Lesson 5: Average rate of return (ARR)

KNOWLEDGE ORGANISER

🎯 Learning goals

- ✓ Explain what ARR measures
- ✓ Calculate average annual profit
- ✓ Calculate ARR as a percentage
- ✓ Use ARR to compare investments, and know its limits

🔑 Key words

- **Investment** Money spent now to earn a return in future.
- **Average rate of return (ARR)** Average yearly profit as a percentage of the cost.
- **Average annual profit** Total profit ÷ number of years.
- **Return** The profit earned from an investment.
- **Percentage** A figure out of 100, useful for comparing.

📘 What you need to know

ARR (%) =
(average annual profit ÷ cost of investment) × 100

a higher percentage means a better return for each £ invested

ARR shows the average yearly profit as a percentage of the investment's cost.

1. What ARR measures

The average rate of return (ARR) compares the **average yearly profit** of an investment with its **cost**, as a percentage. It lets a business compare two options fairly — the higher the ARR, the better the return for each pound spent.

2. The two-step calculation

Step 1: **average annual profit = total profit ÷ number of years**. Step 2: **ARR = (average annual profit ÷ cost of investment) × 100**.

Cost of investment (new workshop tools)	£10,000
Total profit over 5 years	£15,000
Average annual profit = 15,000 ÷ 5	£3,000
ARR = (3,000 ÷ 10,000) × 100	30%

> *"Average annual profit = total profit ÷ years. ARR = (average annual profit ÷ cost) × 100."*

3. Using ARR — and its limits

A business usually picks the option with the **higher ARR**. But ARR has limits:

- **it ignores when the money comes in** (early returns are better)
- it ignores risk
- non-financial factors

So it should not be the only thing considered

✅ Test yourself

Cover the answers below, answer Q32–Q36, then check.

Q32 What is the average rate of return (ARR)?

Q33 How do you calculate ARR?

Q34 How do you find average annual profit?

Q35 What does a higher ARR mean?

Q36 Give one drawback of ARR.

ANSWERS

A32 A way to compare an investment's yearly profit with its cost, as a percentage.

A33 (Average annual profit ÷ cost of investment) × 100.

A34 Total profit ÷ number of years.

A35 A better return on the investment.

A36 It ignores when the money comes in and the risk involved.