

## INFOSHEET

**R**esearch shows that well-designed pathways promote physical activity, play, and learning by providing children and teachers with integrated access to outdoor learning environments (OLEs). Once established, a circulation hierarchy of three pathway types will make the pathway system more interesting and easier to navigate.

### PRIMARY PATHWAYS

Primary pathways are a functional necessity in the OLE and should be designed to provide easy circulation by connecting classrooms to high-use settings. Primary pathways provide spatial structure and accessibility, simplifying navigation for children and allowing teachers to move quickly through the OLE. Primary pathways should be:

**Looped.** Avoid dead-ends, which disrupt circulation.

**Curvy.** Avoid sharp corners, straightaways, and bottlenecks. Gently curving forms combined with shrubby adjacent landscaping will stimulate excitement, exploration, chase games, and higher levels of healthy physical activity.

**Connected.** Primary entrances and exists should be accessible from the primary pathway. High-use play settings and landmarks should also be incorporated.

**Wide.** Primary pathways are designed to accommodate intense pedestrian and wheeled-toy traffic, helping children stay on the pathway and pass each other without conflict. Preschool primary pathways should be a minimum of 5 feet wide, with a preferred width of 6 feet. Infant and toddler primary pathways can be narrower (4 feet minimum). Note that pathways are more than circulation areas – they are play settings in their own right.



Primary pathway surfaces should accommodate wheeled toys



Extensive, recently installed primary pathway will connect new settings as they develop



Tertiary pathway of tree cookies

### SECONDARY PATHWAYS

Secondary pathways connect the primary pathway to more intimate play and learning settings. Secondary pathways allow children to interact with the natural landscape and make discoveries. They can take many forms, with widths as narrow as 30 inches. Surfacing materials may include hardwood mulch, fine crushed stone, and stepping stones.

## TERTIARY PATHWAYS

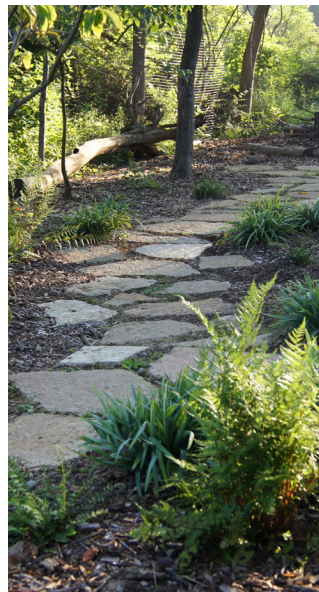
Tertiary pathways are the narrowest type of pathway, branching off primary or secondary pathways and allowing children to take short journeys into intimate landscape settings. They can be as narrow as 18 inches and surfaced with hardwood mulch, fine crushed stone, stepping stones, or tree cookies.

## PATHWAY SURFACING MATERIALS

**Poured-in-place rubber surfacing.** This material is recommended for primary toddler pathways where children are learning to walk. Poured-in-place rubber surfacing is installed over concrete by trained specialists. Added cost increases functionality.

**Concrete.** Although more expensive, concrete is the best practice recommendation for primary preschool pathways because it is more stable and requires less maintenance than other available materials. Concrete can be treated with stain or integrated color to enhance OLE appearance. It can also be imprinted with leaves, "animal tracks", and other decorative elements to provide textural diversity.

**Asphalt.** This material can be used for primary or secondary pathways. Asphalt pathways are less



Secondary flagstone path set in hardy groundcover



Flag stone set in gravel

expensive than concrete. However, they are still more expensive than fine crushed stone or mulch pathways.

**Fine crushed stone.** Fine crushed stone (#10) can be used for all pathway types. Installed properly, it can be an accessible surface. In order to provide a stable and flat surface, fine material must be installed over a layer of course crushed stone (#67). Though not as hard as concrete, crushed stone will gradually become more compact with use. This material is less stable than concrete and will require maintenance and protection from erosion. It may be less expensive depending on geographic location.

**Triple-shredded hardwood mulch.** This material can be used for primary, secondary or tertiary pathways. It is the least expensive initial investment, but it breaks down over time and must be replenished. It is not considered an accessible material. Engineered wood fiber (EWF) is an ADA-compliant material and is recommended for creating wheeled toy and accessible pathways.

**Stepping stones/flagstones.** Stepping stones can be used for secondary or tertiary pathways. Using natural stone provides a rich, textural quality that creates a sense of discovering the natural world.



Primary pathways connect different activity areas through the OLE



Primary pathways can get crowded - make 5 feet wide, minimum.

*Disclaimer: The Natural Learning Initiative (NLI), NC State University, its partners, and supporting entities assume no responsibility for consequences arising from physical interventions using information contained in this InfoSheet. Under no circumstances will liability be assumed for any loss or damage, including without limitation, indirect or consequential, incurred during installation, management, and use of such interventions. Highly recommended is adherence to relevant local, state, and national regulatory requirements concerning but not limited to health and safety, accessibility, licensing, and program regulation.*