

TREND



Hedgehog

**Approach:** One to one **Level:** Year 4 and year 8

**Focus:** Understanding rotation and angles.

**Resources:** Garden picture with metal washer in the middle; model hedgehog to fit washer; recording book.

**Questions/instructions:**

Here is a hedgehog and its garden.

**Hand student the hedgehog.**

Put the hedgehog in the centre of the garden so it is facing the tree. I want you to move the hedgehog the way I tell you.

Write each student response on the recording sheet. After every turn, ask student to turn the hedgehog to face the tree again.



	% responses	
	2001 ('97)	2001 ('97)
1. First turn the hedgehog clockwise a quarter-turn. What is it facing?	<b>year 4</b>	<b>year 8</b>
	flowers 63 (56)	92 (89)
2. Now turn the hedgehog clockwise a one-third turn. What is it facing?	cat 18 (13)	40 (40)
3. Now turn the hedgehog anti-clockwise a half-turn. What is it facing?	ladybird 65 (58)	85 (91)
	turned anti-clockwise 77 (74)	94 (95)
4. Now turn the hedgehog anti-clockwise a three-quarters turn. What is it facing?	flowers 39 (38)	63 (77)

**YEAR 8**

5. Now turn the hedgehog 90° to the left. What is it facing?	spider •	60 (67)
6. Now turn the hedgehog 360° to your left. What is it facing?	tree •	74 (84)
	turned left •	91 (93)
7. Turn the hedgehog 30° to the right. What is it facing?	butterfly •	53 (58)
8. Turn the hedgehog 270° to the right. What is it facing?	spider •	38 (44)
9. What directions could you give me if I wanted to turn the hedgehog to face the frog?	appropriate directions •	35 (39)

PROMPT: *Could you be more specific?*



**YEAR 4**

	% responses	
	2001 ('97)	2001 ('97)
10. Now turn the hedgehog 1/12 to the right. What is it facing?	butterfly 17 (16)	•
11. Now turn the hedgehog three-quarters around to the left. What is it facing?	flowers 37 (41)	•
12. What directions could you give me if I wanted to turn the hedgehog to face the frog?	appropriate directions 48 (45)	•

**Commentary**

Students were much more successful with 1/4 and 1/2 turns than others such as 1/3, 3/4, and 1/12. Year 4 students did equally well or slightly better in 2001 than in 1997, but year 8 students did a little worse in 2001 than in 1997.