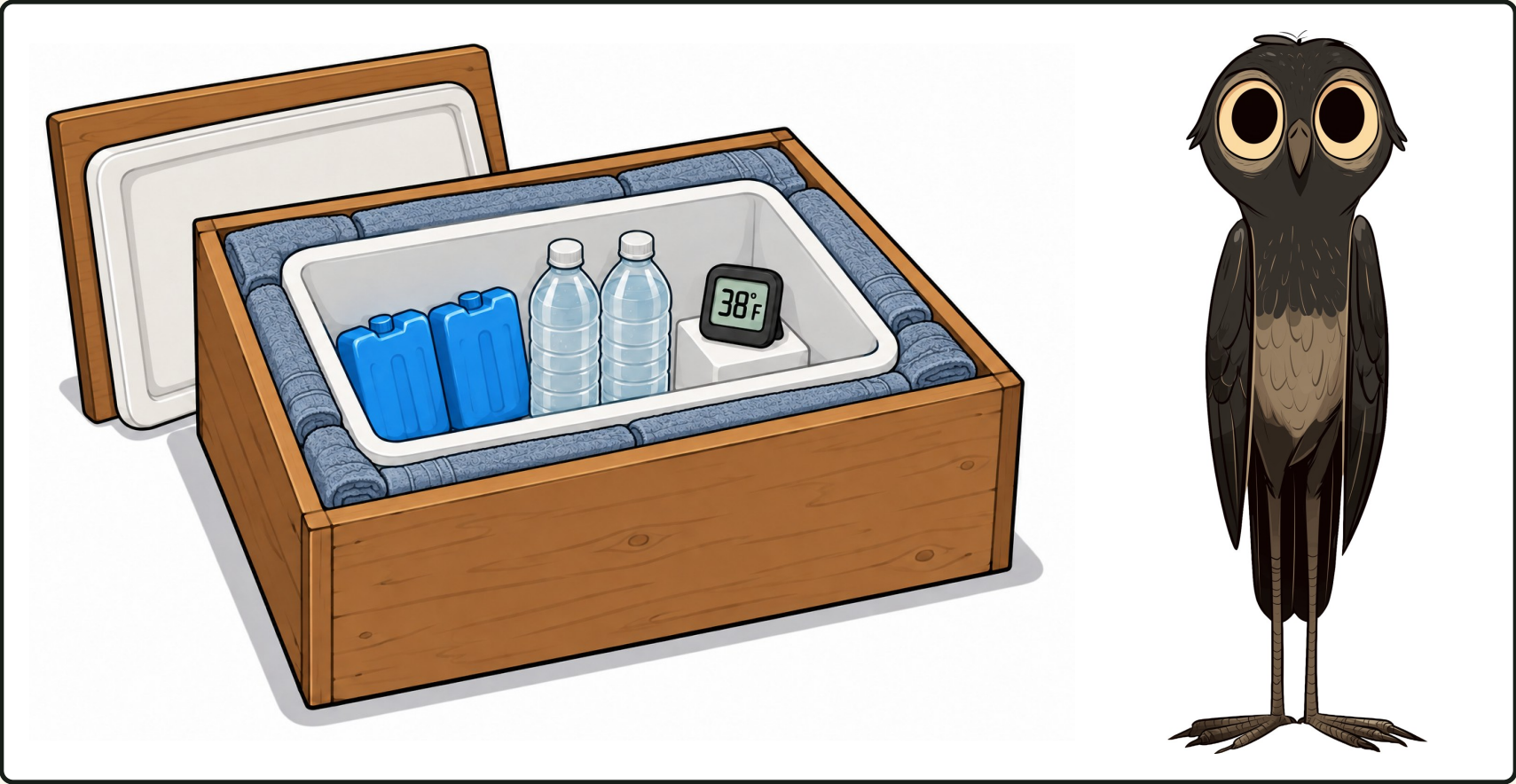


ILLUSTRATED STEPS / SAVE IT. FIND IT. BUILD IT.

ICEBOX TEST

Build a small insulated box, then measure its cooling before trusting it with food.



START HERE

- 01

GET READY

Tools + clickable build map
- 02

FOLLOW THE STEPS

One clearly numbered stage at a time
- 03

FIND IT AGAIN

Quick reference + PDF bookmarks

Start with water bottles only. This experimental box has no certified hold time; ice and ongoing temperature checks are essential.

WATCH THE TIKTOK

MORE FREE BUILD GUIDES

SOURCES / USDA: cooler thermometers · Nuke: icebox episode

BUILD MAP

NEXT

YOUR BUILD MAP

Tap a step to jump there. The printed page numbers work offline too.

HAVE THESE READY

- Lidded outer box; clean lidded food-grade tub
- Clean dry blankets or towels
- Frozen water bottles or gel packs
- Two chilled sealed water bottles for testing
- Appliance thermometer; notebook
- Dish soap; water; known cooler as fallback

READ IN ORDER

PREP	Gather a box within a box	03
01	Insulate the inner container	04
02	Add a cold source	05
03	Run the water-only trial	06
04	Load only already-cold food	07
05	Act when the temperature rises	08
NOTE	Treat each outing as a new trial	09

QUICK REFERENCE / PAGE 10

BEFORE YOU START

Water-only prototype first. No guaranteed hold time. Perishables require ongoing ice replenishment and checks at or below 40 F (use 4 C).

KEEP THIS COPY

Save the PDF with its guide ID. Use the build map, bookmarks, or your PDF reader's search to find a step later. Video and source links need internet; the instructions do not.

BUILD MAP

PREVIOUS

NEXT

SETUP

Gather a box within a box

READ BEFORE STEP 01

PREP

Use removable parts so you can inspect and dry the whole build.



PREPARE THE KIT

- Find a sturdy lidded outer box, a smaller clean food-grade lidded tub and clean, dry blankets or towels to fill the gap.
- Add sealed frozen water bottles or gel packs, two chilled water bottles, an appliance thermometer and a notebook.
- A known insulated cooler is the fallback.

KNOW THE BOUNDARY

- This simple prototype adapts the episode's icebox idea.
- Its particular construction is not a tested USDA design.
- Never dismantle an old refrigerator or use loose sawdust, chemical containers or exposed building insulation around food.

SOURCES / USDA: refrigeration · Nuke: icebox episode

BUILD MAP

PREVIOUS

NEXT

STEP

Insulate the inner container

1 OF 5 / READ IN ORDER

01

Keep all cooling water inside the removable tub.



FIT THE LAYERS

- **Pad the outer box's base with folded dry fabric.**
- Set the closed tub on it and fill the side gaps with more fabric.
- Add a removable folded layer over the tub lid, then close the outer box without forcing it.
- Leave the tub removable.

INSPECT THE FIT

- **Check that the tub stands level and both lids open easily.**
- Do not use a locking chest.
- Keep the box where children cannot climb inside.
- These assembly choices form a trial setup, not a guaranteed insulation specification.

SOURCES / USDA: refrigeration

BUILD MAP

PREVIOUS

NEXT

STEP

Add a cold source

2 OF 5 / READ IN ORDER

02

Insulation slows warming; it cannot replace ice.



LOAD THE TRIAL

- **Put frozen water bottles or frozen gel packs around the chilled test bottles inside the tub.**
- Keep all bottle caps closed.
- Put the appliance thermometer beside the test bottles, away from direct contact with ice, and follow its placement instructions.

CLOSE AND SHADE

- **Replace the tub lid, top insulation and outer lid.**
- Set the box in shade.
- Record the time, starting temperature and amount of frozen material.
- Use those notes to reproduce the trial rather than promising a fixed number of cold hours.

SOURCES / USDA: camping food safety · USDA: cooler thermometers

BUILD MAP

PREVIOUS

NEXT

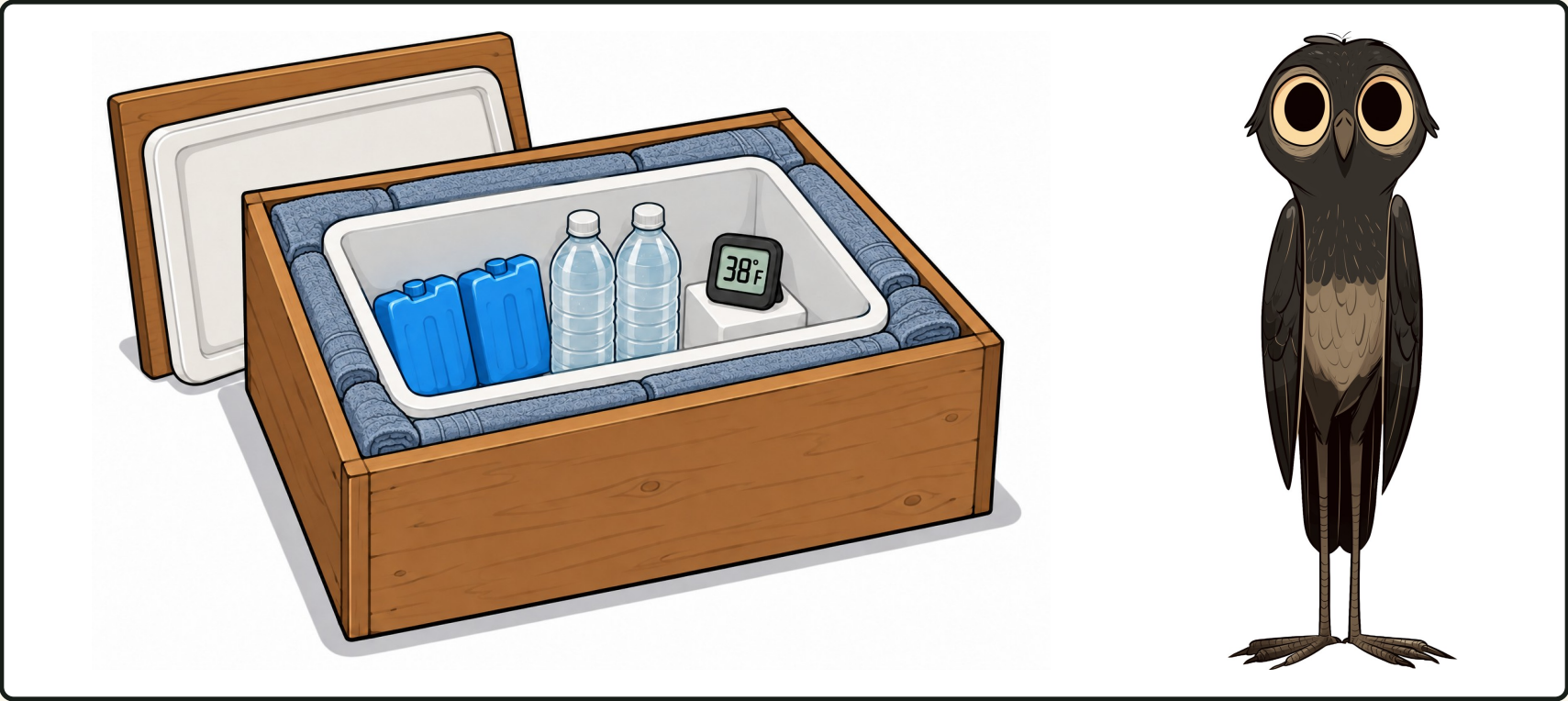
STEP

Run the water-only trial

3 OF 5 / READ IN ORDER

03

Shown open to reveal the parts. Close both lids during the trial; the drawn reading is only an example.



CHECK THE STORAGE SPACE

- **Let the thermometer settle according to its instructions.**
- Check near the test bottles and other storage positions, never directly against ice.
- Record the readings with times.
- Repeat through the period you intend to use the box, including normal lid openings.

DECIDE FROM EVIDENCE

- **Every checked storage position must remain at or below 40°F; use 4°C as a conservative Celsius target.**
- A trial that warms above the target fails.
- Add cold material or improve the fit and repeat with water only.
- One passing trial does not guarantee later conditions.

SOURCES / USDA: cooler thermometers

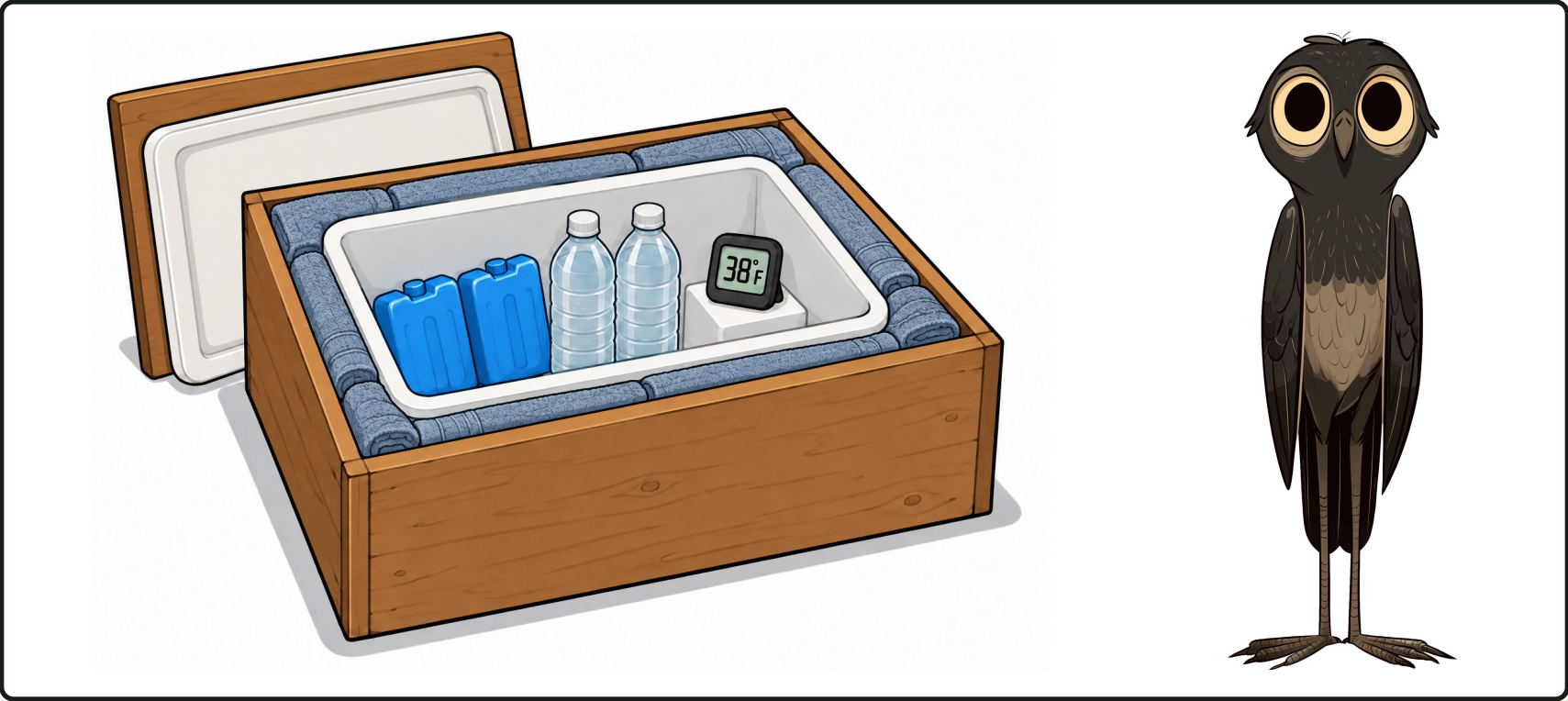
STEP

Load only already-cold food

4 OF 5 / READ IN ORDER

04

Use perishables only when you can keep measuring and replenishing the cold source.



KEEP THE LOAD CONTROLLED

- **After a successful trial, replace depleted packs and load small amounts of refrigerated food in sealed containers.**
- Keep raw meat separate; in one box, secure it below ready-to-eat food.
- Recheck the temperature after loading.
- This box is not a way to cool a hot meal.

MAINTAIN THE CONDITIONS

- **Keep the lid closed and the box shaded.**
- Replenish ice before cooling is lost.
- Check throughout use; if you cannot maintain the target or monitor the box, choose shelf-stable food or a reliable cooler instead.

SOURCES / USDA: camping food safety · FDA: outdoor food safety

STEP

Act when the temperature rises

5 OF 5 / READ IN ORDER

05

Do not wait for the food to look or smell wrong.



RESTORE COLD STORAGE

- If a reading exceeds the target, move perishables promptly to working refrigeration or a reliable ice-filled cooler.
- Track the total time they were above 40°F; adding fresh ice does not erase earlier warm time.

DISCARD WHEN NECESSARY

- Discard perishable food above 40°F for more than two hours, or more than one hour when outdoor temperature exceeds 90°F.
- If its time-temperature history is unknown, discard it.
- Investigate the failed box with water bottles, not another food load.

SOURCES / FDA: outdoor food safety

[BUILD MAP](#)[PREVIOUS](#)[NEXT](#)

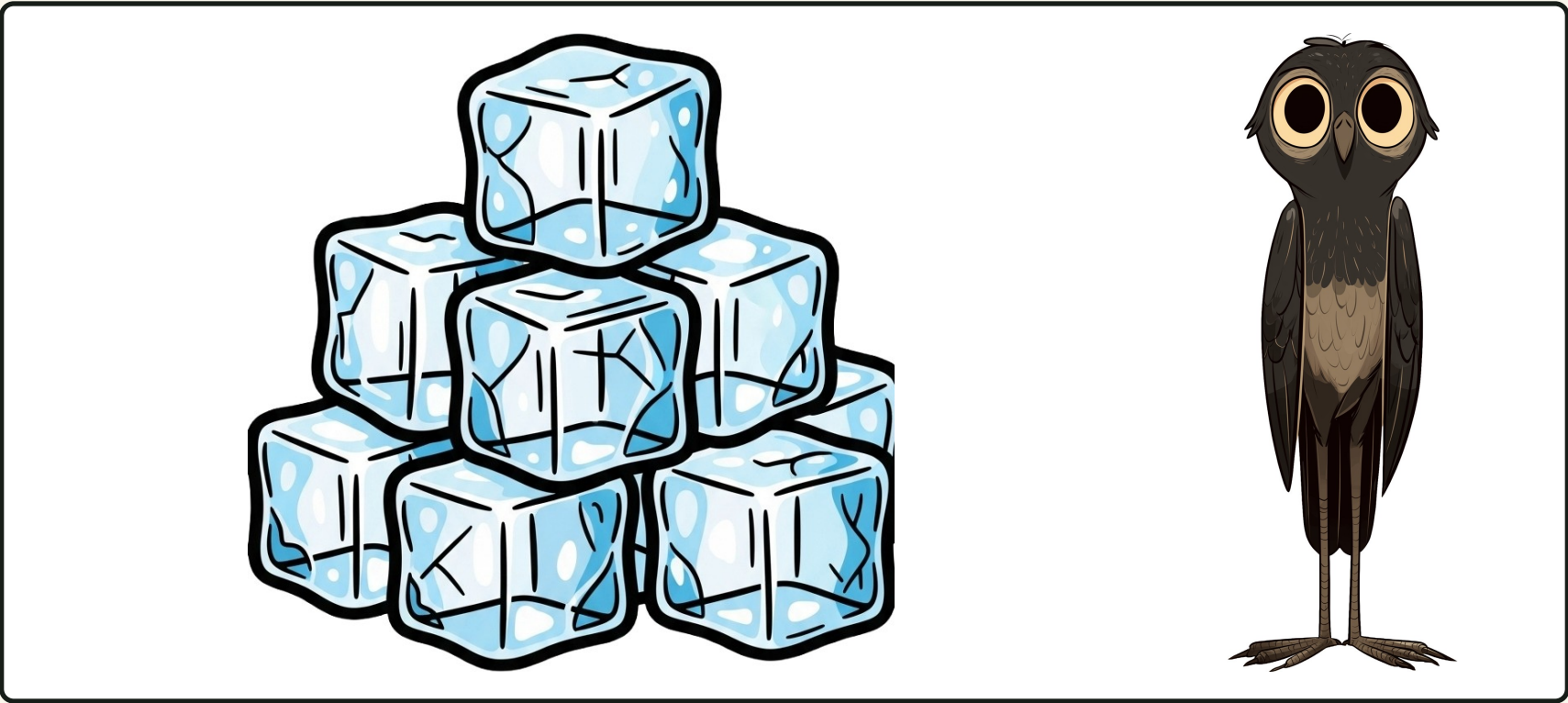
NOTE

Treat each outing as a new trial

KEEP THESE LIMITS WITH THE STEPS

REF

Weather, contents, ice quantity and lid openings all change the job.



STORE THE PARTS DRY

- **Empty the box and remove its fabric layers.**
- Clean the tub with dish soap and water, rinse, and let all parts dry before storage.
- Replace damp, moldy or damaged padding.
- Keep the lid unsecured and the empty box inaccessible to children.

TROUBLESHOOT THE CAUSE

- **For weak cooling, check the lid fit, gaps, depleted packs and a sun-exposed location.**
- Record the change and repeat the water-only trial.
- Do not infer a safe holding duration from the archive drawing or an earlier day's result.

SOURCES / USDA: camping food safety · USDA: refrigeration

QUICK REFERENCE

Read the full steps first. Tap any row to return to its instructions.

BEFORE STEP 01

Water-only prototype first. No guaranteed hold time. Perishables require ongoing ice replenishment and checks at or below 40 F (use 4 C).

01	Assemble Fit a removable lidded tub inside a fabric-insulated outer box.	P04
02	Pack Add frozen packs and chilled test bottles; close and shade.	P05
03	Measure Water-only trial; all storage positions at or below 40 F (use 4 C). Keep checking.	P06
04	Load conditionally Use already-cold sealed food only with ongoing checks and replenishment.	P07
05	Respond Move food to reliable cold storage. Discard after >2h above 40 F (>1h outdoors above 90 F), or unknown history.	P08

NUKE SAYS

Retest the box. Keep the sandwiches out of research.

SOURCES / USDA: camping food safety · USDA: refrigeration