Welcome to Girlguiding Anglia's...



Additional resources

In partnership with the Institute of Acoustics

Compulsory element: How to hold a microphone

Get your tube. If using an open ended tube, seal one of the ends with Sellotape





Turn the torch on and put it in the tube so it is shining out the open end.







Hold the microphone up as if you are singing a song or reading a speech.
Does the light shine on your mouth? If it doesn't try asking your friends to help direct you or use a mirror.









Compulsory element: Microphone technique



Speaking: Breathing exercises

A good pattern of breathing is needed to produce an effective voice. This involves using the diaphragm, a sheet of muscle found at the bottom of the rib cage, which allows the lungs to expand fully.

These exercises will help you to improve your breathing technique.

- Ensure you are as relaxed as possible before starting your breathing exercises.
- Always take your breathing exercises gently, pausing between sections. If you start to feel dizzy, rest for a minute or two and then try again.
- Allow yourself enough time to complete the exercises so that you do not rush them.
- These exercises should be enjoyable, relaxing and help you to spend more time slowing yourself down and feeling calm.

1. Lying on the floor or bed, or sitting well- supported in a chair, rest your hand on your stomach/diaphragm (the area just above your waist) and be aware of the gentle inwards and outwards movement as you breathe.

- If seated you can use a mirror to monitor the movement and give yourself feedback. If lying down place a light book on your stomach to give you more feedback on where the breath is coming from.
- Gradually exaggerate the 'out' breath. Squeeze the air out, using your stomach muscles, and then let the air naturally fill your lungs again as you breathe back in. Monitor the movement of your stomach/diaphragm as you do this - with the out breath your stomach/diaphragm moves inwards, as you breathe in the area moves out and expands.
- Use your hands to monitor the range of movement in your lower back as well as your stomach. Make sure there is only minimal movement in your upper chest and shoulders.
- As you become used to this breathing pattern, take deeper breaths. You should feel the lungs filling more and more and then emptying completely.

2. Sit in a relaxed but upright position, with your back supported.

- Relax your shoulders.
- Rest your arms on the arms of the chair or by your side (ensure they are not held tightly against your ribcage).
- Using small breaths only, breathe in a relaxed and even pattern.
- Next, breathe in slowly for three seconds, pause briefly and then breathe out for three seconds. During these movements feel the bottom of your ribcage and stomach move out as you breathe in, and then back in again as you breath out.
- Return to your natural breathing pattern and relax.
- Repeat this exercise four times, always breathing in for three seconds, pausing, and breathing out for three seconds. Return to your natural breathing in- between exercises.

Speaking: Breathing exercises

Once you have established the correct pattern of breathing through the exercises above you can move on to the following exercises that focus on controlling the breath.

3. Breathe in through your nose and out through your mouth, gently and easily, until a smooth and relaxed rhythm has been established.

- Begin a silent count, breathing in for three seconds and out for three seconds.
- Maintain this silent count for several attempts and then begin to vary the length of the 'in' and 'out' breaths.
- Then try to vary this - breathing in for a count of two and out for a count of four.

4. As this becomes easier, decrease the 'in' breath time and increase the 'out' breath count as this mirrors our pattern of breathing for speech more closely.

- Breathe in on a count of two and out on a count of five.
- Next breathe in on a count of two again but then breathe out on 'sssss' (hissing sound) for a count of five.

5. Make sure that you do not allow any tension to occur in your lips, tongue, throat or neck while making the 's' sound. If you do feel tension building up go back to silent breathing and then try again once you have relaxed.

- Breathe in for a count of two and out for as long as you can on 'sssss'.
- Keep a note of this time and try to extend it. Do not force the sound out, and stop if you feel any tension, particularly in your throat, jaw and shoulders.

6. Now you are going to use breath control to vary the intensity of sound.

- Begin again by breathing in for a count of two and breathing out on the 's'. This time pull in your stomach muscles to make the sound grow in volume, for example sssssssss.
- Repeat this exercise but let the sound decrease as time goes on for, example sssssssss.
- Repeat again and this time have the period of greatest intensity/volume in the middle of your out breath, for example sssSSSsss.
- Finally try to alternate between periods of greater and lesser intensity (loud and soft sounds), for example sSsSsSsS.

7. Repeat exercises 4-6 using the sounds 'sh' and 'f' instead of 's'.

Link to Royal Papworth NHS Breathing exercises

Speaking: Can you hear me?

Can you hear me?

A voice projection experiment.

Put markers at different distances from a speaker. One person says the same sentence while trying different techniques:

- Normal voice
- Shouting
- Speaking clearly with good posture
- Using controlled breathing
- Facing towards or away from the listener

The group can then discuss: Which method helped people hear most clearly?

STEM link: This explores sound waves, volume, direction and how sound travels.

Speaking: Create a game to project your voice

Objective:

Project your voice clearly to reach different “zones” in the room without straining your throat or shouting.

What you need:

A “pretend” microphone, a hairbrush or your microphone you have made.

The setup:

Zone 1 (the front row) 2 steps away
Zone 2 (the mid-court) 5-6 steps away
Zone 3 (the back wall) the furthest point in the room

How to play:

Step 1: The mic check (warm-up)

Hold your pretend microphone about two inches from your mouth. Take a deep breath into your belly (your chest shouldn't rise much, but your stomach should expand).

- Say: "Mic check, one, two, three. Can you hear me?"
- The Rule: Keep your posture tall, like a string is pulling the top of your head to the ceiling.

Step 2: Level up the volume

Imagine your pretend microphone is plugged into a speaker system, but the volume knob is controlled by your target zones. Point your mic toward each zone and practice throwing your voice:

- Target zone 1 (the whisper row). Speak in a normal, conversational volume. Aim your words right at the closest object. Line to say: "welcome to the big game."
- Target zone 2 (the mid-court). Double your distance. Take a deep belly breath. Don't high-pitch your voice; keep it low and solid. Aim your voice to bounce off the middle of the room. Line to say: "welcome to the big game!"
- Target zone 3 (the backwall). Look at the furthest wall. Stand wide like a superhero. Breathe in deep, support it with your stomach, and project your voice so it physically hits the back wall. Line to say "WELCOME TO THE BIG GAME!"

Speaking: Create a game to project your voice

Step 3: The "broken microphone" challenge (the real practice)

Pretend your microphone suddenly cuts out or loses battery power.

- You must keep speaking your lines, but now you have to project your voice twice as hard to make sure the "back row" (Zone 3) can still hear every single word clearly.
- Focus on enunciating your consonants (like T, P, and K)—crisp words travel much further than loud, messy words!

Performing: Sound detective

Play or create different sounds and ask members to identify them.

Ideas:

- scrunching paper
- tapping different materials
- pouring water
- keys
- Velcro
- footsteps
- musical instruments

For older groups, record the sounds and edit them into a quiz.

Extension: Discuss why two objects can sound different

Performing: Careers

Turn up your future

Music, performance and STEM careers for girls who want to make some noise!

Every brilliant show needs a whole team — and one of those roles could be yours.

Your challenge:

Imagine a gig, festival, concert or play. Who makes it happen beyond the performers? List the roles, choose one that sparks your interest and discover the skills or experience you could need.

Women in the industry:

Becky Pell —Live sound engineer
With 25 years in live sound, Becky shows how technical skill can power unforgettable performances. Explore: soundgirls.org/audio-dharma/

Karrie Keyes - Live sound engineer
From starting as a teenager to working with Pearl Jam, Karrie shows where curiosity and hands-on learning can lead. She also co-founded SoundGirls.

Paule Constable - Lighting designer
Paule transforms stages with light. Her award-winning work includes War Horse and The Curious Incident of the Dog in the Night-Time.

Dr Susan Rogers - Recording engineer & music scientist
After engineering for Prince, Susan became a scientist studying how our brains respond to music—uniting creativity, technology and science.

Yvonne Gilbert - Theatre sound designer
Yvonne creates sound for theatre, opera, musicals and dance, blending technical skill with imagination.

Find your own trailblazer. Choose a woman in sound, technology, production or performance. Explore her journey and decide what advice you would ask her for.

Recording: Learn about the proximity effect

What is the proximity effect?

The proximity effect is a cool trick that happens with sound and microphones. It simply means that the closer you get to a microphone, the deeper and louder your voice sounds.

Imagine your voice has a secret bass guitar hiding inside it. When you stand far away, the microphone only hears your regular voice. But when you lean in super close, the microphone suddenly turns up the volume on that secret bass guitar!

How does it work? (the whisper secret)

Microphones are very sensitive to air moving around them.

- When you are far away: The sound waves from your mouth spread out evenly. The microphone hears a balanced, natural sound.
- When you are super close: The extra air blowing directly out of your mouth hits the microphone hard. For science reasons, microphones happen to be extra sensitive to low, deep sounds when they are hit with this close-up air.

Who uses it?

People use the proximity effect on purpose all the time!

- Movie trailer announcers: They stand right up against the mic to make their voices sound huge, scary, or super dramatic (like saying, "In a world...").
- Radio DJs and podcasters: They stay close to the mic so they sound warm, cosy, and friendly, like they are sitting right next to you.
- Beatboxers: They practically put the microphone inside their mouths to make their drum noises sound extra deep and powerful.

Try it yourself!

If you have a microphone at home (or even the mic on a phone or tablet), you can test this like a scientist:

- Hold the microphone a few inches away from your face and say, "Boom, boom, boom" in your regular voice.
- Now, put the microphone almost right against your lips and say, "Boom, boom, boom" again in the exact same volume.

You will notice the second time sounds much deeper, heavier, and more powerful!