Science

WEEK 8: GRAVITY

Why am I feeling down?

Using what you know about forces, explain to a partner why these toy cars aren't moving.

Vocabulary

gravity | demonstration | procedure | ramp | distance | further | fair

Screenshot

Video link: https://www.youtube.com/watch?v=-SPONJisqmU

Remember this Science Fact:

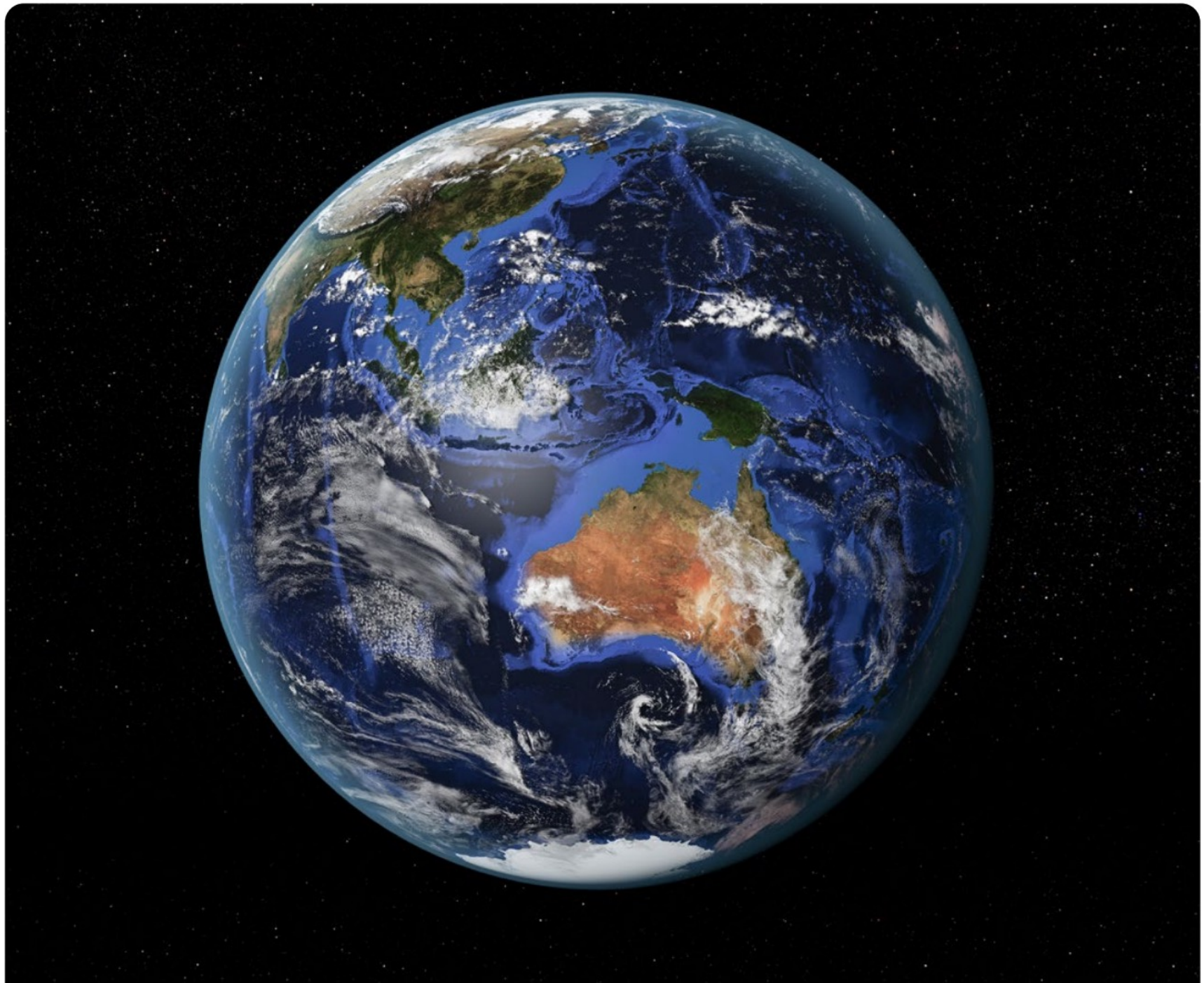
Something that is sitting still will stay still unless a force makes it move.

1 Watch the *Hot Wheels* video then discuss how the cars were launched.

What force do you think made the cars move?

The force that pulled the cars down is called gravity. The Earth's gravity is a force that pulls everything towards the centre of the planet. Everything on Earth is affected by gravity.

2 Talk with a partner about what you think would happen if there was no gravity.



Gravity always pulls, it never pushes. Wherever you are on Earth, in the Northern Hemisphere or the Southern Hemisphere, gravity will feel the same because it pulls you down towards Earth.

3 With your class, talk about what is being pulled towards the Earth in each picture.

- You can use cardboard instead of a plank of wood for your ramp.

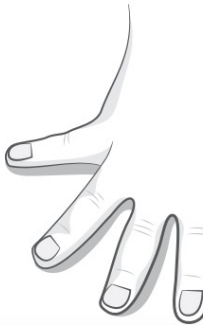
Demonstration

4 Gravity will pull a toy car down a ramp.

You can use a toy car, some books and a ramp to demonstrate it.

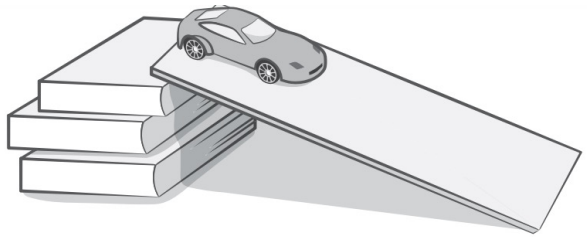
Collect your equipment then follow the procedure.

1. Put one end of the plank on a book.
2. Mark a starting line on the ramp.
3. Hold the car on the line then let it go. Don't push it.
4. Measure the distance the car travelled from the end of the ramp.



Investigation

5 **Question:** How can we use gravity to make the car go further?



Predict: I think the car will go further if _____

_____.

Method: What I will do to test my prediction.

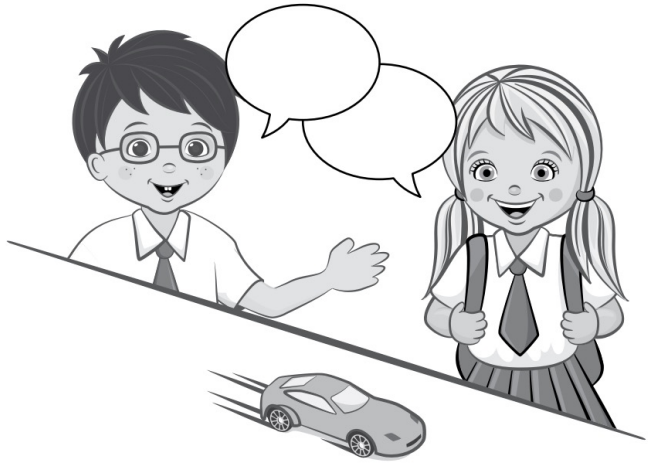
1. _____

2. _____

3. _____

4. _____

Observe: Do your test and talk to a partner about what happened.



Was it a fair test?

- ☐ I used the same car and ramp.
- ☐ I started the car from the same starting line.
- ☐ I didn't push the car.
- ☐ I measured the distance the same way.

If it wasn't a fair test, you will need to repeat your investigation.

Was your prediction right? _____

Think of another way to make the toy car go faster down the ramp (without making the ramp steeper or pushing the car). Try using some blu tack.

Explain: Draw a picture with labels to explain what happened.

Add some arrows to show the direction of the force.