

Nova's Guide to Forces

Learning objective: To understand that forces are pushes or pulls, and how they interact with surfaces.

Read the passage carefully and answer the questions below using full sentences.

Nova the barn owl loves to explore the night sky, but today she is looking at the ground. She wants to know why things move. A force is simply a push or a pull. When you kick a ball, you use a push force to send it flying. When you pull a door handle to open it, you are using a pull force. However, objects do not move forever. Have you ever wondered why a toy car stops on the carpet but zooms across a smooth wooden floor? This is because of a force called friction. Friction happens when two surfaces rub against each other. A rough surface, like a bumpy carpet, has lots of friction. It creates a strong grip that slows the toy car down. A smooth surface, like polished wood, has less friction, so the car can glide much further. Understanding forces helps us move, play, and even keeps our feet safely on the ground as we walk. Nova thinks that learning about forces makes the whole world feel like a giant, exciting puzzle!

Word bank: force · friction · surface · push · pull · grip · motion

1. According to the text, what are the two types of forces mentioned? (2 marks)

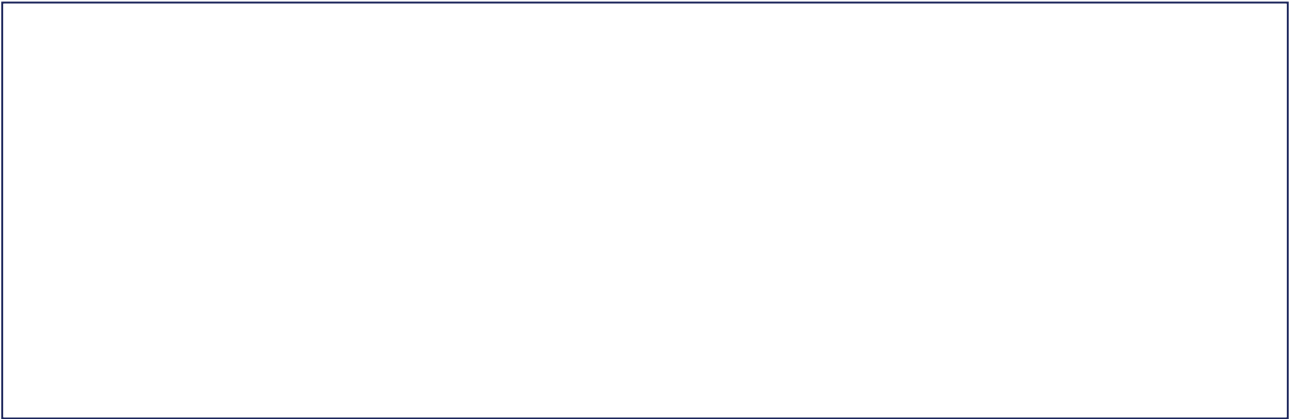
2. What is the name of the force that slows down a toy car on a carpet? (1 mark)

3. Why does a toy car travel further on a smooth wooden floor than on a carpet? (2 marks)

4. What might happen if there was no friction at all when you tried to walk? (2 marks)

5. Do you think it is more useful to have high friction or low friction on the soles of your shoes? Explain your reasoning. (2 marks)

Draw: Draw a picture of Nova the barn owl watching a toy car roll across a wooden floor, and label the forces acting on the car.



Extension challenge: Find three objects in your classroom or home. Predict which surface they will travel furthest on and test your theory by rolling them across different materials.