What plants are best for indoor air quality?

Based on the use of common indoor plants for indoor air purification, NASA studied about a dozen popular varieties of ornamental plants to determine their effectiveness in removing several key pollutants associated with indoor air pollution. NASA research found that living plants are so efficient at absorbing contaminants in the air that some will be launched into space as part of the biological life support system aboard future orbiting space stations.

1. Spider Plant (Chlorophytum comosum)

- **Benefits**: Known for its ability to remove formaldehyde, xylene, and toluene.
- **Care**: Easy to care for, thrives in indirect sunlight, and tolerates a range of temperatures.

2. Snake Plant (Sansevieria trifasciata)

- **Benefits**: Effective at removing formaldehyde, benzene, xylene, toluene, and nitrogen oxides.
- **Care**: Low-maintenance, tolerates low light, and infrequent watering.

3. Peace Lily (Spathiphyllum)

- **Benefits**: Removes formaldehyde, benzene, trichloroethylene, xylene, and ammonia.
- **Care**: Prefers indirect light and consistently moist soil.

4. Aloe Vera (Aloe barbadensis miller)

- **Benefits**: Known for removing formaldehyde and benzene.
- **Care**: Needs bright, indirect sunlight and infrequent watering.

5. Boston Fern (Nephrolepis exaltata)

- **Benefits**: Removes formaldehyde and xylene.
- **Care**: Prefers high humidity, indirect light, and regular watering.

6. English Ivy (Hedera helix)

- **Benefits**: Effective at removing formaldehyde, benzene, xylene, and toluene.
- **Care**: Thrives in moderate light and prefers moist soil.

7. Rubber Plant (Ficus elastica)

- **Benefits**: Known for removing formaldehyde.
- **Care**: Prefers bright, indirect light and moderate watering.

8. Golden Pothos (Epipremnum aureum)

- **Benefits**: Removes formaldehyde, benzene, xylene, and toluene.
- **Care**: Very easy to care for, tolerates low light, and infrequent watering.

9. Bamboo Palm (Chamaedorea seifrizii)

- **Benefits**: Effective at removing formaldehyde, benzene, trichloroethylene, and xylene.
- **Care**: Prefers indirect light and regular watering.

10. Dracaena (Dracaena spp.)

- **Benefits**: Removes formaldehyde, benzene, trichloroethylene, xylene, and toluene.
- **Care**: Prefers bright, indirect light and moist soil.

11. Areca Palm (Dypsis lutescens)

- **Benefits**: Removes formaldehyde, xylene, and toluene.
- **Care**: Prefers bright, indirect light and regular watering.

12. Gerbera Daisy (Gerbera jamesonii)

- **Benefits**: Known for removing benzene and trichloroethylene.
- **Care**: Needs bright light and well-drained soil.

13. Philodendron (Philodendron spp.)

- **Benefits**: Effective at removing formaldehyde.
- **Care**: Prefers indirect light and regular watering.

14. Weeping Fig (Ficus benjamina)

- **Benefits**: Removes formaldehyde, xylene, and toluene.
- **Care**: Prefers bright, indirect light and regular watering.

15. Chinese Evergreen (Aglaonema)

- **Benefits**: Known for removing formaldehyde and benzene.
- **Care**: Tolerates low light and infrequent watering.

Information obtained at: [NASA compiles list of best plants to clean indoor air | CO2Meter.com]

Do plants work better than air purifiers?

Plants and air purifiers both contribute to improving indoor air quality, but they work in different ways and have unique advantages and limitations. Whether plants or air purifiers work better depends on the specific needs and conditions of your indoor environment. Here's a comparison of both:

Plant Advantages

1. **Natural Air Purification**:
    - **Biological Processes**: Plants naturally filter the air through photosynthesis and transpiration, removing pollutants like formaldehyde, benzene, and trichloroethylene.
    - **Aesthetic and Psychological Benefits**: Plants enhance the aesthetic appeal of a space and can reduce stress and improve mood.
    - **Humidity Regulation**: Plants can increase humidity in a dry environment, which can be beneficial for respiratory health.
2. **Sustainability**:
    - **Energy Efficiency**: Plants require no electricity and are environmentally friendly.
    - **Cost-Effective**: After the initial purchase, plants have minimal ongoing costs.

Plant Limitations

1. **Limited Pollutant Removal**:
    - **Efficiency**: Plants may not be as effective in removing high concentrations of pollutants as air purifiers.
    - **Specific Pollutants**: Plants are generally better at removing certain chemicals and may not address particulates or microorganisms effectively.
2. **Maintenance**:
    - **Care Requirements**: Plants need regular watering, pruning, and care to thrive and continue purifying air.

Air Purifier Advantages

High Efficiency:

1.
    - **Pollutant Removal**: Air purifiers with HEPA filters can remove up to 99.97% of airborne particles, including dust, pollen, mold spores, and pet dander.
    - **Odor and Chemical Absorption**: Activated carbon filters in air purifiers can effectively remove odors and volatile organic compounds (VOCs).
2. **Immediate Impact**:
    - **Fast Action**: Air purifiers can quickly improve air quality in a room by circulating and filtering the air multiple times per hour.

Air Purifier Limitations

1. **Energy Consumption**:
    - **Electricity Use**: Air purifiers require electricity to operate, which can add to energy costs.
    - **Filter Replacement**: Regular replacement of filters is necessary, adding to ongoing maintenance costs.
2. **Noise**:
    - **Operational Noise**: Some air purifiers can be noisy, which might be a consideration for quiet environments like bedrooms or offices.

Combined Approach

For optimal indoor air quality, a combined approach using both plants and air purifiers can be highly effective:

- **Plants**: Use plants to naturally improve air quality, add humidity, and enhance the aesthetic appeal of the space.
- **Air Purifiers**: Use air purifiers to quickly and efficiently remove a wide range of pollutants, including particulates, VOCs, and allergens.