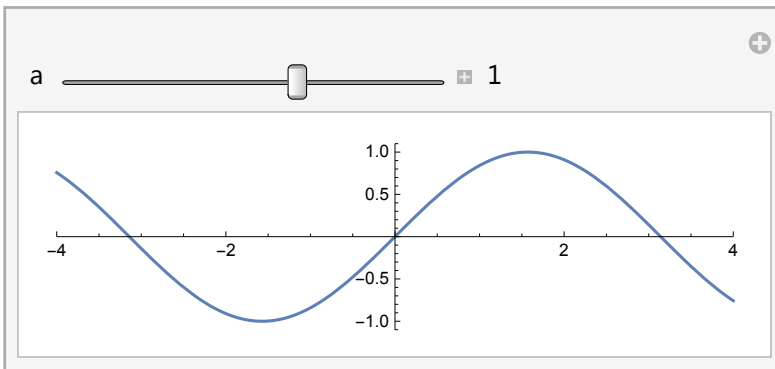

Another family of functions

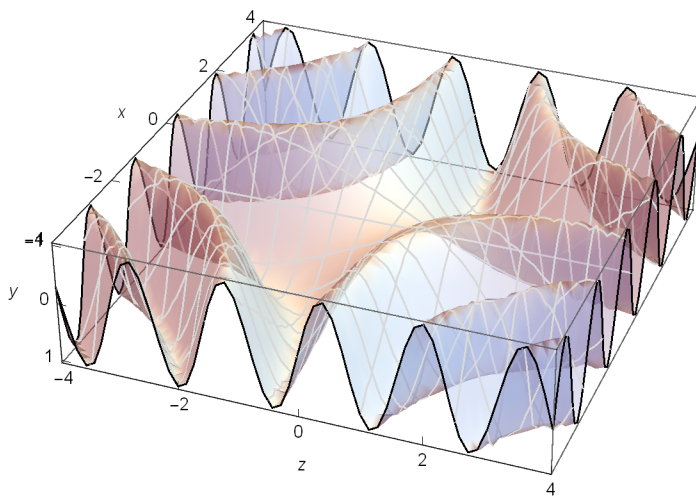
This *Mathematica* CDF notebook illustrates a family of functions that is similar to the family displayed in the post **Freezing a family of functions**. It is licensed under a **Creative Commons Attribution – ShareAlike 3.0 License**. I hope anyone interested will feel free to improve this work and to use it in their own publications and coursework.

Charles Wells

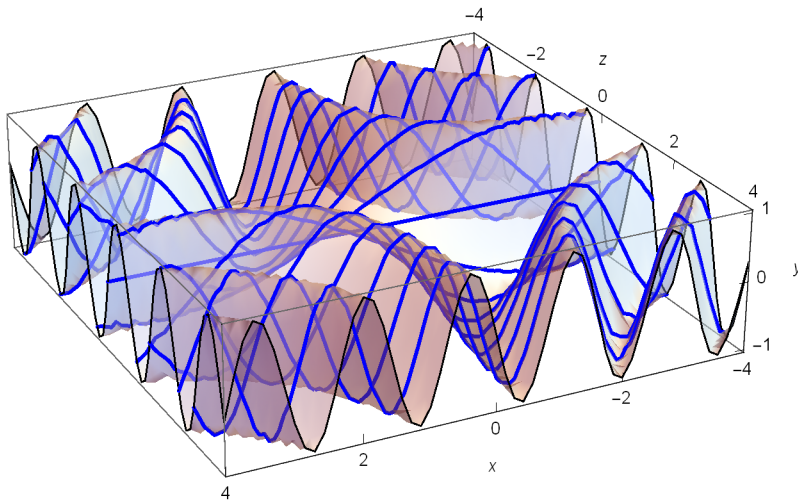
```
Manipulate[Plot[Sin[a x], {x, -4, 4}, PlotRange -> {{-4, 4}, {-1.1, 1.1}},  
  AspectRatio -> 2.2/8], {{a, 1}, -4, 4, Appearance -> "Labeled"}]
```



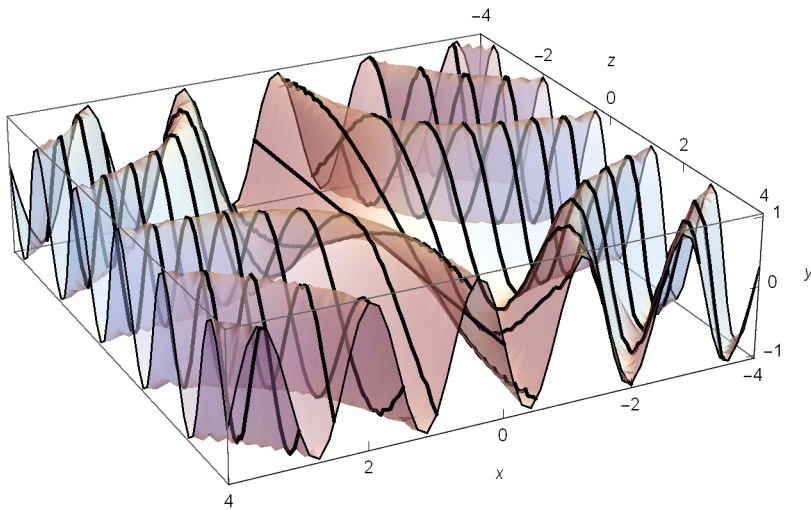
```
Plot3D[  
  Sin[z x],  
  {x, -4, 4},  
  {z, -4, 4},  
  PlotRange -> {{-4, 4}, {-4, 4}},  
  BoxRatios -> {8, 8, 2.2},  
  AxesLabel -> {x, z, y},  
  Ticks -> {{-4, -2, 0, 2, 4}, {-4, -2, 0, 2, 4}, {0, -1, 1}},  
  PlotStyle -> Opacity[.5],  
  ViewPoint -> {2, 4, 2},  
  MeshStyle -> LightGray]
```



```
Plot3D[  
  Sin[z x],  
  {x, -4, 4},  
  {z, -4, 4},  
  PlotRange -> {{-4, 4}, {-4, 4}},  
  BoxRatios -> {8, 8, 2.2},  
  AxesLabel -> {x, z, y},  
  Ticks -> {{-4, -2, 0, 2, 4}, {-4, -2, 0, 2, 4}, {0, -1, 1}},  
  PlotStyle -> Opacity[.5],  
  ViewPoint -> {2, 4, 2},  
  MeshStyle -> {Transparent, {Thick, Blue}}]
```



```
Plot3D[  
  Sin[z x],  
  {x, -4, 4},  
  {z, -4, 4},  
  PlotRange -> {{-4, 4}, {-4, 4}},  
  BoxRatios -> {8, 8, 2.2},  
  AxesLabel -> {x, z, y},  
  Ticks -> {{-4, -2, 0, 2, 4}, {-4, -2, 0, 2, 4}, {0, -1, 1}},  
  PlotStyle -> Opacity[.5],  
  ViewPoint -> {2, 4, 2},  
  MeshStyle -> {{Thick, Black}, Transparent}]
```



```
Manipulate[  
  ParametricPlot3D[  
    {x, a, Sin[a x]},  
    {x, -4, 4},  
    PlotRange → {{-4, 4}, {-4, 4}, {-1.1, 1.1}},  
    BoxRatios → {8, 8, 2.2},  
    Ticks → {{-4, -2, 0, 2, 4}, {-4, -2, 0, 2, 4}, {0, -1, 1}},  
    PlotStyle → {Thick, Blue},  
    AxesLabel → {x, z, y},  
    ViewPoint → {2, 4, 2}  
  ],  
  {{a, 2}, -4, 4, Appearance → "Labeled"}  
]
```

