Day 4: The Dinosaur Time Travel

Your Mission

A strange letter arrived this morning. It wasn't written on paper. It was a piece of fossil! When you touched it, a tiny glowing dial appeared in your hand: a Time Dial. It spun, flashed, and suddenly you were standing in a warm fern forest, 66 million years ago.

A friendly Stegosaurus named Stego waddled up and said, "You're the Time Traveler! Your Time Dial cracked and was broke on the way here. Five Time Locks are scattered across the valley. Solve each one, and the dial will recover so you can go home."



Each lock is about a time or measurement puzzle. The dinosaurs will help you, but they only tell clues, not direct answers.

Warm-Up: A New Tool for Today

You've collected tools over the past three weeks:

- Symmetry: shapes that mirror each other
- Elimination: crossing out answers that can't work
- Deduction: using clues to figure out what must be true

Today you gain two new tools:

- Units: **Always write the unit** (cm, min, kg, days) **next to each number**. Mixing units is the No.1 mistake in time-and-measurement puzzles.
- Timeline: For any problem about "how much later" or "how much longer**," draw a small timeline and mark each event in order**.

Quick Check: If Stego slept from 10:05 p.m. to 7:25 a.m., how long did he sleep?

Write your answer in hours and minutes: _____

Challenge 1: The Heavy Stone

Stego rolls a heavy stone toward you. A question is carved on it:

My mom's birthday is on a Sunday, and my dad's birthday is 55 days later. On what day of the week will my dad's birthday be?

(A) Sunday (B) Monday (C) Tuesday (D) Thursday (E) Saturday

Hint: 55 days is 7 weeks plus how many extra days? 7 weeks brings you back to Sunday. Then count the extra days forward.



Challenge 2: The Sleepy Nest

A small Velociraptor shows you a nest where two dinosaur siblings slept.

Anna fell asleep at 9:30 p.m. and woke up at 6:45 a.m. the next day. Her little brother Peter slept 1 hour and 50 minutes longer. How long did Peter sleep?

(A) 30 hr 5 min (B) 11 hr 35 min (C) 11 hr 5 min (D) 9 hr 5 min (E) 8 hr 35 min

Hint: First find Anna's sleep time. From 9:30 p.m. to 6:45 a.m., count hours to midnight, then hours to 6:45 in the morning. Then add 1 hr 50 min to Peter's total. Remember: 15 min + 50 min = 1 hr 5 min.



Challenge 3: The Jumping Dino

The blue dinosaur Jack is practicing jumping. His longest jump during training was 55 dm 50 mm long. In the finals he jumped 123 cm longer. How long was the longest jump in the finals?

(A) 6 m 78 cm (B) 5 m 73 cm (C) 5 m 55 cm (D) 11 m 28 cm (E) 7 m 23 cm

Hint: Convert everything to cm first. **1 dm = 10 cm, 1 cm = 10 mm.** So 55 dm = 550 cm and 50 mm = 5 cm. Add them, then add 123 cm. Convert the answer back to m and cm.



Challenge 4: The December Sabretooth

A sabretooth cub called Tosha curls up beside you and yawns. In December, Tosha slept for exactly 3 weeks. How many minutes did she stay awake during this month? Pick the correct expression:

(A) $(31 - 7) \times 3 \times 24 \times 60$

(B) $(31 - 7 \times 3) \times 24 \times 60$

(C) $(30 - 7 \times 3) \times 24 \times 60$

(D) $(31 - 7) \times 24 \times 60$

(E) $(31 - 7 \times 3) \times 24 \times 60 \times 60$

Hint: December has 31 days. 3 weeks = 7 × 3 days. Awake days = 31 − 21 = 10. Each day is 24 hours, each hour is 60 minutes. Which expression matches?



Challenge 5: The Kangyear Clock

You see a weird planet near Earth that has the colors of a kangaroo. Stego explains:

"*On planet Kangkang, each kangyear has 20 kangmonths and each kangmonth has 6 kangweeks.*"

How many kangweeks are there in one quarter of a kangyear?

(A) 9 (B) 30 (C) 60 (D) 90 (E) 120

Hint: One quarter of a kangyear = 20 ÷ 4 = 5 kangmonths. Each kangmonth has 6 kangweeks. Multiply!



The Master Code

You've solved all five Time Locks! The Time Dial is glowing again. Before it sends you home, fill in the final code to seal the time travel.

Word Bank: UNITS, CONVERT, TIMELINE, CAREFUL, CHECK

1. Always write the _____ next to each number so you don't mix them up.
2. _____ everything to the same unit before adding or comparing.
3. For time problems, draw a _____ and mark each event in order.
4. Be _____ with "how much longer" and "how much earlier" because the direction of time matters.
5. _____ your answer by reversing the steps to make sure it works.

The Time Dial hums, spins, and flashes. The fern forest blurs, and BOOM! You're back in your room. The fossil letter now says: "Thank you, Time Traveler." Stego left a small footprint pressed into the letter as a souvenir.

