

Chartered Institute  
of Ergonomics  
& Human Factors

# Healthy and Happy Home Learning

A guide to children's ergonomics

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# Introduction

Ergonomics is the science of optimising environments, equipment and tasks so that children can work, study and perform at their best. This guide is intended to help parents and carers support children of all ages in studying from home, so that they can encourage the development of good habits into adulthood through improved posture, movement and exercise, awareness of ergonomics, comfortable furniture and environment, and responsible use of technology.

## Dr Noorzaman Rashid

Chief Executive  
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### Why it is important:

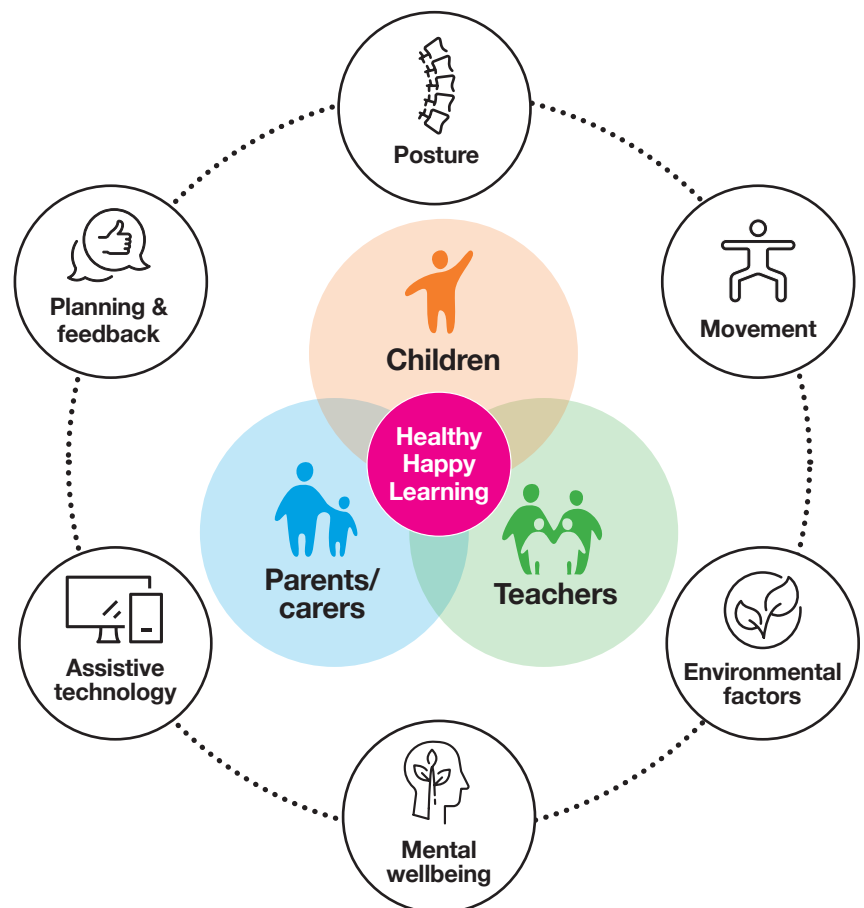


- Studies have shown a link between wellbeing and educational attainment
- Discomfort and stress can affect concentration
- Postural problems can begin in early childhood and lead to more serious problems (e.g. back pain)
- Home studying and learning will continue, so thinking about the physical, mental and social health of children is essential.

## Things to consider



The graphic opposite illustrates factors to consider that are covered in this guide. It's a good idea to involve children in the design process at every stage.



Explore practical ideas and links to improve children's ergonomics with simple, positive changes. Schools can play a part too. Please share this document with school governors, teachers and friends. For more ergonomics information and advice, visit [ergonomics.org.uk](http://ergonomics.org.uk)



# Posture



Posture is important to get right, whatever the activity, to reduce the risk of aches and pains, either short term or potentially to avoid more serious issues later in life.



**WHY:** Being comfortable can help reduce head, neck and back pain, and it also improves concentration, breathing and digestion. This helps us focus, feel happier and have more energy for learning.



The health of our spines can be negatively impacted by using ill-fitting furniture, lack of exercise and long periods of sitting, especially in our technology driven lives.



'C' shaped slumped posture puts uneven pressure on the discs, increasing the risk of pain and discomfort, restricted breathing and poor digestion.



Natural 's' shaped balanced posture creates even pressure on the discs, increasing core stability, aiding concentration and improving productivity at the table.



## FIND OUT MORE ONLINE:

CIEHF - [Working from home infographic](#)

NAPO - [Lighten the load videos](#)

# Posture (continued)



## ✓ HOW: Here are some top tips

1. When sitting on a chair, create a “wedge angle” with a cushion or pillow. This will boost your child’s height to the table (kitchen tables are often a little higher than other tables or desks) which, in turn, helps relax shoulders and elbows, and wrists will be less flexed. Keeping your knees slightly lower than your hips encourages a more natural upright posture too.
2. If the seat is too deep or the backrest isn’t comfortable, place a rolled up towel or small cushion in the curve of your child’s back for extra support.
3. Place a box or books under dangling feet if they don’t quite reach the floor to give the feet support. Remember our bodies are connected so the foot position affects head posture. There will be less pressure under the thighs and they’ll be able to maintain a more upright balanced posture, naturally.
4. When using a laptop, elevate the screen on books or a box so the top of the screen is at eye level and the distance of the screen is roughly arms length. Use a remote keyboard if working for 30 minutes or more.
5. When using a mobile device or reading from books, tilt and position them so they can be clearly seen without the neck flexing too much and increasing the risk of a slouched posture. You can use books to prop them up safely or combine your construction skills and imagination to make a stand!
6. Organise the table so things are within easy reach and the mouse is comfortably close by your child’s side. Older children who need to study for exams may benefit from a more adjustable task chair and desk in their bedroom. Follow the links on page 4 to find out more about home working.

**Doing a lot with a little:** Whatever your child’s age, or learning activity they’re pursuing, it’s important to be comfortable and safe when studying. *Improvise with these everyday objects to improve comfort.*



SIDE VIEW



TOP VIEW

# Movement



Movement is the No. 1 action we can all do to keep our bodies healthy and minimise the aches and pains caused by prolonged sitting.



**WHY:** It nourishes joints and muscles, improves circulation and makes us feel good! Ideally, time moving outdoors is best, as sunshine boosts our vitamin D for bone health. Being in nature helps our emotional wellbeing too. When we feel good, we learn and concentrate more effectively.



**HOW:** Here are some top tips

1. Children can learn in lots of different positions. Encourage movement and regular changes of posture.
2. Think 20:20:20 – every 20 minutes, move, stand or stretch for 20 seconds. Also rest your eyes at a distance of 20-plus metres (being able to look out of a window helps) to reduce eye strain from staring at screens.
3. For older children, who might be sitting for longer, set reminders to move regularly and/or alternate postures – a timer on your phone or an alarm clock will help.
4. Get moving with friends and family – have movement breaks at the end of seated games, try an online strength workout together, go for a walk before, during or at the end of the day.
5. Take the opportunity connecting with others and nature when moving outside. Stop and listen to five sounds outdoors, enjoy feeling mindful.



## FIND OUT MORE ONLINE:

[NHS - Physical activity guidelines for children \(under 5 years\)](#)

[NHS - Physical activity guidelines for children and young people](#)

[UK Chief Medical Officers' Physical Activity Guidelines - Physical activity for early years birth to 5](#)

[UK Chief Medical Officers' Physical Activity Guidelines - Physical activity for children and young people \(5-18 years\)](#)

[Healthy Working: MOVE - Ergonomics for kids](#)

[Sport England - Join the movement](#)

[Wheelpower workouts for young people](#)

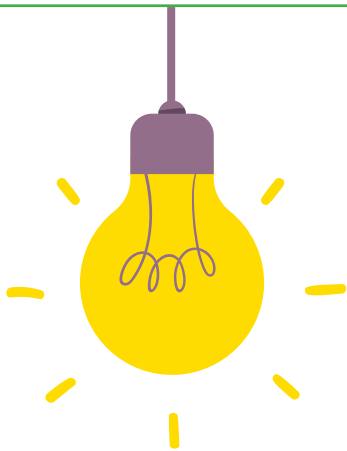
# Environmental factors



Environmental factors are equally important for comfortable and healthy studying. Environmental factors include lighting, noise levels, thermal comfort and air quality, and can change depending on the time of day or season.



**WHY:** It contributes to our energy and concentration levels as well as our sense of wellbeing.



**HOW:** Here are some top tips

1. Ensure that lighting levels are adequate for the task. Take time to position yourself, books and learning devices out of direct sunlight. Ensure books and screens can be seen clearly, without squinting or glare.
2. Check children have regular eyesight checks and recognise the signs of eyestrain, e.g. headaches, itchy eyes or the sensation of grit behind the eyes.
3. Households can be busy and distracting places to learn. Make use of noise-reducing headphones, a scarf or head band covering ears or even individually chosen music. Discuss to see what works best.
4. Biophilic design encourages the connection between humans and nature indoors to promote wellness and productivity. Experiment with natural materials like wood and stone, pictures of nature and growing your own house plants.
5. Thermal comfort is important to aid concentration. A blanket or jumper can provide physical warmth and psychological comfort in winter. A natural or artificial breeze can help when it feels too hot, but try to avoid drafts.
6. Where possible, open the windows for fresh air to improve air quality and reduce humidity and condensation.



## FIND OUT MORE ONLINE:

Thrive Global - [Biophilia: Nature and Childhood](#)

First In Architecture - [Internal Environment - Thermal, Air, Sound and Light](#)

# Mental wellbeing



Mental wellbeing is just as important as physical health and is interconnected.



**WHY:** To learn well, we need to feel well. Many factors influence children's wellbeing and it's important to consider these.



**HOW:** Here are some top tips

1. Spend part of each day relaxing and being mindful, maybe by reading a book, enjoying quiet time under a blanket, feeling peaceful in a den, or by stretching with yoga.
2. Help children adopt a healthy sleep routine. This means ensuring the use of technology is limited to set times of the day, and it is especially important to stop screen time at least an hour before bed.
3. Taking time out and being kind to yourself and others is equally important and helps us build resilience to adapt to changing situations.
4. Nutrition and hydration are important for our physical health, and a healthy, balanced diet contributes to mental wellbeing. A refillable water bottle is an easy way to ensure regular drinking throughout the day and reduces the temptation to snack.



## FIND OUT MORE ONLINE:

Natural Source Waters Association - [healthy hydration factsheets](#)

NHS - [change4life](#)

NHS - [Vitamins and minerals - Vitamin D](#)



# Assistive technology



Assistive technology covers products, technology and services to support independence and inclusivity.

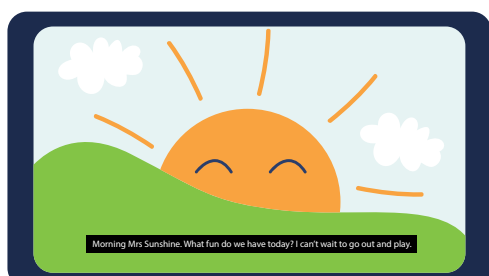


**WHY:** Being able to engage more fully in learning helps our sense of achievement and wellbeing and is essential for inclusion.



**HOW:** Here are some top tips

1. Take time to look at Microsoft Word's Immersive Reader tools. Fonts can be altered and enlarged, the page layout simplified and colour backgrounds changed to make reading more comfortable, especially useful if using a small screen.
2. Turning on the subtitles while children are watching television can double the chances of a child becoming good at reading.
3. Talking book readers can support children learning to read and write. Listening to audio books can help to improve speaking and writing skills, and children can learn to understand language above their reading level.
4. Consider using a free app to help children focus and practice mindfulness. See the suggestion in the references section.
5. For children learning to write, or trying to advance their handwriting, pencil grips can help improve hand posture, speed and efficiency.
6. Ask your school for more support in assessing your child's needs and providing access to the right experts.



**FIND OUT MORE ONLINE:**

Primary Times - [How can assistive technology support education](#)

[Turn on the subtitles](#)

# Planning



Planning and organising work with your child provides an opportunity to make it more fun and manageable, and ensures that ergonomic tips can be incorporated into your routine for happier healthier learning.



**WHY:** Considering 'job design' in ergonomics helps reduce the risk of mistakes and stressful environments. As humans, we thrive on routine and structure and especially children who can learn to plan and organise their work in a realistic and fun way. Parental encouragement and rewards can enhance the experience of collaboration, concentration, sharing, reflection and getting energised during learning.



**HOW:** Here are some top tips

1. Engage children to co-design their home learning spaces. It can be made fun to reflect the different activities whether they're making and discovering outside, requiring quiet reflective time in their bedroom or home snug, or collaborating physically or virtually at the kitchen table.
2. Consider planning a schedule for the day, building in regular times for movement, hydration and downtime.
3. Organise learning resources and equipment so they can be packed away when you need to switch off. It signals the start and finish of the study period, improves organisational skills and reduces protracted distractions.
4. Create paper or digital notes to capture a 'to do' list which can then be reviewed at the end of the day. It helps check on progress and for the child to self-manage and see their own progress.



## FIND OUT MORE ONLINE:

NSPCC - [Coronavirus \(COVID-19\) and parents working from home](#)

Kids Health - [Top 10 homework tips](#)

twinkl - [home learning: how to plan your day](#)

# About us



The Chartered Institute of Ergonomics and Human Factors (CIEHF) is a professional member organisation for ergonomists and human factors specialists. We accredit education and training courses and recognise quality ergonomics services. Our activities raise awareness about the broad scope and positive impact of the discipline in all aspects of life and work.



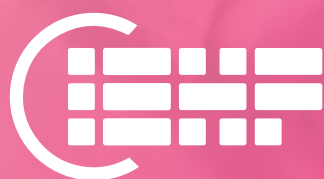
The Well Learning Exchange, is a special interest group within the CIEHF made up of ergonomists, physiotherapists, designers and educationalists, with the aim of sharing knowledge and collaborating to improving wellbeing and attainment for children.

**To get involved, have a look at the group's aims and research topics of interest.**

**[www.ergonomics.org.uk/Public/Get\\_Involved/Details/Childrens\\_Ergonomics.aspx](http://www.ergonomics.org.uk/Public/Get_Involved/Details/Childrens_Ergonomics.aspx)**

## Acknowledgements

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[www.ergonomics.org.uk](http://www.ergonomics.org.uk)