

## Indoor Activity: Compost Bin!

Animals are classified as endangered species when their species is at risk of extinction. One of the main reasons species become endangered is habitat loss. For example, the African penguin has become endangered mainly due to the harvesting of guano humans use for fertilizer. Guano harvesting practices have destroyed penguin's homes and nests leaving nowhere to safely lay their eggs. Creating your own kitchen compost bin will give you access to nutrient rich fertilizer while reducing the volume of materials that might otherwise be disposed in landfills or trash incinerators.

### Supplies:

- Container with a lid (3-5 gallons work well for most households)
- Charcoal filter (can be found at pet stores, often used for litter boxes)
- Drill or something to poke holes in your lid (anything around 1/4 bit)
- Hot glue gun
- Kitchen scraps
- Organic material
- Dirt

### Steps:

- Drill 4 to 5 evenly spaced holes through your lid.
- Cut out a sheet of charcoal filter and glue it over the holes.
- Add about an inch of dirt to the bottom.
- Fill your bin! (Do your best to keep a balance of nitrogen rich materials “green waste”, Carbon rich material “brown waste”, air, and moisture)



## Outdoor Activity: Egg Defender

Conservation scientists have tried to undo African penguin habitat loss by building artificial nests for the remaining penguin colony. These nests must meet certain criteria in order to keep the eggs safe and healthy. Do you think you could make a suitable nest for African penguins?



### Criteria:

- Room for two eggs
- Opening big enough for a penguin to slip through while keeping seagulls out
- Inside temperature in the nest must not get higher than 41° Fahrenheit after 30 minutes in the sun.

### Materials:

- Two plastic eggs
- Cardboard, poster paper, foil, cotton balls
- 60x60cm square cardboard
- Scissors
- Tape or glue
- Thermometer
- Ruler
- Timer
- Paper and pen/pencil



### Build your nest:

1. Review your criteria and think about which materials would create the best shelter for your eggs. Brainstorm ways to keep the conditions within the nest at the right temperatures.
2. Draw your plan. Label all the materials you plan to use and how you would piece them together.
3. Start putting the pieces you labeled together.
4. Cut a small slit into the roof of your nest.
5. Insert your thermometer through the slit at the top with the bulb inside the nest. This should allow you to take temperature readings from just outside the roof.
6. Place your nest into direct sunlight and place your eggs inside.
7. Record the temperature changes every 5 minutes for half an hour.