|  |
| --- |
| Goal • Use these questions to practice calculating pressure after you have read page 296 of BC Science 8. |

 1. A football player is tackled by another player and lands with the combined weight of both players on his knee. If the combined weight of the players is 2400 N and the player’s knee measures 0.1 m by 0.1 m, how much pressure is exerted on the turf when the player lands on his knee?

 2. A forestry worker accidentally strikes a pipe with the end of a pickaxe while trying to dig a hole. If the pickaxe strikes with a force of 2000 N and the end of the pickaxe measures
0.02 m by 0.01 m, how much pressure is exerted on the pipe by the pickaxe?

 3. A poorly tied down blimp falls over in a field. If the blimp exerts a downward force of
4000 N over an area of 250 m2, what pressure is put on the ground by the blimp?

 4. A skateboarder lands on all four wheels after riding a railing. If the skateboarder has a weight of 900 N and the area on the bottom of a single wheel is 0.0001 m2, what pressure does the skateboard put on the ground?

 5. The tip of a hypodermic needle is pressed against someone’s skin with a force of 2 N. If the tip of the needle has an area of 0.000 001 m2, what is the pressure exerted on the skin by the needle?

 6. A brick delivery truck parks on a road-side scale that measures 4 m by 6 m. If the brick truck weighs 60 000 N, what pressure does the scale put on the spring below?

 7. A ballet dancer does a pirouette on the tip of his toe. If the dancer has a weight of 580 N and the tip of his ballet shoe measures 0.02 m by 0.01 m, what pressure does his toe exert on the stage?

 8. A custom motorbike designer displays her new creation on a rigid sheet of steel that measures 2.0 m by 1.5 m. If the combined weight of the motorbike and the steel is 7200 N, what pressure is exerted on the ground beneath the steel sheet?

 9. A charity fundraiser fits 12 students into a small car. If the combined weight of the car and students is 1600 kg and the combined area of the wheels touching the ground is 0.08 m2, what is the pressure placed on the ground by the car and students?

10. A swordfish jumps out of the water and the tip of its pointy upper jaw strikes a wooden wall of a fishing boat with 7500 N of force. If the tip of the pointy jaw has an area of 0.0004 m2, what pressure is placed on the part of the wooden wall that is struck by the jaw?