How to build a playground in 10 easy steps

PLAYGROUND 101
Congratulations!

You have taken that all important first step and have decided to bring play to your community. Play is a vital part to strong, healthy neighborhoods and families. By building your playground, you are creating a central play space in your community for years to come.

Planning your playground is an important job and you will have many questions along the way. This guide will help answer many of your questions, as well as provide you with educational resources.

How to get from Point A to Point Play
We can do it. Building a playground takes your entire community. Play brings people together, so start by gathering local residents, organizations and professionals to help tackle the different facets of building a playground.

Then form committees for every phase of the project. Diverse expertise will help your project along much faster than trying to do it all yourself.

Committee skills can be divided:
• organization
• fundraising
• design
• child development and education
• ground maintenance
• general construction and public relations

What do we need to know? Before designing, you need to ask some important questions about who will use the play equipment. Establish clear objectives upfront, to ensure the best decisions later on in the process. Here are some questions to consider:

1. How many children/people will the playground need to serve at one time?
2. What age ranges will your playspace serve: preschoolers, school-age, teens, adults, older adults or all of the above?
3. Do you want to create a community gathering place where all ages and abilities have a way to play?
4. Will multiple generations play together?
5. Are there people with special needs to consider?
6. Who is expected to supervise the children?
7. Does your project have special meaning (i.e. a memorial park, a community morale booster)?
8. Do you want a traditional playground or one with the latest technology?
9. Are there specific pieces of equipment you want to include?

“Leaders don’t create followers, they create more leaders.”  
- Thomas J. Peters

“The important thing is not to stop questioning. Curiosity has its own reason for existing.”
- Albert Einstein

“Ask questions and make decisions.”
Is this what the community wants? Ask for feedback on your playground ideas. Listen and observe at existing playgrounds—what do kids like best? What types of equipment are the most popular?

Create a “Design Day”. Gather a group of children who will be using the playground when it’s complete. The kids can help you sift through the types of activities that are needed on the playground, giving them a sense of ownership on the project, which diminishes the chance that children will vandalize or misuse the equipment in the future.

Play needs a home. The site should be large enough for both active and quiet play areas with plenty of activities to keep everyone interested and involved. Playgrounds need ample space not only for equipment, but also for site amenities such as benches, parking and restrooms. Be sure your design accounts for proper spacing around playground equipment use zones, which is the space around the actual play equipment that legally must be left open.

Here are some other items to consider when choosing a play space:

General Area
Find an area that is relatively flat and has adequate drainage. Identify and mark existing utilities to assist in further planning and site prep. And be sure that emergency and maintenance vehicles have access to the general area.

Parking
Leave ample space for parking, and pathways must connect the parking lot to the play area (ADA requirement).

Lighting
Will your park be open after dark? If so, you will need lighting to provide a safe play area. It helps provide a clear view during off peak hours for local law enforcement or supervisors patrolling the parks.

Fencing
Fencing is a good idea if building in an area with moderate to high traffic to keep children safe.

“...
Playgrounds help children to grow and learn. Developmental specialists say playgrounds should incorporate activities that safely challenge children and encourage the growth of a wide range of skills, including gross and fine motor, socialization and imaginative play skills. Consider different types of activities to incorporate into your play area. For example, overhead ladders and lateral climbers stimulate physical growth and coordination, while play panels can stimulate a child’s cognitive ability, fine motor skills, social interaction or even audio perception.

Activities are often dictated by guidelines outlined by both the U.S. Consumer Product Safety Commission (CPSC) and American Society of Testing Materials (ASTM) depending on the ages of the children who will be using the play equipment. It is strongly recommended that efforts be made to separate the preschool-aged children, 2- to 5-year-olds; from the school-aged children, 5- to 12-year-olds, whenever possible.

Recommendations for preschool-aged playgrounds:

1. Do not include activities such as horizontal ladders and sliding poles that require an abundant amount of upper body strength. At this age, typical ‘in-step’ climbers will assist with upper-body development that is more appropriate.
2. Wide stationary balance activities are fantastic for preschoolers especially when placed in a formation that will allow a child to loop back around and walk the loop over and over and over again.
3. preschoolers love to climb. Climbers should be stationary and when they make to the top, there needs to be an easy way for them to get down.
4. Seating under tall platforms makes great quiet places or gathering spots.
5. Do not use spiral slides that rotate more than 360° or one full turn.

Recommendations for school-aged playgrounds:

1. Slide exits should not direct a child into a moving component or into the entrance of a climber.
2. Swings should be located on the periphery of the play area. Preschoolers don’t always understand when the swing moves away from them that the swing will be coming back.

Pointers for building a playground for 5- to 12-year-olds:

1. Moving play equipment, such as swings, should be located on the periphery of the area for safer traffic flow.
2. Allowing some open space for running and games.
3. Gathering places, such as freestanding climbers, make great ‘hang-out’ destinations that can be easily supervised.

More information and other resources can be found in the back of this guide.

Don’t get overwhelmed—help is on the way. Professional resources are readily available. Playground consultants can be found across the United States and internationally. These consultants often are associated with playground equipment manufacturers, meaning they have knowledge of the available products, are familiar with the guidelines, and have expertise in playgrounds. Consultants usually provide playground design services free of charge and have Certified Playground Safety Inspectors (CPSIs) on staff. Playground equipment manufacturers sometimes network their consultants. Some playground consultants are independent contractors who typically provide playground design services and usually carry CPSI on their staff, too.

Playground consultants can help you answer these types of questions:

1. Should activities remain close to the ground or can they take the children up high in the sky?
2. Should the activities promote a lot of physical movement?
3. Should we have activities and/or equipment that promote social interaction?
4. Should there be activities or spaces for independent play and discovery?
5. What about equipment to challenge the cognitive aspect of the child’s play?
6. What should be done to make the playground more inclusive?

“What could be built at this playground that would be totally cool?”

- John Wesley Dean III

PlayworldSystems.com
Keep your eyes on the prize. Budgeting is one of the most difficult and overwhelming steps in planning a playground. There are several additional costs to consider and budget for that go beyond the cost of equipment (i.e. shipping costs, installation, site preparation, surfacing, etc.). When creating your budget, you may end up with an amount that you feel is unattainable. There are a couple of options available to reduce the cost.

Playground expenses to consider:
• Site preparation – includes permits, installing sidewalks, lighting, grading and drainage
• Play equipment – the list or purchase price of the playground equipment
• Equipment shipping and storage – the cost of getting the equipment from the manufacturer to your site. If the site is not prepared, you may need to store the equipment until installation day. If storage is not on-site, you may need to allow for another shipping cost.
• Surfacing – the list or purchase price of the surfacing material
• Surfacing shipping – the cost of shipping the surfacing material from the manufacturer to your site
• Installation – the price of installing the playground equipment (will typically include consumable construction materials like concrete, gravel, and sand) and surfacing installation cost

Look for volunteers and eager parents to help with site preparation. You can save on installation costs (which range from 25% to 45% of the total equipment cost) by organizing a community build. If your volunteers do not have playground installation experience, ask your playground consultant if they offer installation supervisory services. Ask local companies to donate materials and services for drainage and installation and offer to list them as a donor or contributor on signage at the build. It’s a great opportunity for free advertising.

There are also alternative purchasing programs such as phasing and leasing. Phased projects are quickly becoming a popular option for purchasing play equipment because it allows you to design an integrated play space and purchase the equipment you want over time without sacrificing quality, safety or play value. For instance, smaller organizations may not have $30,000 available to purchase a play system at one time. It may be easier to raise or allocate $10,000 on three different occasions. Remember that with a phased project, each phase must be compliant with the safety guidelines, as well as the Americans with Disabilities Act (ADA). Your playground consultant will help guide you (see page 21 for more information).
Your playground is within reach. Building a playground isn’t something you do every day, or even every year—it’s quite a process, so you will want to ensure that the work you put in stands the test of time. That means durable, quality playground equipment backed by its manufacturer. Consider reputation, local representation of the manufacturer you select, warranty of the product and customer service after the purchase.

Establish a key contact for playground issues that may arise like loose bolts, missing parts or broken items. This will ensure that these problems will be taken care of immediately. You can also post the contact person’s information at the playground, so any issue can be reported and repaired quickly. Manufacturer’s maintenance recommendations and procedures are created to ensure its product(s) will provide a safe area for children to play. Document your maintenance plan and keep a log of inspections and equipment repairs. This will not only help to keep the maintenance up to date and organized, but could come in handy pending any warranty or accident issues.

Countdown to the big day. Setting up a strict timeline and outlining not only when you aim to have the project finished, but also the smaller steps in between is paramount to the success of your project. Start off with your grand opening and work backwards; incorporating smaller timelines will keep you from becoming overwhelmed. This will also help keep the project moving on time. You may also want to build some flex time into the schedule to makeup time you may possibly lose on some projects.

Some major deadlines to consider when establishing your timeline:

- Grand opening/dedication
- Build day
- Equipment delivery
- Site preparation
- Order day
- Equipment color confirmation
- Design day
- Confirmation of funds
- Fundraising events
- Organizational meetings

“Well almost all quality improvement comes via simplification of design, manufacturing...layout, processes, and procedures.”

- Thomas J. Peters

“This time, like all times, is a good time, if we but know what to do with it.”

- Ralph Waldo Emerson
Watch it come to life. You have a few options when it comes to the actual installation of your playground. You can hire a contractor or to keep costs down for your budget, you can have a community build using volunteers. If going this route, it is important to have a professional on site to help supervise the build.

“You can design and create, and build the most wonderful place in the world. But it takes people to make the dream a reality.”

- Walt Disney
We did it! Be sure to promote your playground's grand opening by sharing photos and stories on social media. Your committee may decide to start a Facebook page in the early planning stages to build community support, feedback and promote any fundraising events. Invite local media and officials for even more coverage of your new playground.
OTHER CONSIDERATIONS THAT IMPACT YOUR PLAYGROUND PLANNING

Research, Regulations and Resources
Fun play is safe play. The ASTM and CPSC are legal guidelines and standards that have been established to help playgrounds meet safety and accessibility standards. However, playgrounds in the United States have multiple sets of safety guidelines (see our resources on page 21). You should ask your manufacturer for a letter of compliancy for all your playground equipment, to verify compliancy with the various guidelines.

Safety
Over 200,000 children visit the emergency room each year due to playground related accidents. When planning your play area, you want to be sure that it is a safe environment and take the necessary precautions to prevent injuries. You must also make sure that children know the rules for safe play and those rules should be strictly enforced by parents, teachers or whomever is supervising the children.

Safety with Surfacing
Statistics show that proper surfacing plays a key role in overall playground safety. Over 75% of reported injuries are a result of a fall from playground equipment onto improper or poorly maintained playground surfacing. This means that at least 150,000 of the 200,000 injuries could have been prevented if the playground surfacing was properly maintained and adhered to the guidelines set out by ASTM and CPSC. Grass, dirt, concrete and asphalt are examples of unsuitable types of playground surfacing materials.

There are three categories of approved playground safety surfacing: unitary, loose-fill and hybrid.

Unitary surfacing (pour in place, rubber and rubber tile) is the most inclusive, requires the least amount of maintenance after installation and can be easily repaired if damaged. It can be installed for varied fall heights and has the highest upfront cost, but lower lifetime cost.

Loose-fill surfacing is not bound together by an agent and that will displace the energy of a fall. Loose-fill surfacing includes engineered wood fiber and rubber mulch. However, most loose-fill surfacing does not comply with providing an accessible route. Loose-fill requires constant maintenance to ensure that material is at proper depth height under high traffic areas.

Hybrid surfaces blend loose-fill materials and contain them while providing a unitary, accessible surface.

Safety reminder—ask your surfacing sales consultant to provide a letter of compliance to ASTM 1292 and or ASTM F1951 for the surfacing you purchase.

Another way to increase the safety of your play area is to designate and design each area for the proper age group. Signs should be posted stating that the play area has been designed for children between 2 to 5 years old or 5 to 12 years old. Preschool-aged children (2- to 5-year-olds) and school-aged children (5- to 12-year-olds) have different abilities as well as different needs when it comes to toys and playing. Preschool-aged children are not fully developed and may not have the cognitive awareness to know what they are capable of doing. For example, they do not have the same coordination and balance that an 8-year-old will have, as they are still developing in this area.

At the end of the day, the goals are simple: safety and security.”

- Jodi Rell
OTHER CONSIDERATIONS THAT IMPACT YOUR PLAYGROUND PLANNING

Supervision
Supervision is a great way to increase safety. In some environments you can control supervision, such as child care facilities, community centers and schools. Create, maintain and enforce a supervisor’s schedule, and make sure the supervisor is educated on what to look for and monitor. However, you cannot control supervision in all play areas and this is where signage is helpful. It allows the caregivers to have a better understanding of what play areas are best suited to fit their children’s needs and capabilities.

Maintenance Plans
A thorough and consistent maintenance plan is a pivotal feature of a safe playground. Inspecting all equipment regularly is strongly encouraged. Follow the manufacturer’s maintenance recommendations and procedures. Manufacturers create these recommendations to ensure that their product(s) will provide a safe area for children to play. Document your maintenance plan and keep a log of inspections and equipment repairs. This will not only help keep the maintenance up to date and organized, but could come in handy pending any warranty or accident issues.

All accidents should not only be documented, but thoroughly investigated. This can help identify high-risk areas of your playground that you may wish to make changes to and can assist in preventing additional accidents from the same source.

Establish a key contact for playground issues like loose bolts, missing parts or broken items. This will ensure that these problems will be taken care of immediately. You can also post the contact person’s information at the playground, so that if an issue or suggestion should arise, that person will receive the information quickly.

Accessibility & ADA
All public playgrounds must meet the minimal criteria of the Americans with Disabilities Act (ADA). Barriers such as curbs, steps, steep inclines and grassy or soft paths must be removed or augmented with transitions, gradual sloping walkways and firm paths or sidewalks. Accessible play equipment does not always mean ramped playstructures, although that is one way of providing accessibility; transfer stations and accessible routes are another way to provide accessibility. Any playstructure can be made accessible by using one of the two methods above or a combination of the two.

Accessible routes to both ground-based play activities as well as elevated play activities is the key to making play areas accessible. Accessible routes are pathways specifically designed to provide access for individuals with disabilities, including those using wheelchairs or mobility devices.

Elevated accessible routes will provide users access to activities from the entry point to each of the accessible activities on that playstructure. On the structure, 50% of the elevated play activities must be available at the ground level point of that activity. If the playstructure contains 20 or more elevated play activities, a ramped accessible route must be provided to 25% of the elevated play activities.

Inclusion
If the playground will be an inclusive space where children of all abilities can come together and play, be sure that your playground consultant is experienced in designing inclusive spaces. ADA is only a small part of many more considerations of an inclusive playground. For more information about inclusive playground design, visit PlayworldSystems.com to download the Inclusive Play Design Guide.
Educational Resources


ASTM International is a voluntary standards development organization. They provide technical standards for materials, products, systems and services.

ADA (Americans with Disabilities Act) www.access-board.gov

The ADA is a comprehensive civil rights law that prohibits discrimination on the basis of disability. The ADA requires that newly constructed and altered state and local government facilities, place of public accommodation and commercial facilities be readily accessible to and usable by individuals with disabilities. International facilities, including play areas, are among the facilities required to comply with the ADA.

CPSC (U.S. Consumer Product Safety Commission) www.cpsc.gov

The U.S. Consumer Product Safety Commission is charged with protecting the public from unreasonable risks of serious injury or death from more than 15,000 types of consumer products under the agency’s jurisdiction.

CPSP (Certified Playground Safety Inspector) www.nrpa.org/cpsi

A CPSI is an individual who has prepared and taken professional training in the playground safety course organized by the National Playground Safety Institute (NPSI) and sponsored by the National Recreation and Parks Association (NRPA). You may want to contract with a CPSI in your area to inspect and audit the equipment in your playground after installation. Some states, municipalities, or insurance companies will require the initial inspection prior to the playground opening.

IPEMA (International Playground Equipment Manufacturers Association) www.ipema.org

IPEMA is not a guideline or a standard, it is a governing body. They oversee the third party certification process. Playground equipment and surfacing material can and should be authenticated by IPEMA as a certified product to the ASTM F-1487 and ASTM F-1292. However, being an IPEMA member does not necessarily mean that the product is compliant to those guidelines. You can check compliance on the IPEMA website at www.ipema.org.

Playground Equipment Access Guidelines (ADAAG) for buildings and facilities:

- The ADAAG applies to all public playgrounds located in parks, school, churches and daycares (unless the daycare is a private residence).
- Information can be found on the U.S. Access Board website at www.access-board.gov
- Accessible play areas: A summary of accessibility guidelines for play areas.
- Also published by the U.S. Access Board.
- This manual is available on www.access-board.gov Handbook for public playground safety.
- (CPSP Pub #325)
- Published by the U.S. Consumer Product Safety Commission (CPSC).
- The CPSC guidelines are written in a language that is meant to be used by the owner/operator of the equipment.
- Free copies can be obtained at www.cpsc.gov

Standard consumer safety performance specification for playground equipment for public use (ASTM F-1487)

- Published by the American Standards Testing and Materials International (ASTM).
- The ASTM guidelines were written for both the owner/operator as well as the equipment manufacturer.
- Copies can be obtained for a fee at www.astm.org

Specification for impact attenuation of surfacing materials within the use zone playground Equipment (ASTM F-1292)

- Published by the American Standards Testing and Materials International (ASTM).
- The ASTM guidelines were written for the manufacturer of playground surfacing materials.
- Copies can be obtained at www.astm.org

Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment (ASTM F-1951)

- Published by ASTM.
- This publication has been written for the manufacturer of playground surfacing materials.
- Copies can be obtained at www.astm.org

S.A.F.E. (Supervision Age-appropriate Fall Surfacing Equipment Maintenance) www.playgroundsafety.org

- The national program for playground safety, www.playgroundsafety.org has created the S.A.F.E. program to assist owner operators plan and maintain a safe play area for children.
- Published by ASTM.
- The S.A.F.E. program is a national program for playground safety.
- www.playgroundsafety.org has developed the S.A.F.E. program to assist owner operators plan and maintain a safe play area for children.