

Science Years 7–10 sample assessment for learning activity

Stage 4

(linked to *Off the planet* sample unit)

Activity name: Investigating mass and weight

Context

Students have identified problems associated with a proposal to send people to live on another planet in the solar system, including the difference in gravity on their chosen planet compared with that on Earth.

Description of activity

In the assessment activity, students describe the relationship between mass and weight by:

- conducting a first-hand investigation to measure mass and weight
- processing and analysing collated data.

Areas for assessment

- Planning and conducting investigations
- Problem solving

Outcomes

SC4-6WS follows a sequence of instructions to safely undertake a range of investigation types, collaboratively and individually

SC4-7WS processes and analyses data from a first-hand investigation and secondary sources to identify trends, patterns and relationships, and draw conclusions

Criteria for assessing learning

Students will be assessed on their ability to:

- measure and record the weights and volumes of cubes of known densities
- repeat the measurements and average results
- calculate the mass of each cube using the relationship $\text{mass} = \text{density} \times \text{volume}$
- tabulate collected data using appropriate units for mass and weight
- compare collated data with their own results and account for differences
- use collated data to construct a graph to show the relationship between mass and weight
- use the graph to describe the relationship between mass and weight.

Feedback

Students will undertake self-assessment of their learning in relation to the assessment criteria for this activity. They may also receive peer and teacher feedback prior to and during the collation of the class data. Following completion of the activity, students will receive teacher feedback on their ability to:

- make accurate measurements
- use units correctly
- tabulate and analyse data
- construct a graph
- use the graph to describe a relationship.

Recording evidence of learning

Teachers may gather a variety of evidence of learning, informal and/or formal, during the assessment for learning activity. This may include:

- anecdotal records
- comments or notations
- conversations
- marks
- grades
- digital recordings and/or audio or visual representations.