

HOW MANY AND HOW MUCH?

OBJECTIVE: Students develop a sense of neutral motivation for attendance as they determine averages.

AVERAGE DAILY ATTENDANCE

**Practice calculating average daily attendance.
Use the last two days.**

Attendance from the last session—for example, 15
Today's attendance—for example, 12
Average: $15 + 12 = 27$ divided by 2 days = 13.5

Or it can be written: $(15 + 12) / 2 = 13.5$

Budget as of today: $13.5 \times \$10 = \135

We could be playing video games, basketball, or just hanging out with friends instead of getting smarter. Most of us are here because we're failing English...obviously we care about our grades and our future or we wouldn't be here.

—RFP group

See if students can show how varying attendance over time affects the budget.

For example: On days 1 through 4, 12 students attend each day.
The average daily attendance is 12. The budget is \$120.
On day 5, 14 students attend. The average of days 1 through 5 is a weighted average that reflects that on most days, only 12 students attended.

You can show this different ways: Total attendance each day
 $12 + 12 + 12 + 12 + 14 = 62$
 $62 / 5 \text{ days} = 12.4$
Budget \$124

Use a weighted average $(12 \times 4 \text{ days}) + (14 \times 1 \text{ day}) = 48 + 14 = 62$
 $62 / 5 \text{ days} = 12.4$
Budget \$124

See if anyone can explain why you can't use the average so far (12) plus today's attendance (14) and divide by 2. What would this give?

Answer: 13, which doesn't reflect the fact that four out of the five days attendance was only 12, and on only one day it was 14.

Add another day. On day 6, 15 students attend. The average over 6 days can be shown several different ways:

Use a weighted average $(12.4 \times 5 \text{ days}) + (15 \times 1 \text{ day}) = 62 + 15 = 77$
 $77 / 6 \text{ days} = 12.8$
Budget \$128



Total attendance each day $12 + 12 + 12 + 12 + 14 + 15 = 77$
 $77 / 6 \text{ days} = 12.8$
 Budget \$128

Total attendance over past 5 days $5 \text{ days } (62) + \text{today's attendance } (15) = 77$
 $77 / 6 \text{ days} = 12.8$
 Budget \$128

Again, it is not accurate to add the 5-day average to day 6 attendance and divide by 2

$$12.4 + 15 = 27.4$$
$$27.4 / 2 = 13.7$$

This doesn't reflect that attendance was 12.4 over 5 days and was 15 only once. This shows that you need to keep up attendance to bring up the amount!

Keep going. On day 7, 15 students attend again.
 $(12.8 \times 6 \text{ days}) + (15 \times 1 \text{ day}) = 76.8 + 15 = 91.8$
 $91.8 / 7 \text{ days} = 13.11$
 Budget will be \$131

QUICK CHECK

	YES	NO
Did everyone understand how to calculate average daily attendance?	<input type="checkbox"/>	<input type="checkbox"/>

How do you know?

