Health and social care professionals often work with people with disabilities. Careful planning of space creates better access for all.

Could someone in a **wheelchair** work in your classroom?

Make a plan model of your classroom including the furniture.

Are the gaps between the tables wide enough for a wheelchair?

Is there room to turn?

Fact sheet

- **The average wheelchair width is 700mm (not including user's hands).**
- **To move a wheelchair needs clearance of 100mm on both sides.**
- **Skilled users of manual wheelchairs can turn through 360° in a space no more than 1500mm x 1500mm.**

Re-design your classroom to make it **wheelchair** accessible.

health and social care

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Design a *computer workstation* for a **wheelchair** user.

Fact sheet

- To allow wheelchair users room to move in front of a computer there should be a clear space of 1850mm x 2100mm.
- Eye height typically ranges from 960mm to 1250mm for wheelchair users.
- The eye should line up with the top third of the screen.
- Eyes should be about 600mm from the screen.

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health and social care

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- Are the corridors wide enough to allow **wheelchairs** to pass each other?
- Are there any corners which may be difficult to steer wheelchairs around?
- Are there any hazards for **wheelchair** users?

How easy is it for someone in a **wheelchair** to get from the school entrance to your classroom?

Are there any steps which will need ramps?

Slope should be 5% (1 in 20) and not more than 9 m long.

Write a report about any suggested changes.

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Teacher notes

Health and social care : Accessible spaces

Description

This set of activities asks pupils to explore the ways in which their classroom and school can be made wheelchair accessible. If all the activities are attempted, the topic will be an extended one.

Activity 1: Room for all

Activity 2: Using a computer

Activity 3: Is your school accessible?

Resources

A3 size squared paper, pairs of compasses, card for making furniture models, metre rules or surveying tape measures, calculators

Room for all asks pupils to create a plan model of the classroom. This activity is particularly successful if you are able to set the context using a wheelchair. Either invite a wheelchair user into school to illustrate the importance of the requirements for manoeuvring around the classroom or bring in a wheelchair which can be used by your pupils.

At the beginning of the lesson, work with the whole class to decide the most appropriate scale so that the scale drawings fit on an A3 sheet of squared paper. You could also work together to discuss how to represent doors on the diagram and to construct the locus of the opening door using a pair of compasses. Fixed furniture such as interactive whiteboards also needs to be included. The pupils then need to make plan models of the moveable furniture and fit it onto the A3 plan. Creating a template and photocopying it onto card will reduce the work. Pupils may need reminding that they should use a plan view of all furniture including chairs to create the templates. The activity works well with groups of 4 sharing the tasks. For example, one pair could make templates of the moveable furniture whilst the other pair creates the classroom plan. Alternatively different groups of pupils can be asked to take different measurements around the room to share with the rest of the class.

The Mathematics

Pupils make sense of plans and diagrams through interpreting scale diagrams. The construction of the scale diagram will require accurate measurement, conversion between a range of units and decisions about appropriate scales involving an understanding of proportion. The students will also be required to plot the loci for opening doors and turning circles of wheelchairs.

The groups then use their scale diagram of the classroom to rearrange the furniture and decide on any changes that should be made to fixtures, fittings and furniture to create an accessible classroom. They will need to create circle templates to model the turning circles of wheelchairs. Interestingly, manual wheelchairs are more manoeuvrable than other types of wheelchairs which usually have larger turning circles. Your pupils could research this.

Each group can prepare a brief presentation where they present their designs to the rest of the class and the class agree on the most important issues that have arisen from this activity. Room for all is likely to extend over more than one lesson.

Using a computer focuses on an individual work station and again involves measurement and scale drawings. If time allows, pupils can present their designs as 3-D models.

Before starting Is your school accessible? you will need to prepare descriptions of a variety of routes around your school. Pupils can work in groups of 4 on a different route around the school. Present them with the task of assessing this route for accessibility. The groups will need a range of measuring equipment and the information about wheelchairs from Room for all. Each group can prepare a report which details the problems they have discovered and their solutions to these problems. This activity is likely to extend over more than a single lesson.