of cards in the *Fun-Size* sections of the Science Year ASE CD ROMs.

Running the activity

There are 27 cards, two to a page, all different. Print out the set of 27 cards on 14 sheets of paper (card 28 is a front cover card). It is helpful to print the cards on different coloured paper for each subject area. Cut the A4 sheets in half lengthwise to make a card and laminate it for maximum durability. You may also need a stop-clock.

Give out individual cards to each pupil, or split the pupils into small groups and give a certain number of cards to each group until none are left. It is important that all the cards are used every time, or there will be a gap in the loop.

Start the activity by getting one pupil to ask their question. Another pupil will recognise the correct answer on their card and read it out. They should then read their question and so on until the loop returns to the starting person. This should happen with the 27th question asked. Pupils should turn their card over when they have finished. Record the amount of time taken to complete the loop and see if the class can better their time at the end of the lesson

For information and a blank template file contact nigel.heslop@scienceyear.com

Safety

Not applicable.

More ideas

The questions can be used as the basis of a quiz. Key words could be displayed beside the teaching station. Sticky Velcro patches make a good support for the word display. There should only be a few key words to focus attention on the target vocabulary for that session.

Learning outcomes

- Recap pupil knowledge of sound, pitch, loudness, speed of sound, ear function, ultrasound, noise pollution

Where the activity fits in

QCA SoW Unit 8L
Sound and hearing topics

Skills

Recall, vocabulary

Acknowledgements

This idea was one originally seen used in a science context by Mike Evans and Linda Ellis.

Q1 What do we commonly call the amplitude of a sound wave?

A27 120 decibels (120dB)

Q2 What do we call the frequency of a sound wave?

A1 The loudness of the sound

Q3 What are the units of frequency?

A2 The pitch

Q4 What is the hearing range of sound frequencies for a human ear?

A3 Hertz (Hz)

Q5 What are two ways of making a guitar string play a higher pitched note

A4 20 Hz to 20,000 Hz

Q6 How do you make a guitar string play a louder note

A5 Make it shorter or tighter

Q7 What is the electronic device for showing the shape of a sound wave?

A6 Pluck it harder

Q8 What is the electronic device to make sound waves louder?

A7 Cathode ray oscilloscope (CRO)

Q9 What is the name for the part of your ear outside your skull?

A8 Amplifier

Q10 What is the membrane inside your head that receives sound from the air?

A9 The pinna

Q11 Where does the eardrum pass the vibrations to next?

A10 The ear drum

Q12 What device detects sound vibrations in the inner ear and passes them to the nerves that go to the brain?

A11 The small bones of the middle ear

Q13 How would you describe a sound wave?

A12 The cochlea

Q14 Would sound travel fastest in wood, air or steel?

A13 A vibration passing through a material

Q15 What is the speed of sound in air
(at sea level)?

A14 It is fastest in steel

Q16 Where can no sounds at all be
heard?

A15 330 metres per second

Q17 What happens if you are exposed to very loud sound?

A16 In a vacuum such as in space

Q18 What part of your hearing fails as you get older?

A17 It can damage your hearing

Q19 What do you call sounds above the range of human hearing?

A18 You cannot hear high pitched sounds because the hairs in the cochlea break

Q20 Name some animals that can hear ultrasound

A19 Ultrasound

Q21 What do doctors use ultrasound for?

A20 Dogs, bats and dolphins

Q22 What is the major pollution problem from airports

A21 To make images of soft tissue inside the body

Q23 Why do ear defenders have a hard outer shell?

A22 Noise pollution

Q24 Why do ear defenders have soft padding inside?

A23 To reflect away sound waves

Q25 What is the unit of sound intensity?

A24 To absorb the energy of sound waves

Q26 What is the sound level in a quiet classroom?

A25 The decibel

Q27 What is the sound level at a loud rock concert?

A26 50 decibels (50dB)

Question loop: Sound