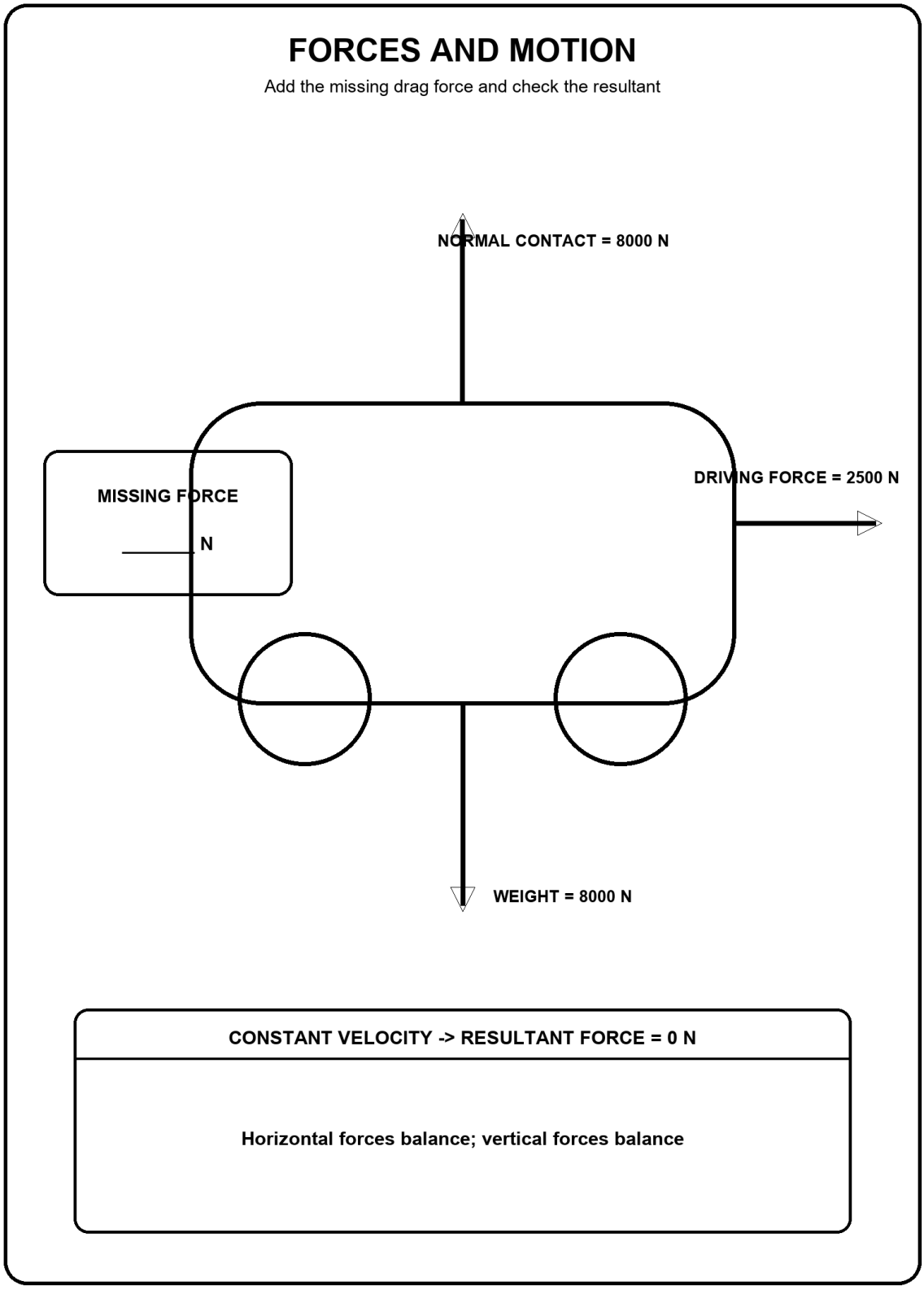
Forces and motion Activity Challenge Colouring Page

KS4 / GCSE / Year 11 - Physics

Add the missing horizontal force and calculate its magnitude for constant velocity.



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Add the missing horizontal force and calculate its magnitude for constant velocity.

Parent & Teacher Guidance

Curriculum focus

Topic: Forces and motion. Develop accurate observation, subject vocabulary and evidence-based explanation. Mapped scope: DfE GCSE subject content and key stage 4 curriculum entitlement.

Before you begin

Review the picture together and ask the learner what they already notice about Forces and motion. Read the activity aloud, explain unfamiliar vocabulary, and agree which details need special attention.

Solo activity

The learner can complete the colouring independently, then use the finished page to explain three details linked to Forces and motion. Encourage accurate colour choices where they carry meaning, but allow creative choices elsewhere.

Group activity

Give pairs or small groups different areas to inspect. Ask them to agree on evidence before colouring, compare their findings, and present one curriculum fact to the class. Finish with a whole-group check against the guidance below.

Questions to guide discussion

What evidence can you see? Which feature is most important and why? How does one part connect to another? What new fact about Forces and motion can you explain using the picture?

Answers and checking

Add drag/air resistance acting left with magnitude 2500 N. It balances the 2500 N driving force, so horizontal resultant is zero. Normal contact 8000 N balances weight 8000 N, so vertical resultant is also zero.

Learning record and next steps

- [ ] Completed the colouring
- [ ] Explained key vocabulary
- [ ] Completed the activity
- [ ] Used visible evidence

Evidence noticed / vocabulary used

Next step: _____