

# Example Problems

The following list of examples may be useful for classroom discussions and examples to demonstrate the engineering design process. They could also serve as inspiration to find more examples or to identify problems for the invention project.

## 1. Dog Toy Mess

Dogs tend to leave their toys scattered around the house because when they finish using a toy, they drop it where they are. Over time, this leaves the toys scattered about where you might step on them or trip if you don't notice (not to mention it looks messy). Rather than the owners constantly picking up after the dogs, design an invention to keep the toys picked up.



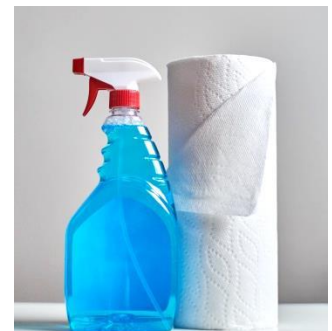
## 2. Dog Food Thieves

If a family has more than one dog, the dogs may try to eat each other's food. This can be a problem if the dogs eat different foods, plus one dog may go hungry. Design an invention to prevent dogs from eating each other's food.



## 3. Bathtub or Shower Cleaning

It can be difficult and time consuming to clean a shower/tub without getting yourself wet and especially when rinsing the surfaces afterwards. Design an invention that makes it easier to reach and to rinse the surfaces.



#### 4. Masks & Scarves Fog up your Glasses

Anyone who wears glasses outside in winter knows how annoying it can be to have their glasses fog up while wearing a scarf/gator in the cold. With face masks, this is an even more noticeable problem, as it exists year round. Design an invention to solve this problem.

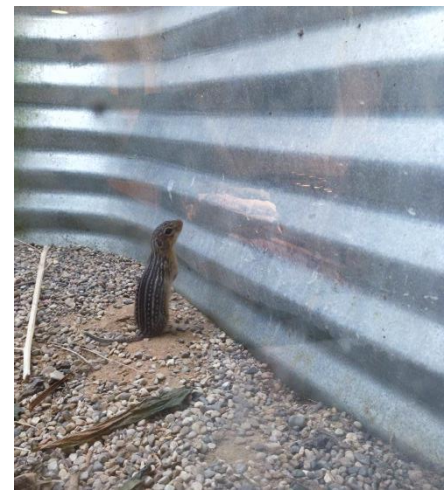


#### 5. Prevent Pets from Going Upstairs/Downstairs

Sometimes it may be necessary to keep pets (especially cats & dogs) from going upstairs/downstairs. Design a safe invention that will keep pets from using the stairs. Also, consider that cats and large dogs may be able to jump over barricades.

#### 6. Basement Egress Window

When I lived in Michigan, we had an emergency exit window to leave the basement. The window was below ground and exited into a window well with access to the outside above. The window well had a cover over it but routinely frogs/toads (even a squirrel once) got trapped in the “pit”, and unless we rescued them, they died, leaving behind shriveled frog bodies and skeletons. Design a low maintenance invention to solve this type of problem.



#### 7. Bird Nest above Front Door

Every spring and summer, birds build a nest on the sheltered side of a textured/rock wall above our front door. Then they drop “messes” on the porch, making it look gross and uninviting to visitors. Design an invention to solve this type of problem that won’t change the appearance of the house/building as viewed from a distance.

