

AMAZING ARCHITECTURE

AMAZING

ROLLER COASTERS



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CHAPTER 1

A SAFE ADVENTURE

Have you ever been on a roller coaster?
The Smiler in England seems to defy
gravity! It has 14 loops.



The Vanish coaster in Japan dives into an underwater tunnel. *Splash!*



Engineers design roller coasters. They follow strict rules. They make sure the rides are safe.

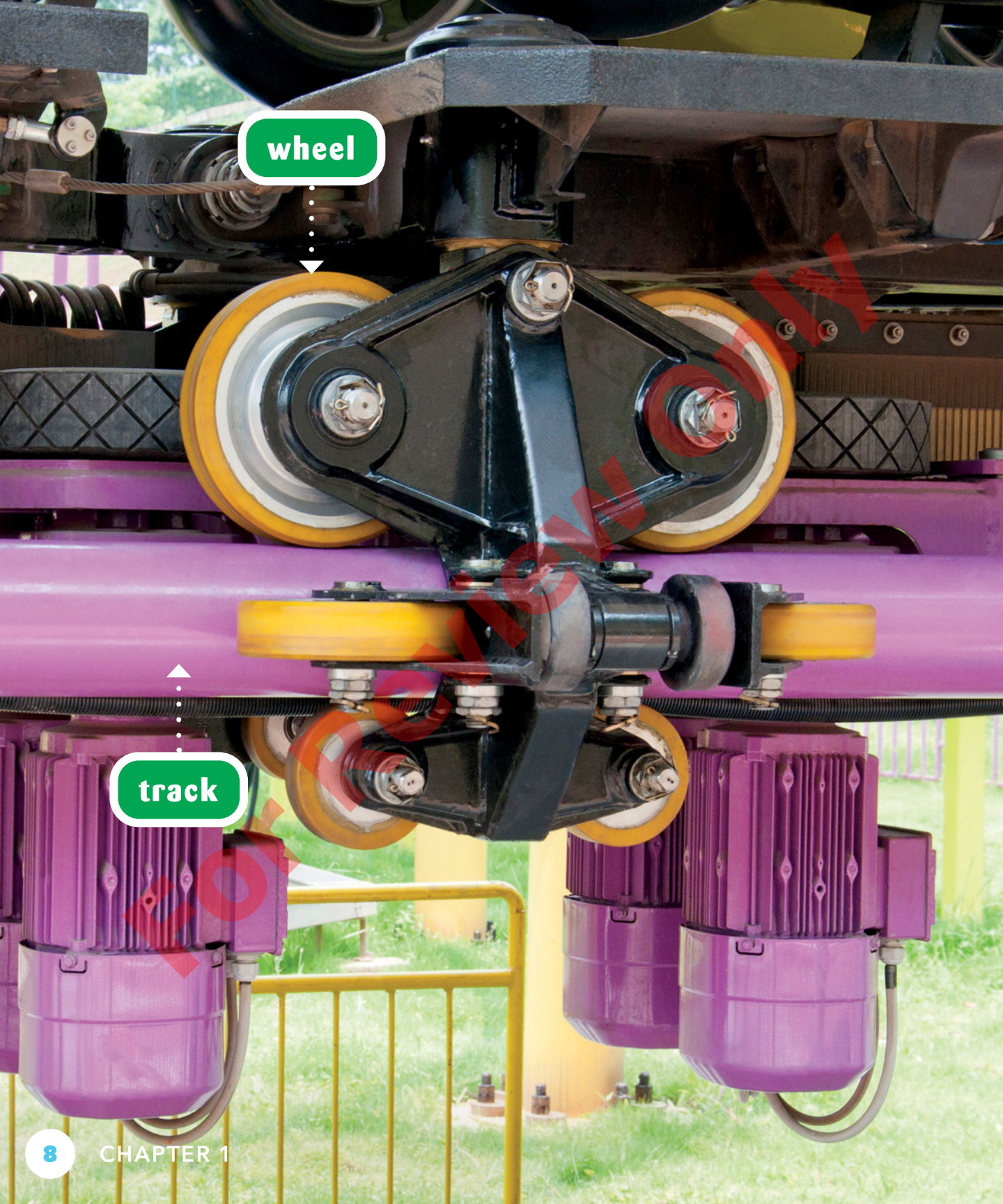
They make digital **models**. These show how the roller coasters will work. Then, construction workers build the coasters.

DID YOU KNOW?

After a coaster is built, sandbags or **dummies** ride it first. They ride in the cars just like people would. This tests if the ride is safe for people.







A detailed close-up photograph of a mechanical assembly, likely part of a conveyor system or a specialized transport mechanism. The assembly features several large, yellow, rubber-tired wheels mounted on a black metal frame. Below the wheels, there are purple, ribbed cylindrical components, possibly actuators or sensors. The entire unit is mounted on a purple metal structure. A red diagonal watermark is visible across the center of the image. A green callout box with the word 'wheel' points to one of the yellow wheels. Another green callout box with the word 'track' points to the purple structure below the wheels. The background shows a grassy area and a yellow fence.

wheel

track



Each roller coaster car has wheels. Some wheels roll on top of the track. Some roll under it. This keeps the car from falling off. **Wheels on the sides control turns.**

How does the **coaster** stop? There are **brakes** on the track. **Sensors** control them. **Brakes** slow the cars **down** for certain parts, like **when** the ride is ending.