In addition to the playscape, the Arlitt Center would like to make their existing playground, currently composed of cement and crushed rubber, greener. The CDC designed a number of small pieces that would aid in this process.
One way of categorizing pieces of nature is to break it down into the four classical elements: Earth, Fire, Wind and Water. This method aids in looking at how children may interact with nature. Lists can be made from asking questions like “How will children play with Water?” or “What components of Earth will children interact with.” Activity lists were generated for each element, exploring not only what children could do with each element but how the element would be incorporated within the existing playground.

**Earth**

Earth play is possibly most recognizable as the iconic sand box. But Earth play encompasses a wide range of activities. There is play and construction with nonliving items - sand, mud, rock, dead plant and animal remains and the like - and the living - plants and animals. Earth play stimulates tactile, visual and aural senses.

**Water**

Water is another highly recognizable element in which to play. It consists on just one item, the water itself, but innumerable ways to play. Splashing, pouring, squirting, swimming, pumping, scooping, wringing, dripping, so many verbs apply to interaction with liquids. Water play stimulates tactile, visual and aural senses.

**Wind**

Since Wind is less tangible than Earth or Water, play incorporates elements that are either affected by or create Wind. This provides for children to imitate what they observe. Objects like pinwheels can be manipulated by natural or artificial wind. Wind-powered objects stimulate visual and aural senses while Wind itself can be tactile.

**Fire**

Because Fire poses danger, its incorporation into a preschool setting is most suitable being several degrees removed. This might include using the sun as a source of changing light and shadow. In this case, Fire just stimulates visual sense.
The list of elemental play activities was generated and pruned to remove activities that were either redundant with what is planned for the playscape or what is infeasible in the existing playground. It was then decided to coalesce the results to make a single object that would represent each element.

**Earth**

The playground has a sand pit and Earth and loose parts play were planned for the playscape. There was a strong push for having plants in the playground and some small tubs were already present. The most effective Earth element would therefore be a series of planters. They would be built to fit in the bays between doors. Each class would have space to allow the children to care for and study the plants' growth.

**Wind**

In order to allow for a variety of activity involving the wind, a tower-like object was designed to hold many differing items. One wall of the tower is trellis for holding many movable items like pinwheels and streamers. The other wall stimulates the aural sense through use of wind chimes that impact a metal plate. A wind vane tops the central pier.

**Water**

Water play solicits kinetic vertical elements and static horizontal elements so the children would be able to interact with both flowing and standing water. There is an existing water table feature in the playground that is in need of repair. Once fixed, it would be ideal for the task at hand. To add kinetic movement, a vertical delivery system could be incorporated. One idea for this could be a tree of pipes and valves allowing the children to control the flow.

**Fire**

Fire was considered too difficult to control safely and effectively, so it was dropped.
During the design process, the search for more ways in which children can interact with nature brought to the forefront the interesting relationship between wind and sound. Since sound is generated by a vibration of air particles the question was raised, “How could instruments, normally played by people, be played instead by the wind?”

**Woodwind/Brass Instruments**

Blowing air into or across openings is how woodwind and brass instruments make their sounds. The outdoor equivalent would be the Aeolian organ. Usually made of bamboo, a vertical incision is made and wind blowing past causes the edges to vibrate. These can also be constructed out of plastic bottles, the aptly named plastorgans.

**String Instruments**

String instruments operate by plucking the strings or running some sort of bow across them. The resulting vibration is then amplified by a resonance chamber. The wind plays with strings differently. By blowing across them in a constricted space, a sort of humming, buzzing sound is generated. The Aeolian Harp is an instrument that utilizes this method. Using strings of different length or material alters the sound.

**Percussion Instruments**

The impact of objects striking one another is the prevalent sound making method of percussion instruments. Wind chimes are well known wind-activated percussion instruments.
The results of this research led to a paradigm shift in the design concept for the playground. The idea of wind-activated instruments was a strong one, however it lacked the ability of allowing the children to manipulate the instruments. Something needed to be designed that a) was wind-activated and b) alterable. The solution became a completely new instrument; a giant, wind-activated, programmable music box, dubbed the WAMB. In concept, it features a large cylindrical drum with a matrix of holes drilled into the surface. These holes hold pegs that pluck steel tines when the wind catches the vertical-axis wind turbine.
The ideal WAMB would have 88 tines like a piano and would be able to play a tune 96 notes in length. This has been greatly simplified for the children’s version with 10 tines and a 48 note tune. The turbine has also been updated to more effectively catch the wind. The steel plate is attached to a resonance chamber that doubles as storage for the pegs when not in use.

**Conclusion**

These designs are intended to function as standalone objects in providing for a more natural Arlitt playground. The playscape is the primary vector in the environmental education of the children. Further steps may include an increase in vegetated surfaces like the fence and replacing the crushed rubber with a natural mulch.