

Reasoning and Problem Solving

Step 1: Sorting Objects

National Curriculum Objectives:

Mathematics Year 1: (1N4) [Identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than \(fewer\), most, least](#)

Mathematics Year 1: (1N2c) [Read and write numbers from 1 to 20 in numerals and words](#)

Differentiation:

Questions 1, 4 and 7 (Problem Solving)

Developing Identify how a group of objects have been sorted into two separate groups. Images presented in the standard orientation.

Expected Identify how a group of objects have been sorted into two separate groups. Images presented in various orientations.

Greater Depth Identify how a group of objects have been sorted into three separate groups. Images presented in various orientations.

Questions 2, 5 and 8 (Reasoning)

Developing Circle the object which has been sorted incorrectly and explain why. Two sets of images presented in the standard orientation.

Expected Circle the object which has been sorted incorrectly and explain why. Two sets of images presented in various orientations.

Greater Depth Circle the object which has been sorted incorrectly and explain why. Three sets of images presented in various orientations.

Questions 3, 6 and 9 (Reasoning)

Developing Read the statements and explain who is correct. Two sets of images presented in the standard orientation.

Expected Read the statements and explain who is correct. Two sets of images presented in various orientations.

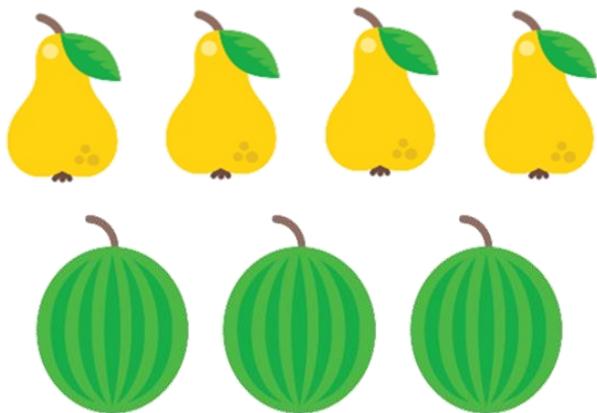
Greater Depth Read the statements and explain who is correct. Three sets of images presented in various orientations.

More [Year 1 Place Value](#) resources.

Did you like this resource? Don't forget to [review](#) it on our website.

Sorting Objects

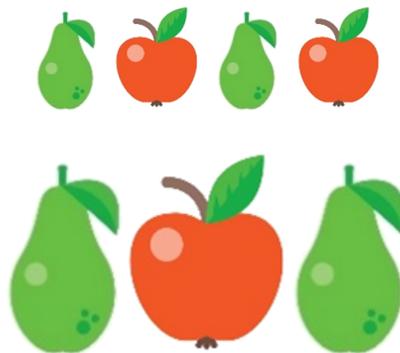
1a. How has the fruit been sorted?



PS

Sorting Objects

1b. How has the fruit been sorted?



PS

2a. Circle the object which has been sorted incorrectly.

1

2



Explain why it is incorrect.

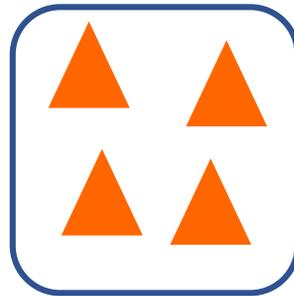


R

2b. Circle the object which has been sorted incorrectly.

1

2



Explain why it is incorrect.



R

3a. Tom and Lou are sorting the flowers into 2 groups.



We can sort the flowers into 2 types.

Tom

We can sort the flowers into 3 types.



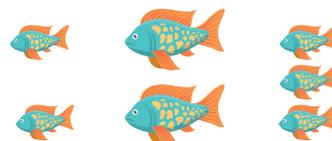
Lou

Who do you agree with? Explain why.



R

3b. George and Lisa are sorting the fish into 2 groups.



We can sort the fish into 2 sizes.

George

We can sort the fish into 2 types.



Lisa

Who do you agree with? Explain why.

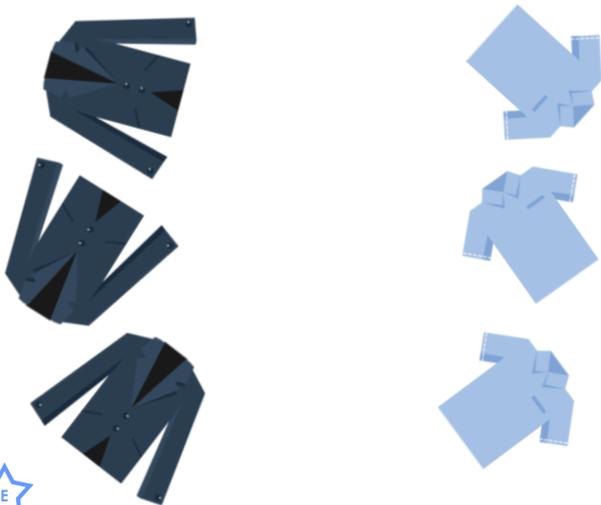


R

Sorting Objects

Sorting Objects

4a. How have the clothes been sorted?



PS

4b. How have the gems been sorted?



PS

5a. Circle the object which has been sorted incorrectly.

1



2



Explain why it is incorrect.



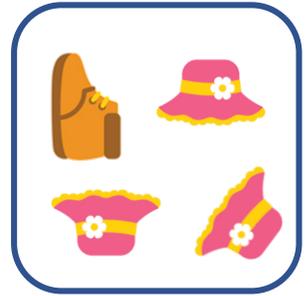
R

5b. Circle the object which has been sorted incorrectly.

1



2

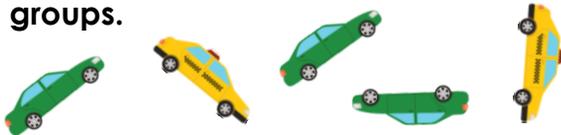


Explain why it is incorrect.



R

6a. Leo and Erin are sorting the cars into two groups.



Leo

We can sort the cars into 2 types.

We can sort the cars into 3 types.



Erin

Who do you agree with? Explain why.



R

6b. Ty and Inayah are sorting the flowers into two groups.



Ty

We can sort the flowers into 2 positions.

We can sort the flowers into 2 sizes.



Inayah

Who do you agree with? Explain why.



R

Sorting Objects

Sorting Objects

7a. How have the fruit and vegetables been sorted?



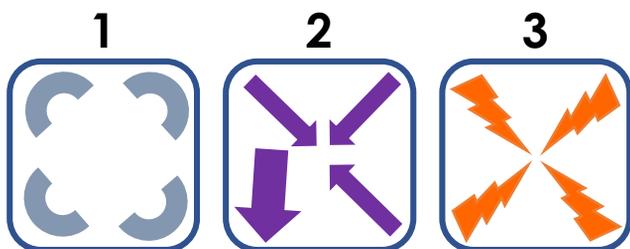
PS

7b. How have the clothes been sorted?



PS

8a. Circle the object which has been sorted incorrectly.

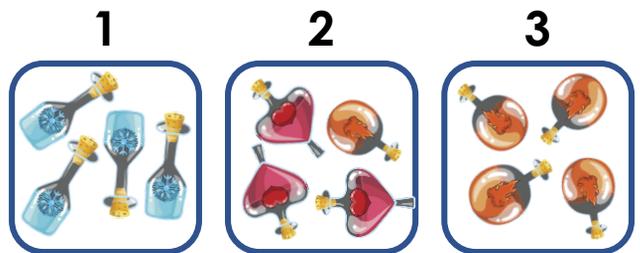


Explain why it is incorrect.



R

8b. Circle the object which has been sorted incorrectly.



Explain why it is incorrect.



R

9a. Oli and Rosie are sorting the fish into groups.



We can sort the fish into 2 types or 2 positions.

We can sort the fish into 2 types or 2 sizes.



Who do you agree with? Explain why.



R

9b. Rob and Mai are sorting the cars into groups.



We can sort the cars into 3 types or 2 sizes.

We can sort the cars into 3 sizes or 2 types.



Who do you agree with? Explain why.



R

Reasoning and Problem Solving Sorting Objects

Developing

- 1a. The fruit has been sorted by type (or by colour if printed in colour).
- 2a. The brown teddy bear (middle) in group 2 has been sorted incorrectly. It is sat in a different position (or different colour if printed in colour) in comparison to the other teddy bears in the group.
- 3a. Tom is correct as the flowers can be sorted into 2 types, not 3; there are only two different types of flowers shown.

Expected

- 4a. The clothes have been sorted by type (or by colour if printed in colour).
- 5a. The sock (bottom right) in group 2 has been sorted incorrectly. It is a different type of clothing, and has been grouped with the hats.
- 6a. Leo is correct as the cars can be sorted into 2 types, not 3; there are only two different types of cars shown.

Greater Depth

- 7a. The fruit and vegetables have been sorted into 3 groups by size.
- 8a. The arrow pointing down (bottom left) in group 2 has been sorted incorrectly. It is a different size in comparison to the other arrows in the group.
- 9a. Rosie is correct as the fish can be sorted into 2 groups either by type or by size; the fish are all in different positions.

Reasoning and Problem Solving Sorting Objects

Developing

- 1b. The fruit has been sorted by size.
- 2b. The small triangle (top right) in group 1 has been sorted incorrectly. It is a different size (or different colour if printed in colour) in comparison to the other triangles in the group.
- 3b. George is correct as the fish can be sorted into 2 sizes, not 2 types; the fish are all the same type.

Expected

- 4b. The gems have been sorted by type or size (or by colour if printed in colour).
- 5b. The boot (top left) in group 2 has been sorted incorrectly. It is a different type of clothing and has been grouped with the hats.
- 6b. Inayah is correct as the flowers can be sorted into 2 sizes, not 2 positions; the flowers are all in different positions.

Greater Depth

- 7b. The clothes have been sorted into 3 groups by position or size.
- 8b. The round bottle (top right) in group 2 has been sorted incorrectly. It is a different shape and type (or colour if printed in colour) in comparison to the other bottles in the group.
- 9b. Rob is correct as the cars can either be sorted into 3 types or 2 sizes; there are more than 2 types of cars and only two different sizes shown.