

CurriculumVisions Lesson

Students: fill in next to the word answer and return the document for assessment.

Science

Book: Forces in action (6E)

Pages 12-19

Everything here is based on our Curriculum Visions book Forces in action (6E)

In this segment, we are going to learn about levers and forces in water.

Part 1

You will need to go to pages 12-13 of the book. Draw an example of each of the three kinds of levers and label the pivot.

Answers.....

Students may draw a crowbar or the lever in picture 2, scissors or a seesaw, and a car jack. See images on pages 12-13 of the book for examples.

Part 2

Go to pages 14-15. How can a plumb line be used to find the centre of gravity of a complicated shape?

Answer.....

Suspend the plumb line and object from the same pin, nail, etc. so they swing freely. Let them come to rest and mark the position of the string. Repeat this putting the pin through two other places on the object. Where the lines cross is the centre of gravity.

Why might it be important to find the centre of gravity of an object?

Answer.....

To keep it from tipping over.

Part 3

Go to pages 16-17. What needs to balance for an object to float?

Answer.....

The pushing force of the object and pushing force of the water.

How can you change a heavy object so that it can float?

Answer.....

You can make it less dense by adding air to it.

Why does a marble sink in water but float in molasses?

Answer.....

Because the molasses is more dense than water, so it will support the weight of the marble.

Part 4

Go to pages 18-19. If your teacher agrees, make a straw diving bell and describe in your own words how it works.

Answer.....

Students should use picture 4 on page 19 as a guide. The diving bell works because the straw is filled with air. As the bottle is squeezed, some of the water goes inside the straw, which makes it heavier, so the straw sinks. When the bottle is released, the water is replaced with air, so the straw rises.

If you are interested in this topic continue to browse the book and watch our amazing videos. They start right on the book cover.