

3.4.2 Categorise

Brief description, and rules of the implementation of the learning activity

Categorizing means that children group things based on similarities or differences, such as colour, shape, function, or theme. For young learners, this is a playful and active way to learn to think logically and critically. For example:

- Sorting objects by colour or material
- Classifying animals into “domestic” and “wild” animals
- Matching words related to the same theme (e.g. “autumn” or “farm”)

This activity helps children make connections, develop language and create overview. It can be done individually, in pairs or in groups, using materials such as cards, pictures or real objects.

Skill focus

- **Primary Skill Focus**
 - Critical thinking
- **Complementary/Secondary Skill Focus**
 - Creativity
 - Problem-solving
 - Connectedness

Age group	Student number	Duration
6 + years old	Individual and whole class working in pairs or small groups	15-50 minutes

Proposed step by step implementation of the learning activity

1. **Introduction** - Explain what categorising means: "Categorising means grouping things that belong together. These can be words, pictures, numbers, animals, or even ideas."
 - Words that belong to the same theme
 - Animals that are similar
 - Sums that are the same amount
2. **Students get material:** Depending on your topic, give them cards, pictures, words, sentences, numbers or concrete material.
 - Language: single words (house, tree, walking, chair, writing)
 - Maths: sums or numbers (2+3, 5, 1+4, 10-5, 8-3)
 - World orientation: pictures of animals, professions, vehicles
 - Social skills: behaviours or emotions (angry, happy, honest, listening, shouting)

3. **Assignment:** "Make groups of things that belong together. Think about how you want to classify them. Give each group a name. Then tell why you did it that way."
 - this instruction depends on the material or working form (e.g. on a worksheet) you offer
 - let them work individually or in pairs into small groups.
4. **Explanation and substantiation:** Let the students tell:
 - Why do these things belong together?
 - What is this group called?
 - Could something also fit in another group? Why yes/no?
 - This way they practise articulating their thinking, an important part of critical thinking.
5. **Class discussion:** Have a few groups share their categorisation and discuss:
 - Are there multiple ways to categorise?
 - What would change if you grouped by a different property?
 - This shows that there are multiple correct solutions, as long as they are logically based.

Indoor/Outdoor Classroom layout notes

It can be used both indoors and outdoors. Both surroundings have specific and different activities and real live problems for students.

When indoors ensure that the (class-)room is quiet enough to allow focus and thoughtful discussion and explanations during research. If practiced outside, choose a quiet corner of the playground where students can stay focused and avoid interference.

How does this learning activity develop this particular skill?

This learning activity encourages critical thinking by making children consciously think about how they organise and interpret information. It starts with understanding categorisation: pupils learn to recognise characteristics, similarities and differences, and discover that there are multiple ways of looking at information.

A diverse range of materials — such as words, sums or emotions — challenges them to actively analyse and recognise patterns. They then make their own choices about how to group and name the materials. This requires logical reasoning, weighing up alternatives and substantiating their decisions. When children explain their choices, they practise arguing and reflecting. They learn to articulate their thought process and are open to other perspectives. In classroom discussions, they discover that there can be multiple correct answers and that critical thinking is about logic and flexibility, not about finding one correct answer.

What do we want to achieve regarding primary skill development (student understanding and/or behaviour)?

As a result of completing this task, students will:

- analyse and compare items to decide what belongs together and what does not;
- develop reasoning skills by explaining and justifying their choices;
- evaluate different possibilities and consider alternative ways of grouping or thinking;
- verify and reflect on their decisions, strengthening both critical thinking and language development.

Suggested use, and practical subject-related examples

1. Introduction (classroom, 5-10 minutes)

Purpose: To explain what “categorisation” is.

What you say (example): "Today we are going to sort or classify things into groups that belong together. This is called “categorising”. Think about the difference between animals that can fly and those that walk on the ground."

Show 2-3 objects or pictures (e.g. a ball, an apple, a book), and ask: "Which ones belong together, and why do you think so?"

2. Prepare materials (prepare in advance)

Choose 15-20 items (pictures or real objects), such as:

- Animals
- Food
- School stuff
- Transport equipment

Make sure there are several logical ways of classifying (e.g. by colour, function, type).

3. Small groups or pairs form

Divide the class into small groups of 2-4 students. Give each group a set of materials/tickets.

4. Assignment: sort and explain (15-20 min)

Have the children categorise the cards in a way that they find logical. They should:

- Group the cards
- Give a name to each category (for example: “animals that live in water”)
- Explain why they put something in a particular group

5. Discussion and reflection (classroom, 10 min)

Have some groups present their classification. Discuss differences:

- Did other groups have a different format?
- What stood out?
- Which categories were difficult?

Materials and tools needed for implementation

This depends on how and with what materials you want to work out the categorising and in what form. This can range from a single pre-prepared worksheet to materials you collect with the children in the forest.

1. Cards or pictures

- Word cards (e.g. nouns, verbs, emotions, professions)
- Pictures or photos (animals, objects, nature, people, situations)
- Theme-specific sets (e.g. autumn, traffic, farm)

2. Physical objects (if available)
 - Small objects from classroom or school, park and forest etc.
 - Toys or materials from corners (cars, plastic animals, blocks)
3. Worksheets/sort sheets
 - Blank sort sheets with boxes or circles
 - Worksheets with space to name categories
 - Venn diagrams or matrices (for slightly older or stronger pupils)
4. Thematic materials (subject-specific)
 - Language: words by theme or word type
 - Maths: sums, numbers, units of measurement
 - World orientation: nature images, weather symbols, maps
 - Social education: pictures of behaviour, emotions or situations
5. Digital materials (optional)
 - Digiboard or tablet with drag-and-drop categorization tasks
 - Online tools such as educational apps or digital learning environments

Key tip: Choose materials that contain enough variety and doubt, so that students must think about why something does or does not fit into a category - this triggers critical thinking.

Guiding questions

The teacher guides this process by asking curious questions, allowing room for experimentation, and encouraging students to examine their own thought processes. This creates a learning environment that focuses on critical thinking, where students learn not only to give answers, but also to understand why those answers are logical. Questions depend on which topic, for example:

- Why did you put these together?
- Could this card also fit in another group? Why yes/no?
- What happens if we sort by another characteristic, such as colour or size?
- What stood out?
- Which categories were tricky?
- Why do these things belong together?
- What is this group called?
- Can something also fit into another group? Why yes/no?
- Are there multiple ways to categorise?

Tips and Tricks for dealing with challenges

- **Challenge:** Children misunderstand the assignment or get confused.
Tip: Provide clear instructions: Give a short example before the task (e.g. 'Apple and banana belong together because you can eat them.'). Repeat core instructions and check that pupils understand them
- **Challenge:** Abstract thinking is still difficult for many young children.
Tip: Use visual and concrete materials: Work with pictures or real objects instead of just words. Let children sort it physically first before doing it on paper

- **Challenge:** Overly complex classifications cause frustration or confusion.
Tip: Start with simple categories: Start with clear differences (e.g. animals vs vehicles). Slowly build up to more abstract categories (such as feelings, functions, properties)
- **Challenge:** Children choose a “wrong” category according to the teacher.
Tip: Listen to their reasoning, not just the “right” answer: Ask: "Why did you do it this way?" Sometimes children have surprisingly logical reasons - that's exactly where critical thinking begins
- **Challenge:** Students think there is one right answer.
Tip: Recognise that multiple solutions are possible: Encourage different ways of classifying. Say, for example, ‘That’s an interesting way to think, who did it differently?’
- **Challenge:** Children have difficulty putting their choices into words.
Tip: Encourage language and explanation: Provide linguistic support: ‘You put these together because...’. Use sentences as steppingstones: ‘I think these belong together because...’
- **Challenge:** Group work can become chaotic, or some pupils do not participate.
Tip: Allow collaboration but keep it orderly: Work in pairs or small groups of max 3-4 students Give everyone a role (e.g. “mapmaker”, “category name creator”, “explainer”).
- **Challenge:** Children wander off or finish quickly.
Tip: Maintain pace and attention: Use a timer (e.g. 10 minutes sorting, 5 minutes explaining). Give a follow-up task: ‘Can you think of another way to sort?’.
- **Challenge:** The task does not go as planned.
Tip: Be flexible if things go differently: Let the process be more important than the perfect end result. Learn from the moment and adjust the assignment next time according to what you have seen
- **Challenge:** Reduced motivation or commitment.
Tip: Make it a game! Make it a game format: ‘Which group comes up with the most different categories?’. Reward creative thinking, not just the “right” answer

Difficulty level tailoring

When using Categorising as a working form with students aged 6 to 8, the teachers can easily differentiate at three levels: beginner, advanced and expert.

- **Beginner learners (6-7 years old):** benefit from concrete material, clear visual support and pre-given categories, such as “animals” or “food”. They mainly practise recognising and simple sorting.
- **Advanced learners (8-9 years old):** can already think up categories independently, work with doubtful cases and use multiple sorting criteria, such as colour, function or theme.
- **Expert learners (9-10 years old):** are challenged to make abstract or multiple sorting, argue their choices and compare alternative classifications. This way, you tailor the work form to each student's thinking and language level and encourage critical thinking.

Debriefing and Reflection questions

1. About the chosen format
 - Why did you put these things together?
 - What feature do these things have in common?
 - Was it easy or difficult to make groups? Why?
 - Did you think first or just try? Which worked best?
2. About alternative possibilities
 - Could you have grouped these things differently?
 - Can you give an example of something that could fit into two groups?
 - What would happen if we sorted by a different characteristic, such as colour/size/function?
3. About cooperation (in group work)
 - How did you decide on the classification together?
 - Did you have different ideas? How did you solve them?
 - Did anyone come up with an idea you didn't have yet?
4. About language and reasoning
 - Can you explain why you did it this way?
 - Which category did you find most difficult to name? Why?
 - What words do you need to explain well what you mean?
5. About learning
 - What did you learn from this assignment?
 - What would you do differently next time?
 - What did you like most/most about this activity?

General tip: You can also let students think up questions for each other - that stimulates even more thinking and language.