



Architecture &
Design Scotland
Ailtearachd is Dealbhadh na h-Alba

Design elements for school grounds

Play and outdoor learning



Play and outdoor learning



There are many ways to enhance school grounds with engaging play and learning elements. Possibilities include installing timber posts, natural play parts, mud kitchens, sensory areas and larger play structures.

In this document there are inspiring ideas to create more dynamic and playful spaces. There are also practical tips and design considerations to help create outdoor environments that promote learning, creativity and physical activity.

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Timber posts

Timber posts are simple elements that can be a great addition to the school ground. They offer opportunities for free and loose play, and they add colour to bleak tarmac surfaces.



materials

Use timber stakes or logs for the main structure, paint to add colour, and concrete to provide stability and rigidity.



estimated time

Designing the area may take 1 month.

Implementation may take around 1–5 days, depending on site conditions and scale of the project.



estimated costs

Materials can be purchased from various play suppliers. Search online for 'timber holey poles school ground' for options.

These can be installed on hard or soft landscapes, however installation is generally cheaper and easier on soft surfaces.

***see 'Costings note' on p.26**



labour and skills

Construction skills are required, especially if installing in tarmac areas where holes for foundations must be core drilled.

Design considerations

For a range of play opportunities, consider the height, arrangement and number of poles. Holes or eyelets can help fix ropes, tarpaulin and climbing holds to post. Ensure there are no small gaps created that could trap children's fingers. Painting (design and colour) of posts can tie in with the school's overall identity, theme or colour scheme.

Technical considerations

Check with supplier on safety surface requirements if providing any climbing opportunities. Check for any underground services or utilities to avoid damaging them during installation.

Legal considerations

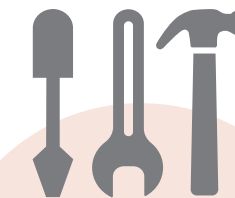
Permission sign off by local authority may be required for any self-build elements.



loose play parts

Posts can be used with a variety of loose parts, including fabric, rugs, ropes, pallets, timber pieces, buckets and cardboard, as well as wheeled items such as scooters, tricycles, bikes, crates on wheels, skateboards, suitcases, and buggies.

Consider installing a storage unit nearby to allow easy access to parts during play time.



maintenance and lifespan

If painted, plan to repaint every 5 years.

Pressure-treated timber posts typically last 8–10 years, depending on exposure and maintenance.



further ideas

Install poles within a large tarmac area and use them to fix ropes or tarpaulins, allowing pupils to create dens and imaginative play spaces.

Timber posts

Existing situation

Picture a school ground with a large grassy surface, but no area for activities and play. The school surveys pupils and teachers, and the results show demand for an imaginative and active play area.

Proposed activity

Based on the survey results, the school decides to add areas for play. They consider the use of timber posts because their ease of installation and quick impact ensures minimal disruption for staff and pupils.



Here is an outdoor environment that encourages imaginative play and develops physical skills. The multipurpose post arrangement allows for a variety of activities, from balancing and climbing to running and imaginative games.



This community garden has a playful balancing activity with a timber-post pathway. Young people can navigate the course by walking and leaping across the arrangement of vertical and horizontal posts.

Natural play elements

A dedicated play area or zone can be created within the school grounds by using simple, natural elements. Play or climbing rocks can be added to other areas of the school grounds, providing additional opportunities for natural play.



materials

Materials for natural play areas may include timber logs, posts or stumps, along with play or climbing rocks, planting and bark mulch.

Safety surfacing should be added where necessary.



estimated costs

Costs will vary depending on the design and size of the area.

Refer to the illustrative examples on p.10 for estimated costs.

***see 'Costings note' on p.26**



estimated time

Design: 1–2 months.

Implementation: 1–2 weeks, depending on ground conditions and scale.



labour and skills

Landscaping skills are helpful for setting out and installing natural features. More advanced installations may require construction skills or support from a joiner.

Design considerations

Not applicable.

Technical considerations

Elements below 600mm in height do not require a safety surface, however installation of safety surfaces (such as rubber) on hard areas should be considered to reduce injuries.

Play elements can be installed on soft surfaces such as amenity grass or under trees. If installing play elements under trees, avoid tree roots and compaction of soil.

Elements that can be installed on hard surfaces include logs, play or climbing rocks.

Bark mulch or grass safety mats can be used as ground surface material.

Legal considerations

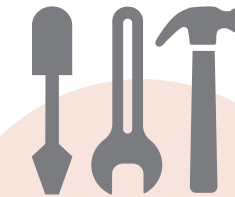
Permission or sign off by local authority may be required for any self-build elements.



loose play parts

Enhance natural play spaces with loose parts such as fabric, rugs, rope, pallets, timber pieces, buckets, cardboard, and toy animals or vehicles.

Consider installing a storage unit nearby to allow easy access to parts during play time.



maintenance and lifespan

Bark mulch may require an annual top up, as it can spread to nearby surfaces.

Timber pieces typically last 5–10 years before signs of degradation occur. Pressure-treated timber usually lasts around 10 years.



further ideas

Natural play areas can be integrated with other features such as a mural wall, timber posts, or a sensory garden.

Other elements to consider include: willow structures, raised beds, planters, seating, bird boxes, insect hotels and shelters.

Natural play elements

Existing situation

A blank wall in a school dominates the playground and provides no point of interest or stimulation.

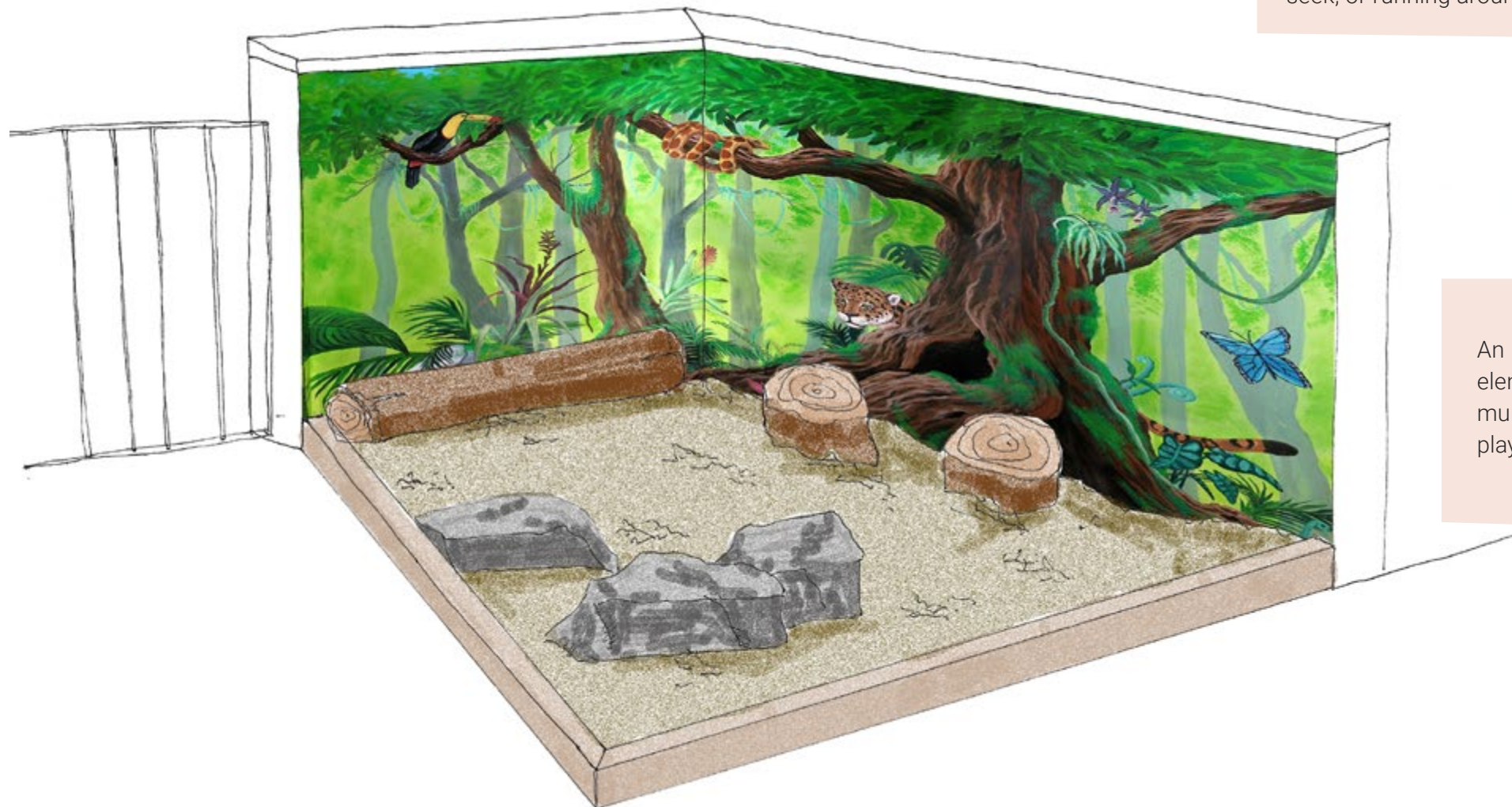
Proposed activities and elements

In this scenario, a school is exploring options to paint a mural which will create a natural and imaginative backdrop for active play. They consider a timber edge around the mural, with a bark mulch ground surface for safe landing, and timber logs or play rocks. They also consider loose play parts to encourage nature, den or quiet play, which includes fabrics, rugs, animal or vehicle toys, kitchen utensils, containers of different sizes, rope, pallets, pieces of timber, buckets and cardboard. A storage unit adjacent to the area will ensure tidiness and easy access.

Estimated cost for an area x 5m: £3000 - £5000 (to include mural and loose play part elements).



Here we see large play rocks that can be used for climbing, playing hide and seek, or running around.



An illustrative example based on the proposed activity elements on p.10. This includes a timber edge with mulch surface, play rocks and timber logs for active play, and a mural to make use of the blank wall.

Play or mud kitchen

Play or mud kitchens encourage messy and unstructured pretend play. These environments help children connect with nature, supporting sensory exploration and the development of both independent and social skills. They allow for curiosity, exploration and experimentation in an open-ended way, encouraging a child's imagination to flourish.



materials

Use timber or pallets to create the kitchen structure.

Other materials may include old sinks, taps, a utensil rack, and other repurposed kitchen elements.



loose play parts

To encourage a variety of play experiences, include loose parts such as pots and pans, kitchen utensils, and containers of different sizes.

Consider incorporating a built-in storage unit for easy access to items during play time.



estimated costs

Mud kitchens can be purchased or built using upcycled materials.

Pallets can often be sourced for free from local businesses or building yards.

Ready-made kitchens are also available from various play suppliers. Search online for 'outdoor mud kitchen for schools'.

***see 'Costings note' on p.26**

Design considerations

Locate your play or mud kitchen in a quiet area of your school ground, close to soil, sand and water play elements.
To avoid disturbances and potential damage to the structure, locate the kitchen away from active play areas with ball sports.
Allow for storage space within the units.

Technical considerations

If a water supply required, consider the water connection and drainage options.

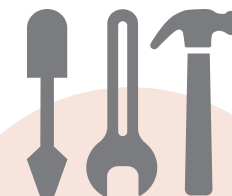
Legal considerations

Permission or sign off by local authority may be required for any self-build elements.



estimated time

Design: 1–2 months.
Implementation: 1–2 weeks, depending on complexity and availability of materials.



maintenance and lifespan

Check the kitchen structure regularly for loose parts, especially if it includes doors or hinges.

With proper care, a mud kitchen can last over 5 years.



further ideas

Enhance the area by adding a painted mural or backdrop.

Include additional seating to support imaginative play, turning the space into a pretend café or restaurant.



labour and skills

Basic DIY skills will help assembly or installation. Construction skills or a joiner may be required

Play or mud kitchen

Existing situation

An underutilised outdoor space on a school ground has a hard surface area with no elements for play.

Proposed activities and elements

In this scenario, a school is exploring the option of incorporating a play or mud kitchen to provide a space for pupils to play with their peers using natural ingredients such as water, sand, stone and mud. They consider the use of timber or pallets to build the miniature kitchen, and will use bowls, containers, plastic cooking utensils and storage to put everything away when not in use.

Shelving for pupils to use during their play time.

Metal bowls for pupils to use for collecting mud and other organic material around the garden.

Metal pots and pans to use for 'cooking' organic material found around the school grounds.

Storage space to put away loose play parts to keep the space tidy when not in use.

Adjacent to a blank wall, this school has an L-shaped mud kitchen made of timber. Metal bowls facilitate the collection of natural materials, and under-stove storage provides easy access to cooking utensils and keeps loose parts tidy when not in use.



Sensory area

A sensory area could include a sensory path, wall or garden. Such areas can offer different materials and experiences to explore and build sensory connections in the brain, whilst also challenging balance and spatial awareness skills. These areas can provide calm and safe spaces for all children, but especially those with additional supported needs.



materials

Sensory paths or areas can include a variety of materials and surfaces such as bark mulch, pine cones, pavers, large timber pieces, gravel, stones, sand, paved surfaces, and tactile paving.

Enhance vertical surfaces by fixing elements like mirrors or musical features to existing walls.

Create edging for a path using timber slats, timber logs, concrete edging or pavers, brick or natural stone.



labour and skills

Landscaping and construction skills will help for laying surfaces, creating edging, and securing fixed features.



estimated costs

If small quantities are needed, many of the materials for a sensory area can be collected or salvaged.

**see 'Costings note' on p.26*



estimated time

Design: 1–2 months

Implementation: 1–2 weeks, depending on scale and complexity.

Design considerations

Sensory areas are best located within a quiet area of the playground so children can explore them without getting overwhelmed.

Are there existing walls to which sensory elements can be attached?

Sensory path could connect different zones or areas within the playground.

A sensory area should be designed to include elements for children with different mobility needs. This could include handrails for children who need walking assistance, and sensory elements that can be explored by children in wheelchairs.

Technical considerations

Not applicable.

Legal considerations

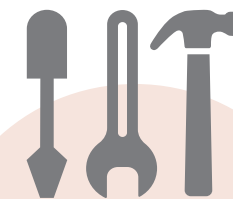
Permission or sign off by local authority may be required for any self-build elements.



loose play parts

To support sensory exploration, include loose parts such as different materials, fabrics and musical instruments.

Consider installing a nearby storage unit to easily access items during play time.



maintenance and lifespan

The maintenance needs and lifespan of a sensory area will depend on the materials included and frequency of use.

Some elements, such as bark mulch, pine cones or sand, may need to be replaced regularly.



further ideas

Positioning the area near a quiet garden or willow structure can help deepen the sensory experience.

Encourage interaction with the natural environment. Consider features such as insect hotels and bird boxes.

Stage

A stage creates a perfect focal point for outdoor performance, imaginative play and outdoor learning. To maximise the flexibility of the space, seating can be added.



materials

If building a stage or platform, use timber as the main material.

If marking a performance space directly onto the ground, use outdoor paint or other suitable materials.

Ensure surfaces used are anti-slip.



labour and skills

Construction skills or a joiner are required for building and installation.



estimated costs

Outdoor stages can be purchased from a range of play suppliers. Search online for 'playground stage' for options.

A timber platform or decking area with posts (2 x 2.5m) may cost around £3,000.

Outdoor paint for a marked performance space may cost around £200.

***see 'Costings note' on p.26**



estimated time

Design: 1–2 months

Implementation: 1–2 weeks, depending on materials chosen and installation complexity.

Design considerations

If using a stage for school events, consider the stage size, sun orientation, space for the audience, and access for performers.

Could the stage also be used as an outdoor shelter or classroom?

Timber posts can add opportunities for den building or stage sets.

Is a roof or shade sail required?

Is an electricity outlet required?

Technical considerations

A level base or foundation is required.

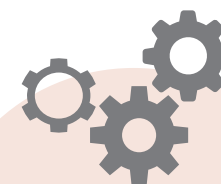
Timber surfaces can become slippery when wet, consider installing an anti-slip finish.

Legal considerations

For fire safety, most insurance requires structures with a roof to be placed at least 8-10m distance from other buildings.

Depending on size of stage and roof structure, planning permission may be required.

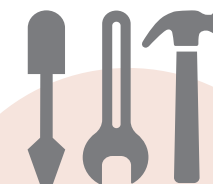
Permission or sign off by local authority may be required for any self-build elements.



loose play parts

To support creative performance and set designs, include loose parts such as dressing-up clothes, fabric, cardboard, and a music player with speakers.

A nearby storage unit can help keep items organised and accessible during play time.



maintenance and lifespan

Carry out regular safety checks to ensure the structure remains stable and safe to use. Follow the manufacturer's maintenance guidance.



further ideas

Consider painting a mural or artwork on a nearby wall to create an engaging backdrop for the stage.

Add shelter or seating to further enhance the space.

Stage

Existing situation

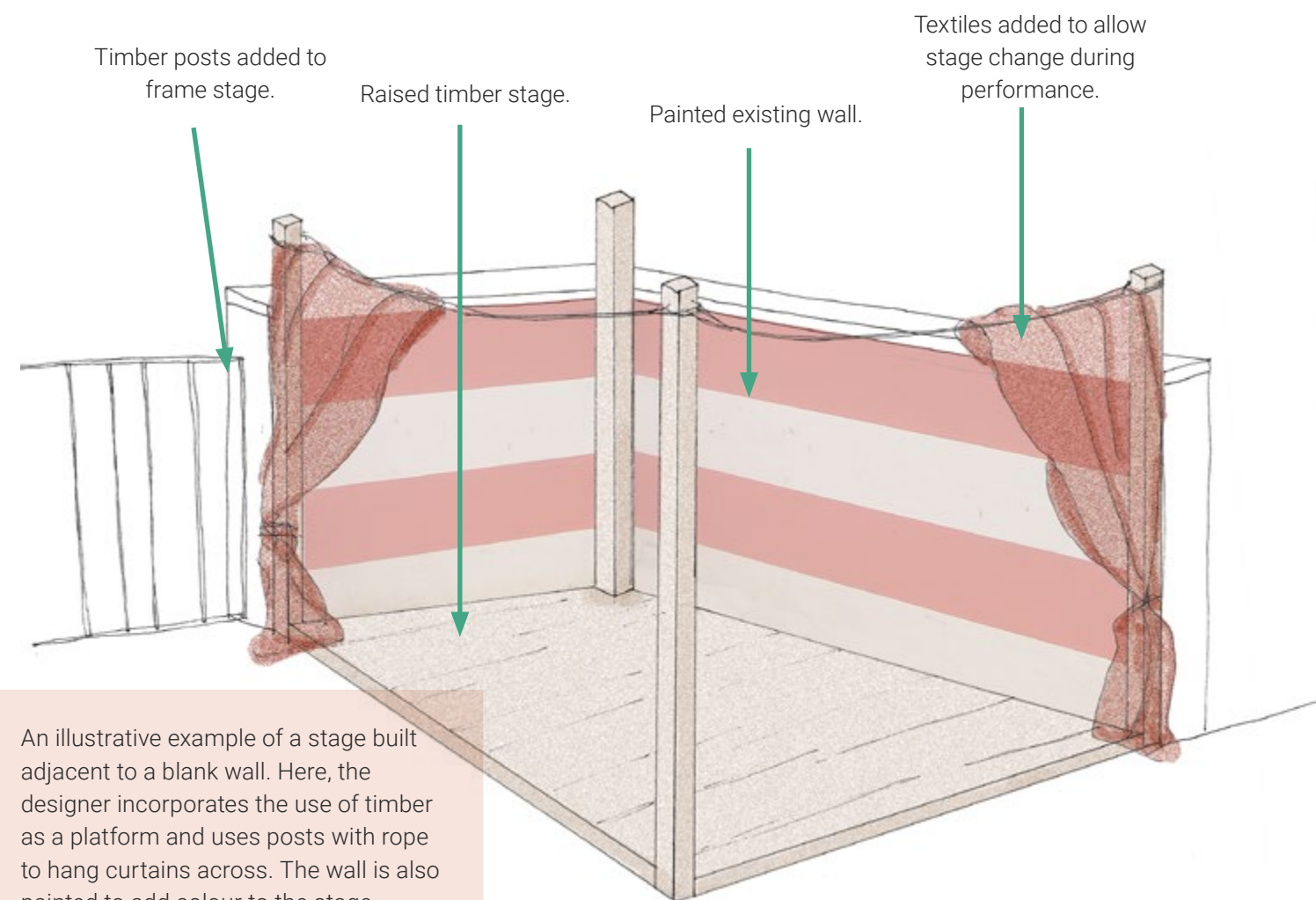
A school ground has a blank wall (boundary or building) with no opportunities for activities.

Proposed activities and elements

In this scenario, a school is assessing the potential of repurposing an underutilised area of their grounds into a stage for learning activities and play.

Here they explore the use of different elements such as a timber platform with posts, a painting on a wall or mural, a collection of loose play parts for dress-up and creative play (old clothes, cardboard, fabric and rope), and a designated area for a music player with speakers.

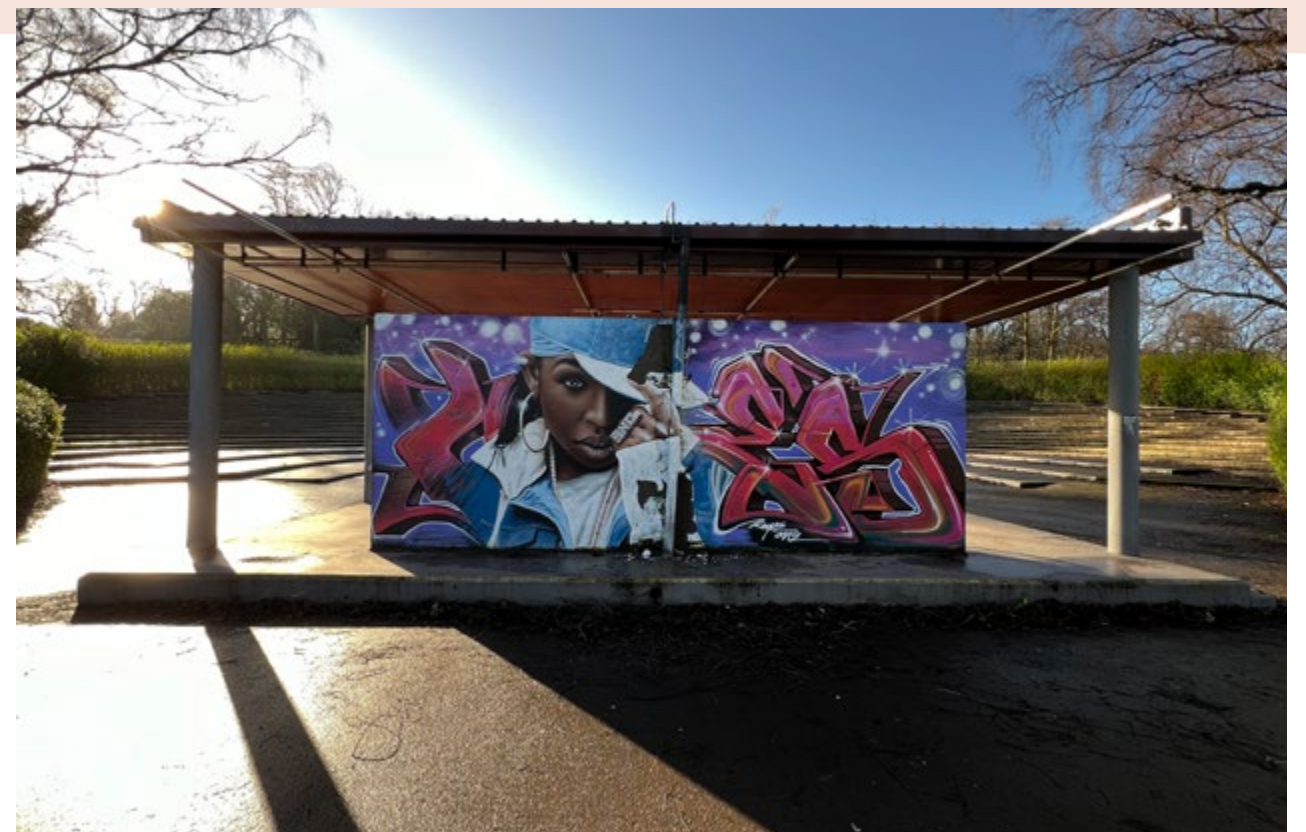
They are also considering a seating area for audiences.



An illustrative example of a stage built adjacent to a blank wall. Here, the designer incorporates the use of timber as a platform and uses posts with rope to hang curtains across. The wall is also painted to add colour to the stage.



In this example, a stage has been built in the centre of a green space, with a roof to cover it. One side of the stage wall has a graffiti style mural, while the other side remains blank so that it can be used and covered with different artwork or fabric.



Larger play or climbing element

Larger play or climbing elements can offer a variety of inclusive play activities for all types of users. These elements can be incorporated into the overall theme of the school ground (castles, animals, ships, trains, etc).

Most local authorities require these to be built by specialist play equipment providers, due to health and safety regulations and the insurance required. Speak to your local authority for more information on play equipment providers.



materials

When selecting play equipment, consider the use of natural materials and their sustainability.



labour and skills

Large play or climbing elements must be installed by a specialist play equipment provider to ensure safety and compliance with relevant standards.



estimated time

Implementation, including ground preparation and installation of safety surfacing (if required), typically takes 1–2 weeks.

Your equipment provider can offer a more accurate timeframe based on your design.

Design considerations

Consider what you already have in your playground for play activities. Ensure the purchase of large play equipment will enhance rather than replicate the experiences on offer.

Consider inclusive play and access.

Consider the placement of any large play equipment in relation to quiet zones in your playground.

Technical considerations

A level base or foundation is required.

Timber surfaces can become slippery when wet, consider installing an anti-slip finish.

Legal considerations

Permission or sign off by local authority will be required for any large play equipment.

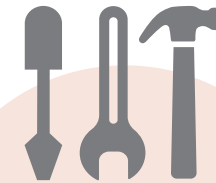


estimated costs

Play equipment can be purchased from a range of suppliers.

Costs vary depending on the type and scale of the equipment, ranging from £10,000 to £100,000.

***see 'Costings note' on p.26**



maintenance and lifespan

Regular safety checks are essential.

Follow manufacturer's maintenance schedule and guidance.



further ideas

Consider how the surrounding area can support and enhance play opportunities. Adding seating, shelter, timber posts, or other natural play elements can help create a richer and more inviting play environment.

Larger play or climbing element



Creatively combine functional pathways with a large play element by installing two tunnels through a hillside. These tunnels connect two distinct zones of the school grounds, while offering children an exciting space to explore. Large rocks, used for support and stability, add another dimension to the play experience, inviting children to jump and climb.



This climbing structure features a hexagonal pyramid design constructed from large timber logs. The open design allows young people to climb on the logs and through the spaces to reach the centre of the structure. Ground mulch provides a cushioned surface at the pyramid's base.



This climbing structure made of timber logs and ropes. Young people can walk across the logs, use the ropes for support, and climb around the structure.

Image credits and acknowledgements

This resource has been produced in collaboration with Urban Pioneers.

Cover: Architecture and Design Scotland

Page 2, 6, 7, 11, 21, 24, 25: Architecture and Design Scotland

Page 10, 14, 20 : Urban Pioneers

Costings note: Please note that all pricing information contained within these design guidance reflects estimates based on market conditions as of the 2024-2025 period. Due to the dynamic nature of industry costs, including material fluctuations and evolving labour rates, these prices are subject to change

Explore our other resources related to design elements for school grounds

This resource is part of a series of six documents looking at design elements for school grounds. Each document focuses on different parts of our school grounds and provides design ideas on how to enhance them for activities and learning. Other topics are:

- enhancing surfaces
- food growing
- furniture and shelter
- planting and garden
- rain gardens

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E: info@ads.org.uk

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