

# Dropping Coins

## Trend task

**Approach:** Station

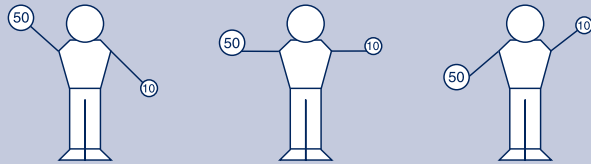
**Level:** Year 4 and year 8

**Focus:** Students demonstrate their intuition or prior learning about the effects of gravity on objects of differing mass, then carry out a practical investigation and interpret the outcome.

**Resources:** 50c coin, 10c coin.

**Questions/instructions:**

In this activity you will be finding out about how things fall.



1. THINK FIRST — do not try it yet.

You have a 10 cent coin and a 50 cent coin.

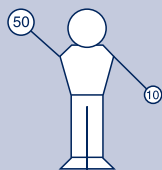
Which picture do you think shows a way to hold the coins before you drop them so they will hit the floor at the same time?

Circle the picture which you think shows the best way.

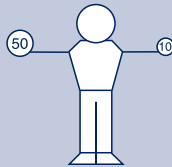
	% responses	
	1999 ('95)	1999 ('95)
	year 4	year 8
✓ same level	76 (65)	49 (43)
50c higher	15 (18)	39 (45)

2. NOW TRY IT.

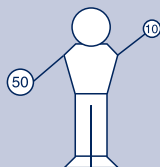
Hold your arms in each of the different ways and drop the coins. Write down which coin hit the floor first.



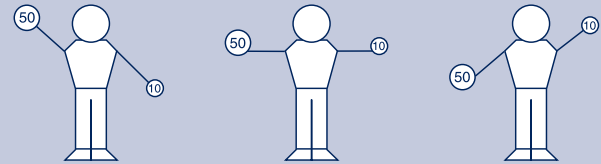
10c first	83 (71)	80 (79)
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✓ both together	63 (54)	68 (69)
50c first	22 (22)	17 (17)



50c first	88 (77)	87 (84)
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3. Which is the best way to hold your arms so the coins hit the floor at the same time?

Circle the picture which you think shows the best way.

	% responses	
	1999 ('95)	1999 ('95)
	year 4	year 8
✓ same level	86 (85)	84 (86)

4. What could you do to check your results in question 2?

repeat test	50 (51)	61 (58)
have second observer	7 (7)	25 (26)

**Commentary:**

Surprisingly, about 25 percent more year 4 than year 8 students predicted the result correctly. Year 4 and year 8 students were equally adept at conducting and interpreting the experiments. Results in 1995 and 1999 were very similar for year 8 students, but year 4 students did noticeably better in 1999 than in 1995, on questions 1 & 2.