

# Object pieces

Object pieces are on the palette pages after the grid pages. Objects are tubes, holes, buildings, slopes, water and bridges. These items don't align to grid. They can be placed anywhere on the course area.

Object pieces become selected when you click on them. When selected you can move them one pixel at a time by using the arrow keys or number keys on the numeric keypad (8 up, 4 left, 6 right, 2 down). If you hit the backspace (delete) key the selected object piece will be deleted.

Each object behaves differently and has some rules applied to its use. These will be covered next.

## A. Tee and hole

These objects are obvious. They must be included in every hole.

## B. Tubes

Tubes are simple objects. The ball enters one side and exits the other. Tubes that loop must be entered with sufficient speed or the ball will exit out the same side it entered. The only rule for tubes is to make sure there is at least 1/4 inch between any openings and any other objects except slopes. This means you can't make a longer tube by connecting them end to end. Leave the 1/4 inch between them or you will get unusual results.

## C. Water

Water objects are special. They, along with slopes, are the only objects that can overlap each other or be overlapped by other objects. Water objects should not be placed within 1/4 inch of any ball exits. This includes tube, building and hole exits. The ball must be traveling at a sufficient rate of speed to get over the water. If more than one water object are clumped together the ball must maintain this minimum speed at all times while it is over the objects.

## D. Regular castle

The regular castle is pretty simple. The ball enters through one of its doors and has a 50/50 chance of exiting from either of the other doors. As with tubes, the doors of the castle should have a minimum clearance of 1/4 inch from all other objects except slopes.

## E. Pyramid

A pyramid acts like a regular castle except when a ball enters one of its doors it will always exit from the door on the opposite side. Again the doors of the pyramid should have a minimum clearance of 1/4 inch from all other objects except slopes.

## F. Tunnel

The tunnel (next to the water object) has two parts. When you place it on the course area the second part becomes visible. The second part is an exit. The ball enters the tunnel and exits through the exit. The exit must have the same minimum clearance as other object exits. You can only place one tunnel per hole. The tunnel object has other parameters. You can set the maximum exit angle, minimum exit speed and maximum exit speed. Once a tunnel is placed on the course area two menu items in the Object menu become available. The first, Tunnel settings, brings up a dialog to let you alter the attributes. You can also get to this dialog box by double clicking the tunnel object. The second menu item is Tunnel direction which allows you to rotate the tunnel exit to the direction you want. The exit angle is random from zero to the value you set as its maximum. Zero being straight out the tunnel exit. The maximum angle is measured from this center line in the positive and negative direction (see Figure 1). If the minimum and maximum exit speeds are equal the ball will always exit the tunnel at that speed. You have to be a little careful placing the exit. If you experiment you can make the ball go from the exit back into the tunnel again. Yes, you can break the laws of physics.

Figure 1

### G. Bridge

The bridge is another simple object that acts as you would expect. The bridge is arched so the surface slopes up in the middle. The ball can not pass under the bridge. The slope of the bridge can not be changed.

### H. Windmill

The windmill is a special object type called a mover. The vanes of the windmill move in real time as you play GopherGolf. The same clearance should be maintained in front of both openings of the windmill, 1/4 inch. When you place a windmill on the course area the Mover settings item in the Object menu becomes available. Selecting this menu item brings up a dialog box that allows you to set the speed of the windmill between one and ten. One is the slowest setting and ten is the fastest. Another way to make the dialog box come up is to double click on the windmill. You are allowed one mover per hole.

### I. Moving castle

The moving castle is another mover object. The drawbridge of the castle opens and closes. The ball can only get through when the drawbridge is completely down and not moving. The same restriction as the windmill apply to the castle and there is one more. You must leave a clearance space in front of the drawbridge itself too. When you place a moving castle on the course area the Mover settings item in the Object menu becomes available. Selecting this menu item brings up a dialog box that allows you to set the speed of the moving castle between one and ten. One is the slowest setting and ten is the fastest. Another way to make the dialog box come up is to double click on the moving castle. You are allowed one mover per hole. You can put water or slopes under the drawbridge.

### J. Signs

Signs allow you to enter text into them. You can put anything you want in them, hole names, par, etc. When you place a sign on the course area the Sign text menu item in the Object menu becomes available. Selecting this item brings up a dialog box that lets you enter the text. You can also double-click on the sign to get the dialog box. You can have only one sign per hole. The sign does not effect the way the ball moves at all.

## K. Slopes

The last group of objects are the slopes. The lighter part of the slope is "higher" than the darker part (see Figure 1 in the GopherGolf manual). The slopes have an attribute called the slope factor. This is a number between one and ten. One is the "flattest" and ten is the "steepest." Since there can be more than one slope on each hole you must select the slope by clicking on it to change its slope factor. When a slope is selected the Slope settings menu item in the Object menu is available. This menu item brings up a dialog box allowing you to change the slope factor for the selected slope. You can also get this dialog box by double clicking on the slope object you want to alter. Usually it is a good idea to leave a little space between down slopes and walls (see Figure 2).

Figure 2

## Hierarchy

The objects on the course can be moved on top of all other objects by selecting the object and choosing Move to front from the Object menu. To move the object to the back choose Move to back from the object menu. The grid pieces are always in the

background. The tee and hole are always the front most objects.