Reasoning and Problem Solving
Step 1: Describe Turns

National Curriculum Objectives:

Mathematics Year 1: (1P2) Describe position, direction and movement, including whole, half, quarter and three-quarter turns

Differentiation:

Questions 1, 4 and 7 (Problem Solving)
Developing Describe a single turn which is represented visually.
Expected Describe possible turns (up to 2) which can explain a completed movement.
Greater Depth Describe possible turns (up to 3) which can explain a completed movement.

Questions 2, 5 and 8 (Problem Solving)
Developing Describe 2 single turns to fit items in boxes with pictures.
Expected Describe 3 single turns to fit items to their shadows.
Greater Depth Describe multiple single turns to match similar prints with bones.

Questions 3, 6 and 9 (Reasoning)
Developing Consider a single instruction and turns made. Spot and describe any errors.
Expected Consider an instruction (with up to 2 parts) and turns made. Spot and describe any errors.
Greater Depth Consider an instruction (with up to 3 parts) and turns made. Spot and describe any errors.

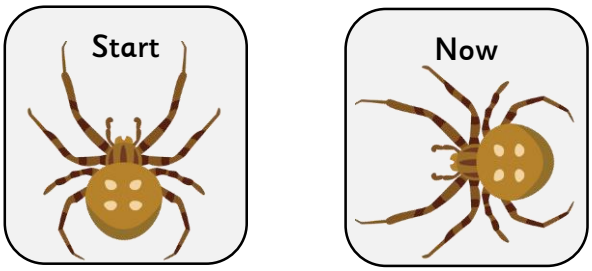
More resources which follow the same small steps as White Rose.

Did you like this resource? Don't forget to review it on our website.

© Classroom Secrets Limited 2018

Reasoning and Problem Solving – Describe Turns

1a. Angela has turned her game piece once in the same direction.

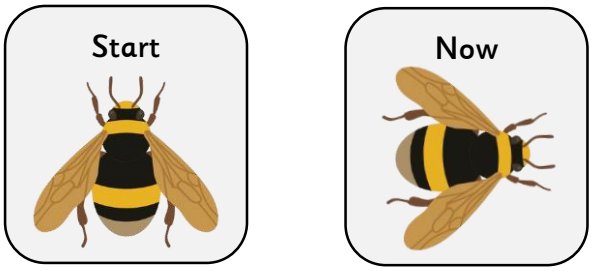


Which turn could leave her facing this way?

D

PS

1b. Toby has turned his game piece once since the start of the game.

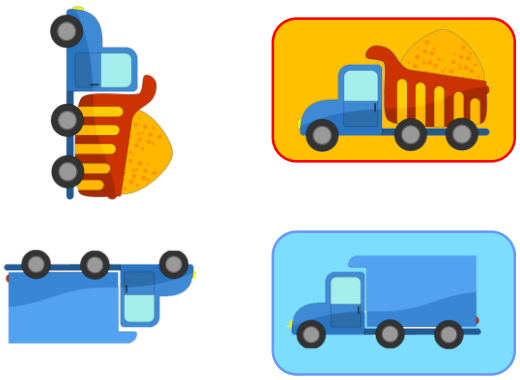


Which turn could leave him facing this way?

D

PS

2a. The trucks need to turn to match the picture on their boxes.

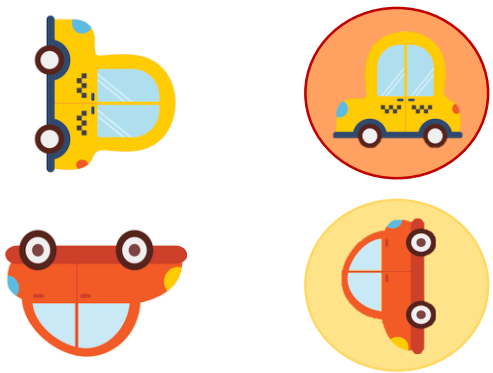


What turn should they each make?

D

PS

2b. The cars need to turn to match the the picture on their boxes.

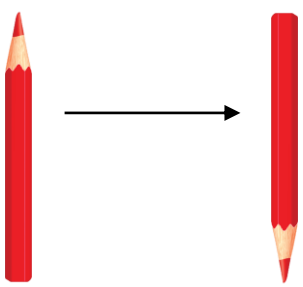


What turn should they each make?

D

PS

3a. Dion was asked to turn the pencil one three-quarter turn.

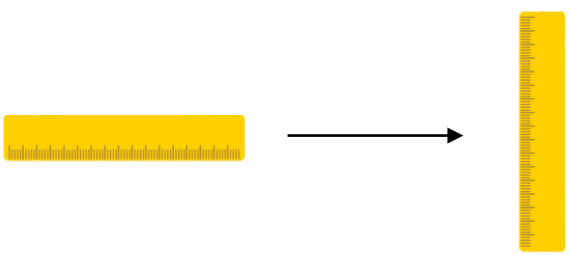


Did he follow the instructions? Explain and correct any mistakes you find.

D

R

3b. Jennie was asked to turn the ruler one half turn.



Did she follow the instructions? Explain and correct any mistakes you find.

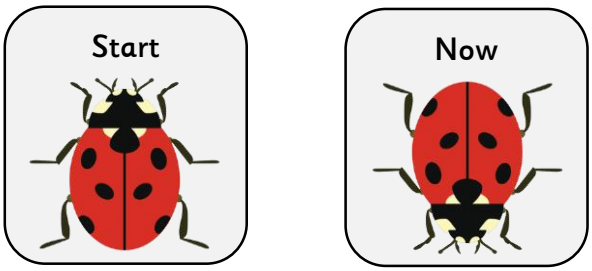
D

R

© Classroom Secrets Limited 2018

Reasoning and Problem Solving – Describe Turns

4a. Josie has turned her game piece twice in the same direction.

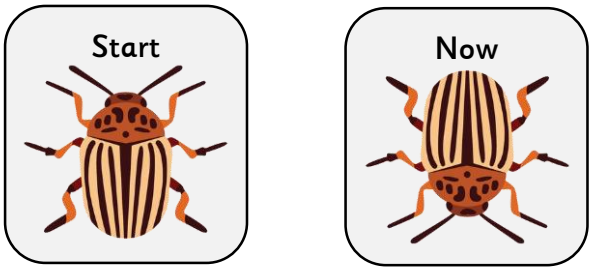


Which two turns could leave her facing this way?

E

PS

4b. Alum has turned his game piece once since the start of the game.

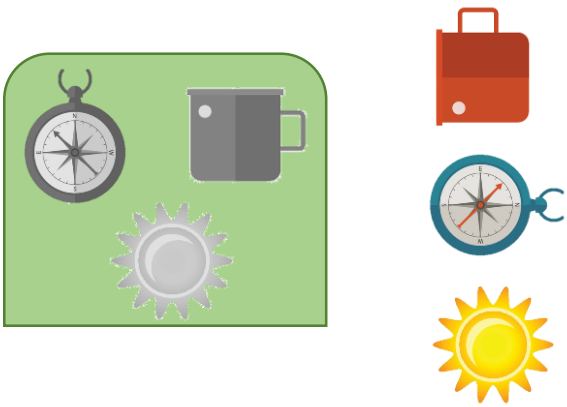


Which turn could leave him facing this way?

E

PS

5a. The jigsaw pieces need to turn to fit their space.

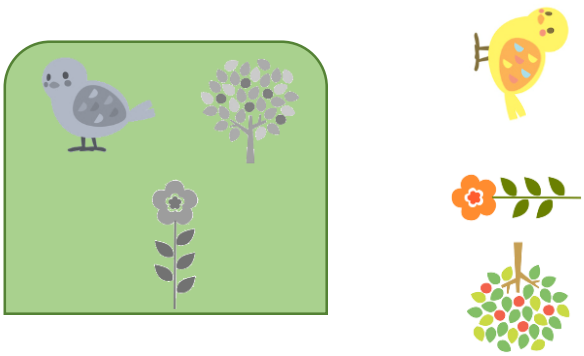


What turn should they each make?

E

PS

5b. The jigsaw pieces need to turn to fit their space.

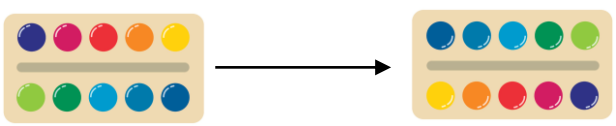


What turn should they each make?

E

PS

6a. Minnie was asked to turn the paints two half turns.

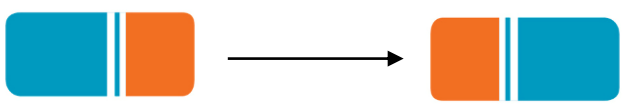


Did she follow the instructions? Explain and correct any mistakes you find.

E

R

6b. Mollie was asked to turn the rubber two three-quarter turns .



Did she follow the instructions? Explain and correct any mistakes you find.

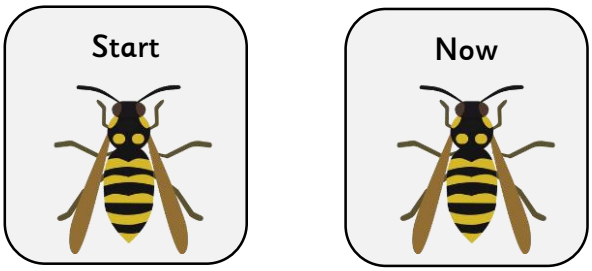
E

R

© Classroom Secrets Limited 2018

Reasoning and Problem Solving – Describe Turns

7a. Deni has turned her game piece three times in the same direction.

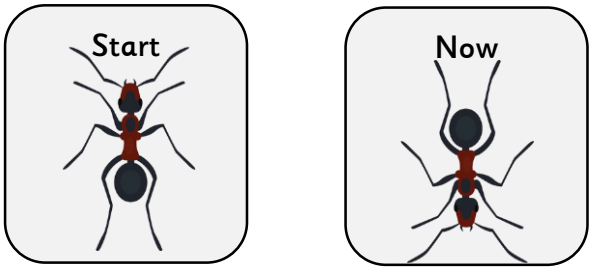


Which three turns could leave her facing this way?

GD

PS

7b. James has turned his game piece three times since the start of the game.

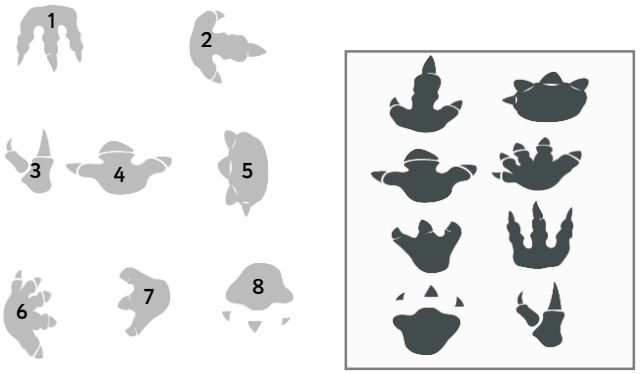


Which turns could leave him facing this way? Can you find more than one answer?

GD

PS

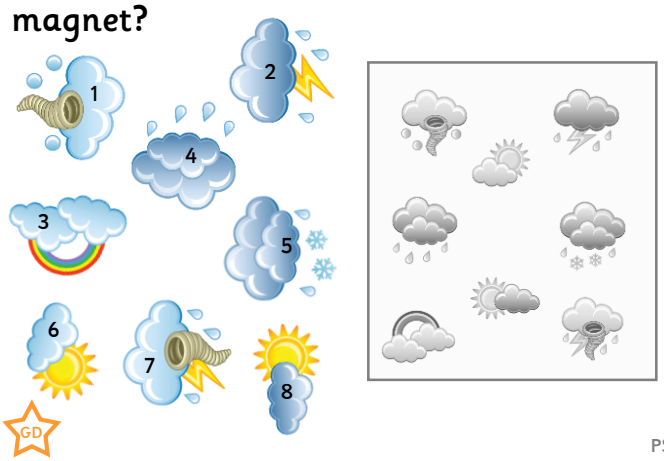
8a. The palaeontologist needs to match the dinosaur feet with their prints. Which way should he turn each print?



GD

PS

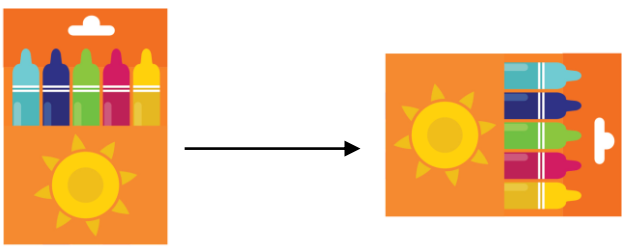
8b. The weather presenter needs to match the magnets to their correct place. Which way should she turn each magnet?



GD

PS

9a. Paul was asked to turn the crayons one quarter turn, and two half turns.

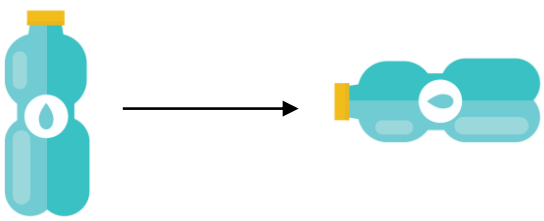


Did he follow the instructions? Explain and correct any mistakes you find.

GD

R

9b. Luke was asked to turn the water bottle one three-quarter turn, one half turn and one quarter turn.



Did he follow the instructions? Explain and correct any mistakes you find.

GD

R

© Classroom Secrets Limited 2018

Reasoning and Problem Solving – Describe Turns

The terms 'clockwise' (CW) and 'anti-clockwise' (ACW) have been used in the answers, however this vocabulary is not required for Year 1. Accept answers which indicate the direction of the turn.

Developing

1a. A three-quarter turn (CW) or a quarter turn (ACW).
1b. A quarter turn (CW) or a three-quarter turn (ACW).
2a. The red truck needs to make a three-quarter turn (CW) or a quarter turn (ACW).
The blue truck needs to make a half turn (CW or ACW).
2b. The yellow car needs to make a three-quarter turn (CW) or a quarter turn (ACW).
The red car needs to make a quarter turn (CW) or a three-quarter turn (ACW).
3a. No, Dion has turned the pencil a half turn, he needs to turn it one quarter turn more.
3b. No, Jennie has turned the ruler one quarter turn, she needs to turn it one quarter turn more.

Expected

4a. Two quarter turns (CW or ACW), or two 3 quarter turns (CW or ACW).
4b. A half turn (CW or ACW).
5a. The mug needs to make a quarter turn (CW) or a three-quarter turn (ACW).
The compass needs to make a three-quarter turn (CW) or a quarter turn (ACW).
The sun does not need to turn.
5b. The bird needs to make a three-quarter turn (CW) or a quarter turn (ACW).
The flower needs to make a quarter turn (CW) or a three-quarter turn (ACW).
The tree needs to make a half turn (CW or ACW).
6a. No, Minnie has made one half turn, she needs to make another half turn.
6b. Yes, Mollie has turned the rubber two 3 quarter turns, which look the same as one half turn.

Greater Depth

7a. Various answers: Deni could turn two quarter turns and one half turn (CW or ACW).
7b. Various answers: James could turn three half turns (CW or ACW), or one three-quarter turn, one half turn and one quarter turn (CW or ACW).
8a. 1 – a half turn (CW or ACW)
2 – a three-quarter turn (CW) or a quarter turn (ACW)
3 – no turn
4 – no turn
5 – a quarter turn (CW) or a three-quarter turn (ACW)
6 – a three-quarter turn (CW) or a quarter turn (ACW)
7 – a quarter turn (CW) or a three-quarter turn (ACW)
8 – a half turn (CW or ACW)
8b. 1 – a three-quarter turn (CW) or a quarter turn (ACW)
2 – a quarter turn (CW) or a three-quarter turn (ACW)
3 – a half turn (CW or ACW)
4 – a half turn (CW or ACW)
5 – a quarter turn (CW) or a three-quarter turn (ACW)
6 – a three-quarter turn (CW) or a quarter turn (ACW)
7 – a quarter turn (CW) or a three-quarter turn (ACW)
8 – a three-quarter turn (CW) or a quarter turn (ACW)
9a. Yes he did, the two half turns make one full turn so it looks like one quarter turn.
9b. No he did not. The bottle top should be pointing downwards. He needs to turn the bottle another one 3 quarter turn (or one quarter turn).

© Classroom Secrets Limited 2018