

DIY

Turkeys— *do they really fly?*

Have Fun with an Air Propelled Turkey!

The Materials*—

Paper	Markers or Crayons
Scissors	String, Approx. 5 feet
Drinking Straw	2 Chairs
Tape	Optional: Printer
Balloon	Feathers
	Glue

* Increase the fun, create two or more “Turkey Runs” and race your turkeys!

Prepare the Experiment—

1. Draw or print turkey shape.
2. Decorate and cut out the turkey.
3. Trim straw to be shorter than the width of the turkey if necessary.
4. Place turkey face down on table. Set a piece of tape (about 5 inches) sticky side up on top of turkey. (This will be used to attach the balloon to the turkey.)
5. Use 2 pieces of tape to secure straw horizontally across the turkey.
6. Place 2 chairs about 5 feet apart and tie one end of the string to the back of a chair.
7. Thread string through the straw attached to turkey.
8. Tie loose end of string to the second chair. Space the chairs out to create a taunt line.
9. Place the turkey at one end of the string.

Develop a Hypothesis—

You will be attaching the balloon to the turkey. What do you think will happen when you release the balloon’s air?

The Experiment—

11. Blow up a balloon, hold the end closed.
12. Attach the balloon to the turkey using the tape, be careful to not let air escape!
13. Place turkey at one end of the turkey run, release the balloon!
14. Notice what happens.

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Analyze Data—

Does the Turkey go the same distance every launch? Does the amount of air in the balloon affect how far the turkey travels? Try setting up two “Turkey Runs” and have a race! Did the results align with your hypothesis?

The Science—

The word *propel* means “to drive forward or onward by or as if by means of a force that imparts motion. *Propulsion* is defined as the action or process of propelling.
—Merriam-Webster Dictionary

Propulsion systems are governed by Newton’s Third Law of Motion: For every action, there is an equal and opposite reaction.

In this experiment, the air trapped inside the balloon pushes out the open end, causing the balloon to move forward. The air escaping is the “action,” or thrust and the movement of the balloon is the “reaction”.

Rocket Propulsion in Aviation—

In a real rocket, thrust is created by the force of burning rocket fuel as it blasts from the rocket’s engine. As the engines blast downward, the rocket moves upwards! This principle is continuously improved for increased speed and distance.

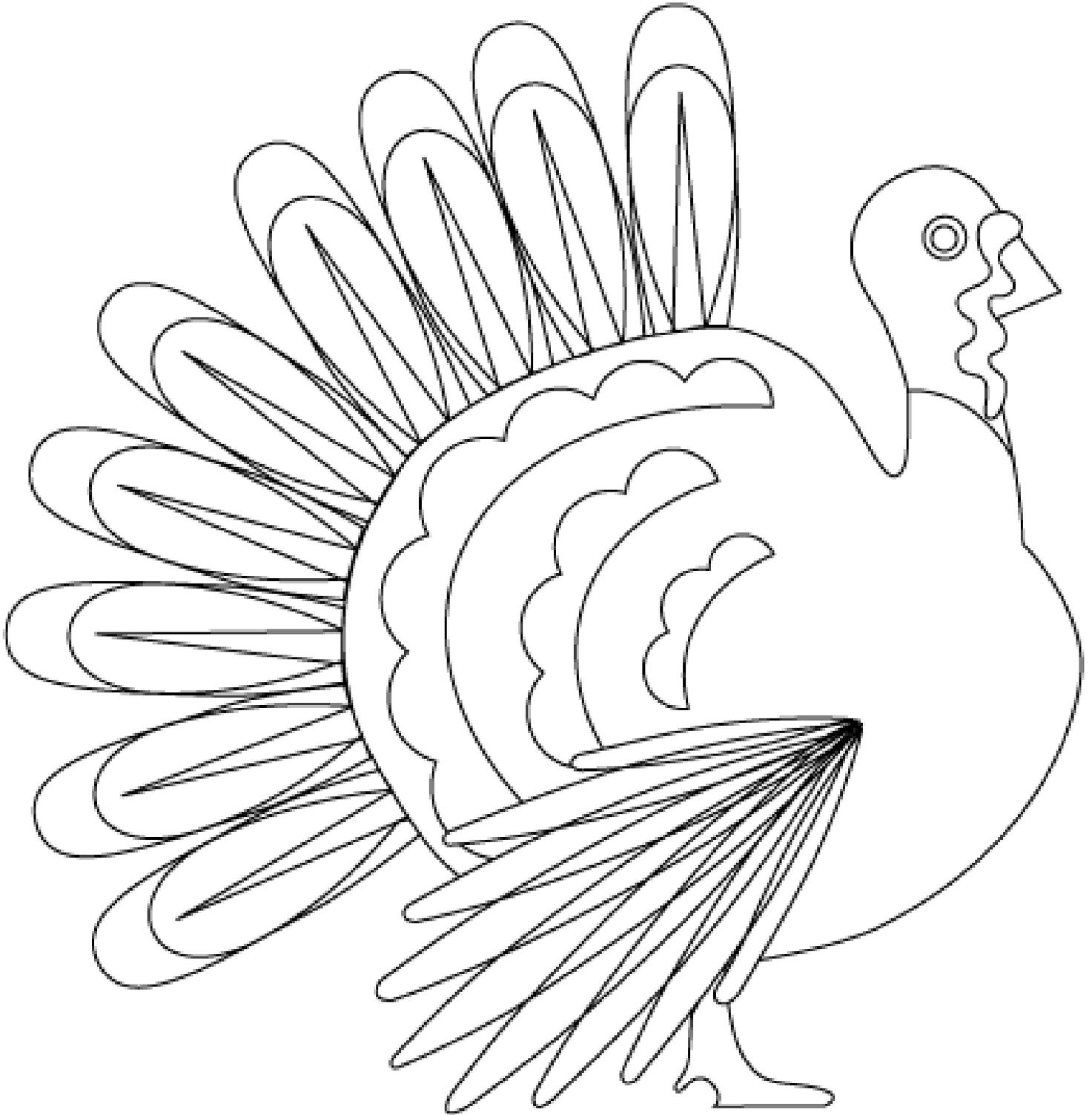
Do Turkeys Really Fly?—

Wild turkeys do fly, they sleep in trees! Domesticated turkeys that live on farms are too heavy and do not fly.

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