Chemical Labels

Lesson plan and teacher's notes · Grade 2 Science · 1 period of 40 minutes

School	(write school name)	**Teacher**	(write name)
Date	(date)	**Class**	Grade 2
Subject	Science	**Enrolment**	Boys ___ Girls ___ Total ___
Time	40 minutes	**Topic**	Chemical Labels

Learners with visual impairment learn to interpret chemical labels using containers with raised markings, Braille labels, tactile symbols and labels read aloud. They learn what a label shows, how colours, words and symbols warn of danger, and why we must check labels before using any chemical. One period of 40 minutes.

Specific outcomes

By the end of the lesson, learners should be able to:

1. Say what a chemical label is
2. Interpret warning words, colours and symbols
3. Identify safe and unsafe chemicals from labels

Prior knowledge

- Learners know some household chemicals
- Learners know chemicals can be harmful

Teaching and learning materials

- Sample containers, boxes and bottles with labels
- Tactile symbols and Braille labels
- Raised markers
- Chalk and board

References

Ministry of Education (CDC) Grade 2 Science syllabus and module; 25Schools learners' note: Chemical Labels.

Lesson development

Stage and time	Teacher activities	Learner activities
Present **10 min**	Present containers, boxes and bottles with labels. Explain the symbols and signal words and that labels show danger levels. Explain that colours and words warn users, for example words like not for consumption, written in red to show danger. Explain that symbols such as a hand showing stop and a picture with a cross show danger.	Handle the labels, listen and ask questions.
Practice **10 min**	Give real or tactile objects with labels. Learners identify symbols using tactile markers and match labels to meanings.	Identify symbols and match labels to meanings.
Produce **10 min**	Learners explain label meanings and identify safe and unsafe chemicals.	Explain meanings and sort safe from unsafe.
Closure **10 min**	Ask: What is a chemical label. Why are labels important. What information can we find on a label. Let learners handle containers with clear tactile or Braille labels and describe words like danger, keep away or poison. Summarise that labels give information on how to use and store substances safely, that we should always check or ask about labels before using any household chemical and must not touch or taste chemicals without guidance.	Answer questions and describe labels they handle.

Teacher's content notes

Read these before the lesson. They are what you need to know, not what to copy onto the board.

What a label shows

A chemical label gives the name of the chemical, its purpose such as cleaning, cooking or gardening, warning signs about burning, poisoning or making us sick, and instructions for use.

Warnings

Words, colours and symbols warn of danger. Words may be written in red. A hand showing stop and a picture with a cross show danger.

Safety

Always check or ask about labels before using any household chemical. Do not touch or taste chemicals without guidance.

Questions to ask during the lesson

Question	Expected answer
The teacher gives a learner a bottle with a Braille label and raised mark and asks what it is. (a) What do we call this. (b) What does it give us. (c) Why is it useful.	(a) A chemical label. (b) Information about the chemical. (c) It helps us use it safely.
A learner finds a symbol of a hand showing stop on a box and asks what it means. (a) What does it show. (b) Is the chemical safe to touch. (c) What should he do.	(a) Danger. (b) No. (c) Ask an adult.
The teacher reads a label aloud with the words not for consumption. (a) What does it mean. (b) Can we taste it. (c) Which colour can show danger.	(a) It must not be eaten or drunk. (b) No. (c) Red.

Worked examples for the board

Reading a label

Step 1: Hold the container. Step 2: Find the name. Step 3: Find the warning words or symbols. Step 4: Find the instructions.

Matching a label to its meaning

Step 1: Feel the symbol. Step 2: Think what it shows. Step 3: Match it to danger or safe. Step 4: Say why.

Board plan

Write the title Chemical Labels. Write what a label shows: name, purpose, warning signs, instructions.

On the label	What it tells us
Name	What the product is
Purpose	What it is used for
Warning signs	If it is dangerous
Instructions	How to use it safely

The finished board

Mistakes to expect

Learners often think	Put it right
A label is only a picture to decorate the bottle.	Let learners feel and listen to labels and say that a label gives safety information.
If a chemical looks like water it is safe.	Stress that we check the label and ask an adult and never touch or taste chemicals without guidance.

Differentiation

Learners who struggle

Use only two labels, one with a danger word and one with a plain name, and ask learners which is dangerous.

Learners who finish early

Ask learners to describe the label of a container at home to the class.

Hearing or visual impairment

For learners with a visual impairment, read labels aloud and use raised markings, Braille labels and tactile symbols. Give time to feel each symbol.

No projector, no printing

Use empty bottles and boxes from home. Make tactile symbols with string and cardboard.

If time is short

Keep the label handling and the danger signs. Move the home labels presentation to the next lesson.

Evaluation

Question or task	A correct answer shows
The teacher gives Njavwa a bottle with a raised warning symbol and a Braille word poison. The class listens as she explains it. (a) What is a chemical label. (b) What does the symbol tell us. (c) What should she do before using it.	(a) A sign or sticker with information. (b) Danger. (c) Check or ask about the label.
Learners bring labels from containers at home and present findings to the class. Mwamba presents one. (a) Name one thing his label shows. (b) What does a red warning mean. (c) Why are labels useful.	(a) The name, purpose, warnings or instructions. (b) Danger. (c) They help us use chemicals safely.

Homework

Bupe finds a container at home with a label that says keep away from children. Her mother asks her what it means. (a) What does the label warn about. (b) Why must we read labels. (c) Who should she ask for help.

Extra practice with answers

Question	Answer
1. A teacher gives Chanda a box with the words keep away from children and asks her to explain. (a) What does the label warn. (b) What colour can show danger. (c) Who should she ask before using it.	(a) The box is not for children. (b) Red. (c) An adult.
2. Mwamba feels a bottle with a picture with a cross on it during a lesson. His group asks what it means. (a) What does the cross show. (b) Is it safe or unsafe. (c) What should they do.	(a) Danger. (b) Unsafe. (c) Ask an adult.

3. The class lists what a label shows on the board. A learner is asked to name them. (a) What does the name tell us. (b) What does the purpose tell us. (c) What do instructions tell us.	(a) What the product is. (b) What it is used for. (c) How to use it safely.
4. Njavwa wants to use a cleaning liquid but its label is hard to read. Her friend offers to read it aloud. (a) What should she do first. (b) Why. (c) Should she touch it without guidance.	(a) Read the label or ask an adult. (b) To use it safely. (c) No.

Answers to the learners' check-yourself questions

1. What is a chemical label.
   A sign or sticker that gives information about the chemical inside.
2. Name two things a label tells us.
   Any two of the name, the purpose, warning signs and instructions.
3. What do danger words and red colour tell us.
   That the chemical is dangerous.
4. What must we do before using a household chemical.
   Check or ask about the label.
5. Mulenga holds a bottle with raised marks and the word poison on its label. A friend wants to taste it. (a) What does the word poison tell us. (b) Should they taste it. (c) What should they do.
   (a) It is dangerous. (b) No. (c) Ask an adult and read the label.
6. Chanda finds a bottle of cleaning liquid at school. A hand sign showing stop is on its label. She is not sure what to do. (a) What does the stop hand mean. (b) Should she use it without help. (c) What can she learn from the label.
   (a) Danger. (b) No. (c) How to use it safely.

Teacher's reflection

What went well:

What I will change next time:

Learners who need follow-up: