

# FIND YOUR MATCH

## Teacher Mini-Lesson Notes: Interpreting Financial & Investment Graphs

Grade 9 Financial Literacy | **Estimated time: 15 minutes** | *Deliver immediately before the activity begins*

### Answer Key — Scenario / Character Match Guide

Graph cards show only the scenario number. Character cards show only the character name. Neither card reveals the other's identifier. Use this table to confirm correct pairings during the Reveal phase and to manage the answer key.

Scenario #	Character	Key Graph Features (for confirming matches)
1	Aisha	Smooth compound curve. \$500 start, ~\$900 end, 15 years.
2	Jordan	Smooth compound curve. \$300 start, ~\$960 end, 20 years. Same shape family as #1 — distinguished by lower start, longer timeline, slightly higher endpoint.
3	Sofia	Straight line (simple interest). \$800 start, \$1,200 end, 10 years. The only clean linear graph.
4	Marcus	Straight line for 5 years (\$2,000 → \$2,500), then a gentle curve for 5 more. Visible kink at year 5.
5	Carlos	Gentle compound curve for 5 years, then a steeper compound curve for 5 more. Kink in slope at year 5.
6	Ben	Straight line for 3 years (\$1,500 → \$1,680), then completely flat for 4 years. Clear two-phase shape.
7	Liam	Starts near \$0, near-linear climb with a slight upward curve. \$0 → ~\$4,400 over 10 years.
8	Daniel	Near-linear climb for 3 years, then transitions to a gentler curve for 5 more years. Two distinct phases.
9	Fatima	Elevated Y-intercept at \$1,000, then steady compound climb. \$1,000 → ~\$3,440 over 8 years.
10	Elena	High start at \$3,000, short and gentle curve, ends ~\$3,312 over 5 years.
11	Ahmed	Very high start at \$5,000, nearly flat curve, ends ~\$5,523 over 10 years. Visually almost horizontal.
12	James	Very low start at \$100, slow early growth, dramatic acceleration late. Classic hockey stick. \$100 → ~\$685 over 25 years.
13	Priya	Compound curve with one sharp downward dip at year 10 (~\$400 drop), then growth resumes. Ends ~\$1,196 at year 18.
14	Keiko	Compound curve with two sharp downward dips at years 4 and 8 (~\$200 each). Growth resumes each time. Ends ~\$662 at year 12.
15	Noah	Starts at \$2,000, curves steadily downward to \$0 over 8 years. The only graph that reaches zero.
16	Zoe	Arch shape: curves up to ~\$1,217 at year 5 (peak), then slopes gently downward to ~\$811 at year 12.
17	Maya	Gentle curve, then a sharp upward jump at year 5 (midpoint), then a steeper curve. \$400 → ~\$1,162 over 10 years.
18	Lily	Very gentle curve for 10 years, then a dramatic upward jump at year 10, then a steeper curve for 5 more. \$300 → ~\$1,757 over 15 years.

19	Ryan	Three visible upward jumps at years 0, 2, and 5, each followed by compound growth. Ends ~\$2,033 at year 10.
20	Sam	Perfectly flat horizontal line at \$4,000 for 10 years. The only graph with zero growth throughout.

**Tip:** Print this page separately as your answer key. Consider keeping it face-down until the Reveal phase.

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## Running the Activity

Deliver the mini-lesson first, then move directly into the activity without a break. The transition line at the end of the lesson (“You’re ready. I’ll hand out your cards in a moment”) is the signal to begin.

### Phase 1 — Setup (3 min)

Count your students and select that many cards from the deck — one graph card and one scenario card per pair. Deal one card face-down to each student without letting them see it. Once all cards are dealt, ask students to hold their card up beside their head (or use tape/a headband to fix it in place) so everyone else can read it but they cannot.

Before students begin, remind them of the two rules:

1. You may only ask yes/no questions — no open-ended questions, no describing your card directly, and no asking someone to read your card to you.
2. You have a limit of 2 questions per person you speak to. Move on and gather more information before coming back.

Useful questions to model before starting: “Does my graph have a visible dip?” “Is the starting balance over \$1,000?” “Does the line go up the whole time?” “Does my scenario involve regular monthly deposits?”

### Phase 2 — The Match (12–15 min)

Students circulate freely and ask each other yes/no questions to figure out what is on their own card. Graph Holders are trying to identify the features of their graph; Scenario Holders are trying to understand their story well enough to answer questions about what a matching graph would look like. Students may speak to as many classmates as they need.

Once a student believes they have found their match, they stand together and sit down as a pair — but do not reveal their cards yet. Students who are still searching can continue asking questions of seated students.

*Tip: Give a 2-minute warning when most pairs are seated to prompt any remaining students to commit to their best guess.*

### Phase 3 — The Reveal (5 min)

Call time. Ask all pairs to reveal their cards to each other simultaneously. Pairs who are correctly matched stay seated. Students who discover they are mismatched raise their hands — allow a brief open swap period (1–2 minutes) for unmatched students to find the right partner.

Read out the correct pairings from the answer key above, or project them. Acknowledge the pairs who matched correctly before moving on.

### Phase 4 — Debrief (10–15 min)

Give each pair 3–4 minutes to discuss their matched scenario and graph using the pair discussion questions below. Then bring the class back together and ask 2–3 pairs to share — prioritise pairs whose scenarios offer a strong contrast (e.g., Sam’s flat line vs. James’s hockey stick, or Aisha vs. Jordan). Use the class discussion questions to connect the mathematical patterns students observed to real investment decisions.

*Tip: Sam (flat line, interest withdrawn) and Ryan (three deposits at intervals) tend to generate the strongest class discussion. Consider calling on those pairs first if time is short.*

#### Pair Discussion Questions

1. Looking at your graph, what is one financial decision your character made that you would also make? What is one you would do differently, and why?
2. If your character could change one thing about their investment — the starting amount, the interest rate, or how long they left it — what change would have the biggest impact on their final balance?
3. What does the shape of your graph tell you about when the best time to start saving might be?

#### Class Discussion Questions

1. Sam’s graph is a perfectly flat line — his account never grew. Is that a bad investment? What did he gain, and what did he give up?
2. Looking at all the graphs in the room, which single factor — starting amount, interest rate, or time — seems to make the biggest difference to where a graph ends up? What evidence from the cards supports your answer?

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## Lesson Purpose

This mini-lesson prepares students to participate in the Find Your Match activity. Students should leave able to look at an investment graph and describe what it tells them—including the starting value, the shape of growth, any financial events visible in the line, and the ending value.

The lesson is intentionally short and focused. It teaches exactly the vocabulary and interpretation skills students need to succeed in the activity—no more, no less. The goal is readiness, not mastery.

## Materials Needed

- 2–3 graphs from the activity set printed or projected (suggested: Scenarios 1, 6, and 13)
- Projector or whiteboard
- Optional: vocabulary reference card for students

## Lesson Flow

## Hook — Why Does a Graph Tell a Story?

Open with a question to the class:

*“If I showed you a picture of someone’s savings account over 10 years, what could you tell me about them?”*

0:00 – 2:00

Accept 2–3 student responses. Build toward the idea that a graph tells a financial story—when someone started, whether they added or took out money, and how their account changed over time.

**Close the hook:** *“Today you’ll be reading investment graphs to match them to real stories. By the end of this lesson, you’ll know what to look for.”*

## Core Content — How to Read an Investment Graph

Walk through these five key reading strategies. Refer to a graph on the board as you go:

2:00 – 7:00

1. **Start with the axes.** The X-axis shows time (years). The Y-axis shows account balance in dollars. Always check the scale—two graphs can look identical in shape but represent very different amounts.
2. **Find the starting point.** Where does the line begin on the Y-axis? This is the principal—the original deposit. A high start means a large lump-sum investment. A start near \$0 means someone began with small regular deposits.
3. **Read the shape.** A straight line = simple interest (same dollar amount added each year). A curve bending upward = compound interest (interest earning interest). The steeper the curve, the higher the rate or the longer the duration.
4. **Look for events.** A sharp upward jump = a deposit was added. A sharp downward dip = a withdrawal was made. A kink where slope changes = the interest rate changed or the account type switched.
5. **Check the ending point.** Is the balance higher, lower, or the same as the start? A flat line means no growth. A declining line means withdrawals exceeded interest.

## Worked Examples

Walk through 3 graphs from the activity set. Ask students the questions—cold-call and build the interpretation together.

### Example A → Scenario 1 — Clean Compound Curve

- “What is the starting balance?” (\$500)
- “Is the line straight or curved?” (Curved — compound interest)
- “Does the slope get steeper or flatter over time?” (Steeper — compound growth accelerates)
- “Are there any events—jumps or dips?” (No — clean uninterrupted growth)

7:00 – 12:00

### Example B → Scenario 6 — Linear then Flat

- “What shape is the line in the first half?” (Straight — simple interest)
- “What happens at year 3?” (The line goes flat — no more growth)
- “What would cause that?” (Account moved to a no-interest account)

### Example C → Scenario 13 — Single Withdrawal

- “What do you notice around year 10?” (A sharp dip)
- “What caused it?” (A withdrawal was taken out)
- “What happens after the dip?” (Growth resumes — still earning compound interest)

12:00 – 15:00

### Quick Check + Transition to Activity

Ask students to predict the expected shape for each—quick verbal responses, no writing:

- “Someone who saves a small amount each month for 10 years.” (Gentle upward curve, starting near \$0)
- “Someone who earns interest but withdraws all of it every year.” (Flat horizontal line)
- “Someone who invests \$100 at 8% for 25 years.” (Dramatic hockey stick—slow early, steep at the end)

**Transition:** “You’re ready. I’ll hand out your cards in a moment. Remember: you can’t look at your own card, and you can only ask yes/no questions. Find the person whose card matches yours.”

## Quick Reference: Graph Shapes & What They Mean

Graph Shape / Feature	What It Means
Straight line, going up	Simple interest — the same dollar amount added each year
Gentle curve, going up	Compound interest at a low rate or over a short time
Steep curve at the end	Compound interest over a long time — growth accelerates dramatically
Straight line, then a curve	Account changed type (e.g., GIC matured → savings account)
Gentle curve, then steeper curve	Interest rate increased mid-way
Straight line, then flat	Account moved to a no-interest account after an initial term
Flat horizontal line	Interest is withdrawn each year — the principal never grows
Line with an upward jump	A lump-sum deposit was added to the account
Line with a downward dip	A withdrawal was taken out; growth resumes afterward
Multiple dips	Multiple withdrawals at different points in time
Arch (rises then falls)	Withdrawals eventually exceed the interest earned; slow decline follows
Steadily declining curve	Withdrawals consistently exceed interest — account depletes over time
Starts near \$0, climbs gradually	Regular monthly or annual deposits with no large lump sum at the start

## Key Vocabulary

Confirm students are comfortable with these terms before the activity begins:

<b>Principal</b>	The starting amount deposited into an account.
<b>Interest</b>	The money earned on a deposit, expressed as a percentage of the balance.
<b>Simple interest</b>	Interest calculated only on the original principal (produces a straight-line graph).
<b>Compound interest</b>	Interest calculated on both the principal and any interest already earned (produces a curved graph).
<b>Deposit</b>	Money added to an account.
<b>Withdrawal</b>	Money taken out of an account.
<b>Balance</b>	The current total amount in the account.
<b>Growth rate</b>	The annual interest rate — how quickly the account grows each year.
<b>GIC</b>	Guaranteed Investment Certificate — a fixed-term investment at a set rate (often simple interest).

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## Common Misconceptions to Pre-empt

### ***“A curved line always means more money.”***

Not quite. A curve going downward means the account is depleting faster and faster—not growing. The direction matters as much as the shape.

### ***“The steepest graph is always the best investment.”***

You can only compare steepness if the axes are at the same scale. Always check the Y-axis before making comparisons.

### ***“Simple interest is always worse than compound interest.”***

Generally true over long periods, but not always short-term. This makes for a strong debrief discussion after the activity.

### ***“If the account goes down, they lost money.”***

Not necessarily. A declining balance may reflect planned withdrawals the account holder chose to make. The graph shows the account balance, not the person’s overall financial wellbeing.