LESSON E-04 · ELEMENTARY LESSONS (K–5)

Day, Night & Solar Power

ELEMENTARY (K–5)

Name _____ Date _____ Class / Period _____

Power from the Sun

A satellite makes its own electricity from sunlight, using solar panels, and stores it in a battery. As it goes around the planet, it passes through daytime and nighttime.

Mission goal: find out when the battery fills up.

1 LOOK

OBSERVE BEFORE YOU TOUCH A CONTROL

When does the battery charge?

- Our satellite has solar panels. Look at the Systems box at the bottom of the screen: it shows the battery.
- The planet is huge. Sometimes it blocks the Sun, and that makes a shadow.

Write the numbers shown in the sim in the blanks above, then record what you notice:

2 PREDICT

COMMIT TO A HYPOTHESIS FIRST

Prediction 1. When does the battery fill up?

Hint: A solar panel is a bit like a plant: it needs light to work.

□ In sunlight

□ In the planet's shadow

Because...

3 EXPERIMENT

CHANGE ONE VARIABLE AT A TIME

Step 1. Just watch! Our satellite flies itself around the planet. Keep your eyes on the battery number in the Systems box for one minute.

Trial	What I changed	What I measured / saw	Matched my prediction?
1			Yes · No · Partly
2			Yes · No · Partly
3			Yes · No · Partly

4 EXPLAIN

CLAIM · EVIDENCE · REASONING

Claim — What did you find out? (answer the mission goal in one sentence)

Evidence — Which numbers or observations from the sim support your claim?

Reasoning — Which science idea connects your evidence to your claim?

Self-check: □ I made a prediction before experimenting □ I used numbers from the sim □ I explained *why*, not just *what*