



EduTrend Contents

EDUTECH · GAMIFICATION IN STEM EDUCATION · PRIMARY

Measure Level Up

A levelled problem set and mastery checklist for reading scales and measuring

Ages 8–11

Level: Developing

45 minutes

Individuals and pairs ·
up to 30

Activity 02

Inside: activity at a glance · step-by-step session plan · facilitator notes · 3 pupil worksheets · assessment checklist

ACTIVITY 02 · AT A GLANCE

Measure Level Up

Pupils start at level one of a five-level measuring set, from reading whole-number rulers to reading scales with unlabelled divisions and converting units. They move up after three correct answers in a row checked by a partner. Alongside, a mastery checklist lists skills such as reading a scale or measuring to the nearest millimetre; each is ticked only when shown.

Learning outcomes

By the end of the session pupils can:

- read scales with different divisions;
- measure accurately;
- convert between units;
- track mastery of skills.

KEY WORDS

scale · division · measure · level · mastery · convert

CURRICULUM LINKS

Maths: measurement. Science: taking readings. D&T: accurate making.

1

GOAL

What is the learning goal?

2

CHALLENGE

What is the task?

3

FEEDBACK

How do players know?

4

PROGRESS

How is growth shown?

5

RETRY

Can they try again?

6

REFLECT

Did it help learning?

Materials (per pupil)

- Five-level problem cards
- Rulers, measuring jugs, scales
- Mastery checklist
- Worksheets 1, 2 and 3

Before the session

- Prepare level cards.
- Set up measuring stations.
- Print checklists.
- Plan partners.

SAFETY

Handle measuring equipment carefully. Wipe up any water from jugs.

ACTIVITY 02 · SESSION PLAN

Step by step

Pupils may start at different levels after a quick check.

Time	What happens	Say or ask
0–5 min Launch	Explain levels and the checklist.	<i>“How do you move up?”</i>
5–35 min Level up	Pupils work through levels with partner checks.	<i>“How much is each division worth?”</i>
35–40 min Checklist	Tick skills shown.	<i>“Can you show me?”</i>
40–45 min Reflect	Discuss tricky scales.	<i>“What helped?”</i>

CHALLENGE CARD (print or copy onto the board)

Level up through five measuring levels and fill your mastery checklist by showing each skill.

ACTIVITY 02 · FACILITATOR NOTES

The STEM game know-how in brief

To read a scale, first work out what each small division is worth by dividing the gap between labelled numbers by the number of steps.

Levels let pupils work at the right difficulty; a mastery checklist makes progress reflect what they can actually do.

Common ideas to listen for

- “Each small line is one.” Work out its value.
- “Start measuring from the end of the ruler.” Start from zero.
- “Levels are a race.” Accuracy moves you up.

Adapting the activity

Support

Start with scales labelled every division.

Stretch

Create a level-six problem for a partner.

WORKSHEET 1

Level record

Name: _____

Class: _____ Date: _____

Three correct in a row to move up.

Level record

Level	Answer 1	Answer 2	Answer 3	Up?

WORKSHEET 2

Mastery checklist

Tick when shown.

Mastery checklist

Skill	Shown to	Date
Read a scale with labelled divisions		
Work out the value of a division		
Measure to the nearest mm		
Read a measuring jug		
Convert cm and mm		
Convert g and kg		

WORKSHEET 3

Tricky scale

Explain how you read it.

How I worked out each division

FOR THE TEACHER

Assessment checklist

Use during the session. One sheet covers up to eight pupils; copy as needed.

Pupil	Reads scales accurately	Converts units	Tracks mastery

Suggested codes: W = working towards · E = expected · G = greater depth

ABOUT THIS ACTIVITY

Measure Level Up is a sample activity from the EduTrend Contents Edutech Gamification in STEM Education programme (primary, level: developing). Every activity in the programme follows the same format: a practical challenge, a clear session plan, facilitator notes and ready-to-print worksheets, so that teachers, club leaders and parents can run it without extra preparation.

Full 15-, 20- and 32-week programmes are available from EduStore at edutrend.org.

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