

Visible Elements in Photo



- Large flock of white snow geese resting and standing on brown plowed farmland
- Several geese in flight above the field (at least 3 visible)
- Two tall electrical transmission towers on either side of the field
- Flat agricultural landscape extending to distant tree line and hills
- Clear sky with minimal clouds

Reasonable Inferences

- From resting geese on open field: Birds need safe places to land and rest during migration; open fields offer visibility to spot predators but lack natural shelter.
- From geese in flight + ground flock: Geese communicate and coordinate movement; flying birds may be scouting or signaling to the resting group.
- From flat terrain + distant trees: Geese depend on accessible water and vegetation for food; they must travel between feeding/resting sites and may face obstacles (structures, weather, human activity).

Engineering Task

K-2 Challenge:

Make a safe landing spot for migrating birds! Use natural materials (sticks, leaves, grass, small rocks) to build a cozy resting area on a tray or sandbox. Your design should give birds a place to sit where they can see around them and feel protected. Test it by having a toy bird "land" there.

3-5 Challenge:

Design a bird rest station for a migration stopover area. Your station must:

- Provide visible open sightlines (birds can see 360° for predators) while offering wind protection using only natural or recycled materials
- Fit within a 2-foot x 2-foot ground footprint
- Support at least 5 toy birds standing simultaneously without collapsing
- Include a shallow water feature (bowl or tray) for drinking

Test your design by placing it outdoors for 1-2 days and observe: Do birds (or toy birds) interact with it? Does it withstand wind and weather?

EDP Phase Targeted

Ask / Define Problem — This photo shows a real environmental need (safe migration habitat) without showing an existing solution. Students must first understand what geese need during stopover before designing. The task invites observation and questioning: Why do geese stop here? What makes a good resting spot?

Suggested Materials

- Small branches, twigs, and dried grasses
- Recycled plastic or wooden pallets (for framework)
- Burlap or landscape fabric (for wind breaks)
- Shallow containers or aluminum pie pans (for water)
- Toy birds or craft foam cutouts

Estimated Time

K-2: 45–60 minutes (includes building, testing with toy bird, and simple observation)

3-5: Two 40-minute sessions (Day 1: design and build; Day 2: outdoor placement and observation/iteration)

Why This Works for Teachers

This task directly addresses NGSS 3-5-ETS1-1 (ask questions to define design problems) and K-2-ETS1-1 (ask questions, make observations) by grounding engineering in observable animal behavior and real migration ecology.