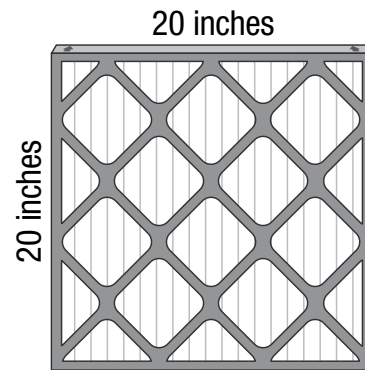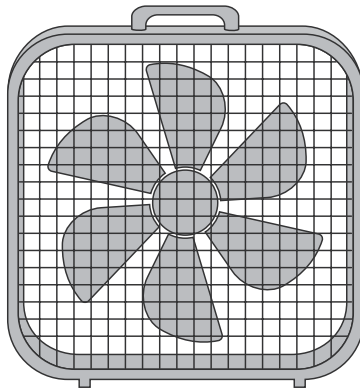# How to Build a DIY Box Fan Filter

During wildfire season, smoke can drift into cities and neighborhoods. Unless your doors, windows and vents are sealed tight, smoke can get into the home, causing eye and lung irritation and illness. The best filters for keeping your indoor air clean are a MERV-13 filter on your HVAC system or a portable HEPA or non-ozone producing ESP filter. **If you don't have an air filter already, here's a simple way to build one yourself.***
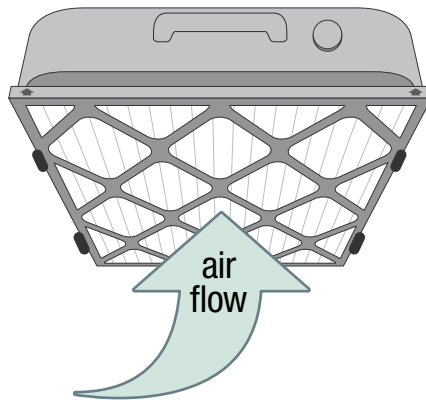
Here's what you'll need:

- Box fan 20 in. by 20 in.
- 1–2 pleated filters, 20 in. by 20 in. Rated MERV 13 or higher
- Painter's, shipping or duct tape (preferred), or bungee cord

20 inches

20 inches

For a single-filter setup:

- Identify the back of the fan, where air flows inward.
- Place the filter against the back of the fan. Make sure the arrow on the filter facing toward the fan.
- Tape or bungee the filter to the back side of the fan.

air flow

Tips to help you get the most out of your fan-filter

- Filters that are 3-5 inches thick will last longer and capture more particles over time.
- Change filters as recommended by the manufacturer or when visibly dirty.
- Place the fan filter in frequently used spaces, like a living room, family room or kitchen.
- Keep windows, doors and outside vents shut when using fan.

* Use at your own risk.

See second page for important safety information.

The Oregon Health Authority and the State of Oregon are not liable or responsible for any damage or loss from making an air filter at home or for your use of the above information.

Oregon Health Authority

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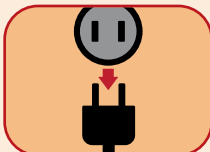
Minimize potential fire risks:

 A filter may put strain on the fan and could lead to overheating, which could make it a potential fire hazard.

 Turn the DIY fan-filter off at night and when you leave your home.

 Turn off and unplug the fan if you notice a burning smell or unusual noises. Do not use with or without the filter.

 Make sure you have fire and smoke alarms in your home and they are working.

 Keep a fire extinguisher in your home that indicates it can be used on Class C Fires (Electrical Equipment).

Other Safety tips:

 Do not place fans on edges of counters or other places they could fall.

 Prevent pets or young children from chewing on the fan cord.

Unplug when not in use.

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