# Lesson 1**:** Label and match

## Introduction

In this lesson, pupils will begin to understand that objects have many different labels that can be used to put them into groups. They will name different objects and begin to experiment with placing them into different groups. Pupils will also label a group of objects, and begin to understand that an object can fit into more than one group depending on the context.

## Learning objectives

To label objects

* I can describe objects using labels
* I can match objects to groups
* I can identify the label for a group of objects

## Key vocabulary

Object, label, group, search, image

## Preparation

**Subject knowledge:**

A key concept throughout this unit is the understanding that computers are not intelligent. Though they may seem like they are able to complete tasks autonomously, they are using input from humans, for example searching for images that have been labelled by a human, or ‘counting’ data that has been grouped by humans.

Throughout the unit, the term ‘object’ is used to describe anything that can be labelled with properties, eg animals, pencils, or trees. When talking about objects, they are named to make it easier for humans to know what other humans are talking about, eg ‘tree’. The name may change depending on context (sometimes ‘tree’ is enough, but sometimes ‘oak tree’ may be required), but it is always a property that an object can be labelled with. A label is a property used to describe an object, eg ‘green’. This is the data that is collected about the object.

Labelling, grouping, and searching are important aspects of data and information. Searching is a common operation in many applications, and requires an understanding that to search data, it must have labels. This unit of work focuses on assigning data (images) with different labels in order to demonstrate how computers are able to group and present data.

**You will need:**

* [Slides](https://docs.google.com/presentation/d/1vNc1LPJw8GPQ4ZwAQ0B0NKV3l3FT0JFerypeWzR-bZM) (ncce.io/dat1-1-s)
* Activities:
  + Matching objects to groups: [teacher resource](https://docs.google.com/presentation/d/1Iy500RPf76Dnow320wk8834EfvJo7OfZgnBHKA-AhI8) (ncce.io/dat1-1-a2-rm) — optional
  + Labelling groups: [activity sheet](https://docs.google.com/presentation/d/1pTu_XL0RqfKvnW3ovZMu3xNw_mffBGTlXIjHuCHRWzc) (ncce.io/dat1-1-a3-w) and [solutions](https://docs.google.com/presentation/d/1optXx1fUCWRTtO7FVXYvhXkPAGNCoSMdMxM7HJ5DnaQ) (ncce.io/dat1-1-a3-s)
* An assortment of physical objects for each table/group that fit into a group, eg ‘things we write with’, ‘things we wear’, etc
* Group labels that match the objects referenced above
* Large hoops or other sorting equipment

## Assessment opportunities

**Introduction and Activity 1:** You can assess pupils’ ability to label an object using the object’s name.

**Activity 2:** You can assess pupils’ ability to match an object to a predefined group.

**Activity 3:** You can assess pupils’ ability to label a group of objects with a group name.

**Plenary:** You can assess pupils’ ability to understand that an object can belong to more than one group.

## Outline plan

Please note that the slide deck labels the activities in the top right-hand corner to help you navigate the lesson.

*\*Timings are rough guides*

|  |  |
| --- | --- |
| Introduction (Slides 2–3)  5 mins | **Names and labels**  Display slide 2 and share the learning objectives with the class.  Move on to slide 3. Read the description on the slide to the class. Ask one of the pupils to find the object (a pencil). Once they have found it, explain that objects are given names to make it easier for people to know what is being talked about. The names are labels that could be given to the objects. For example, the object that the pupil found would be given the label ‘pencil’. |
| **Activity 1**  (Slides 4–6)  10 mins | **Labels around us**  Display slide 4. Explain to pupils that they will be finding labels around the classroom. Give them time to move around the room looking for labels. These might include:   * Drawer labels (pencils, pens, paper, etc) * Book labels (English book, maths book, topic book, etc) * Room labels (Class 1, Lion class, etc)   Discuss some of the labels that pupils have found. Click to activate the animation on slide 4, which will ask pupils to think, pair, share: “Why do objects have labels?” Take some suggestions and explain that we give labels to objects to make them easy to talk about and find.  Display slide 5. Explain to pupils that a video on the next slide is going to show someone searching the word ‘cat’ using a computer search engine. Ask pupils what they think the computer will show.  Move on to slide 6 and play the video. Point to one of the images and ask pupils, “Does the computer know that this is a cat in this image? How does it know?” Take suggestions and explain that the computer doesn’t recognise that the images are cats; it is showing the images because a human gave the image a label, like those that they found around the classroom. |
| **Activity 2** (Slides 7–9)  15 mins | **Matching objects to groups**  Explain that you have labelled the images in the group (cars). Ask pupils what they notice about the group of objects.  Remind them that although the cars are all different, they are cars, so they can be grouped together.  **Note:** The next slide requires you to drag objects to different places on the slide. In order to complete this activity, the slides should be temporarily shown out of ‘Present’ mode.  Display slide 8 (out of ‘Present’ mode). Ask pupils to think, pair, share: “Where should the images go?” Ask a pupil to help drag the images to the correct group circle.  **Note:** The next part of this activity should be completed with physical objects, for example, toys, writing equipment, etc. If this is not possible, use the ‘Matching objects to groups’ teacher resource as an alternative.  Set up three hoops, or specify areas on tables, with three group labels such as: ‘things we play with’, ‘things we write with’, ‘things we eat’. Place a number of physical objects that fit into these groups in a pile near the hoops.  Ask pupils to work in groups to place the objects into the correct group, for example, “Can you find an object that goes with the ‘things we play with’ label?” Allow pupils to move the objects until all the objects have a label.  Ask pupils whether there are any objects with the wrong label. Ensure that pupils have checked, and discuss any misconceptions that arise.  Explain that by putting the objects with a label, they have made groups. This is a way of putting similar objects into groups, and it’s why the computer showed us lots of different cats when the word ‘cat’ was searched. |
| **Activity 3**  (Slides 10–13)  10 mins | **Labelling groups**  Ask pupils to stay at their tables. Display slide 10 and ask them to think, pair, share: “What is the label for this group?” Click to share the group label (‘sheep’).  Display slide 11 and ask pupils to think, pair, share: “What are the labels for these groups?” Click to show the correct labels (‘dogs’ and ‘ducks’).  Move on to slide 12. Provide each pupil with a ‘Labelling groups’ activity sheet. Tell pupils that they need to draw arrows to match the group labels with the correct groups. Explain to pupils that not all of the labels can be matched to a group. If necessary, read the groups to pupils to ensure that they can access the activity.  Display slide 13 to share the solutions with pupils, and encourage them to mark their own activity sheets. |
| **Plenary**  (Slides 14–15)  5 mins | **Matching objects to categories**  Display slide 14. Tell pupils that they need to match the correct object to the correct group. Ask them to think, pair, share: “Which object goes with which group?” Take suggestions and discuss any differences in opinions.  Display slide 15 to share the answers with pupils. Click to animate the slide, and explain that an object can fit into more than one group. |
| **Next time**  (Slides 16–17)  5 mins | Review the ‘Assessment’ and ‘Summary’ slides. |

This resource is available online at [ncce.io/dat1-1-p](https://docs.google.com/document/d/1KK7c2rhP0ohXUOQB7Yzq0-oM6BckgXJEb8bcJAy53DE). Resources are updated regularly — please check that you are using the latest version.

This resource is licensed under the Open Government Licence, version 3. For more information on this licence, see [ncce.io/ogl](https://ncce.io/ogl).