

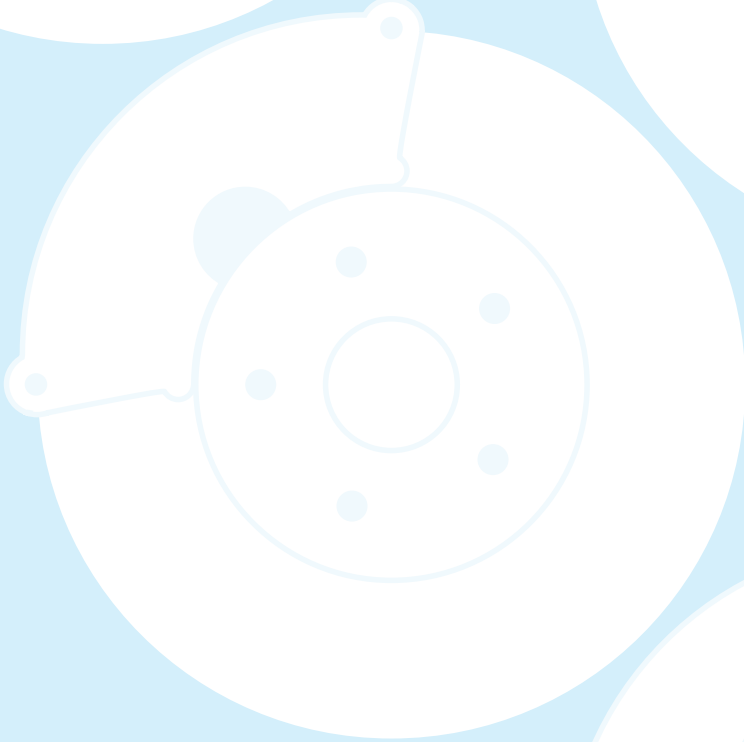
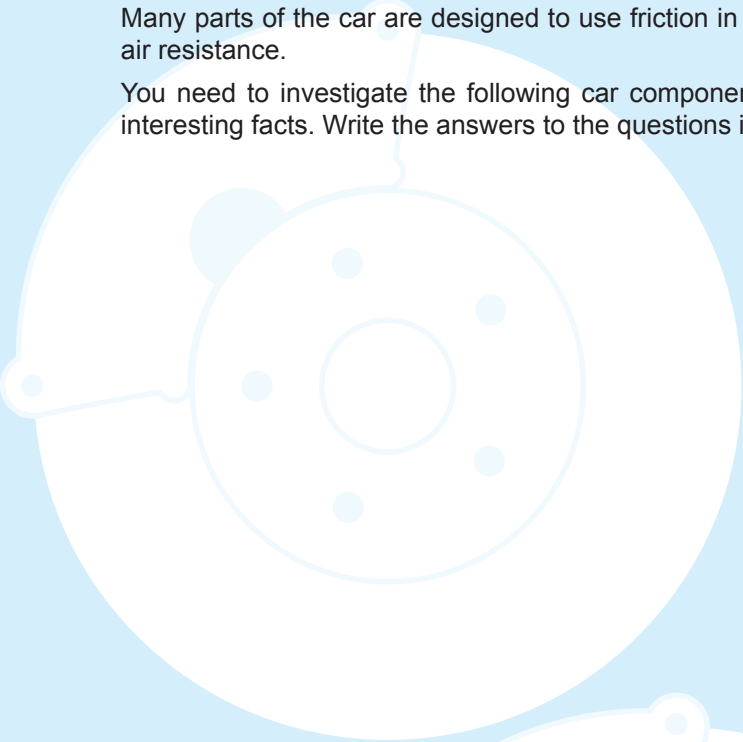


# Research Project: Friction in Cars



Many parts of the car are designed to use friction in some way and other parts are designed to reduce friction and air resistance.

You need to investigate the following car components and find answers to the questions given as well as other interesting facts. Write the answers to the questions inside the car outlines and complete the references list.



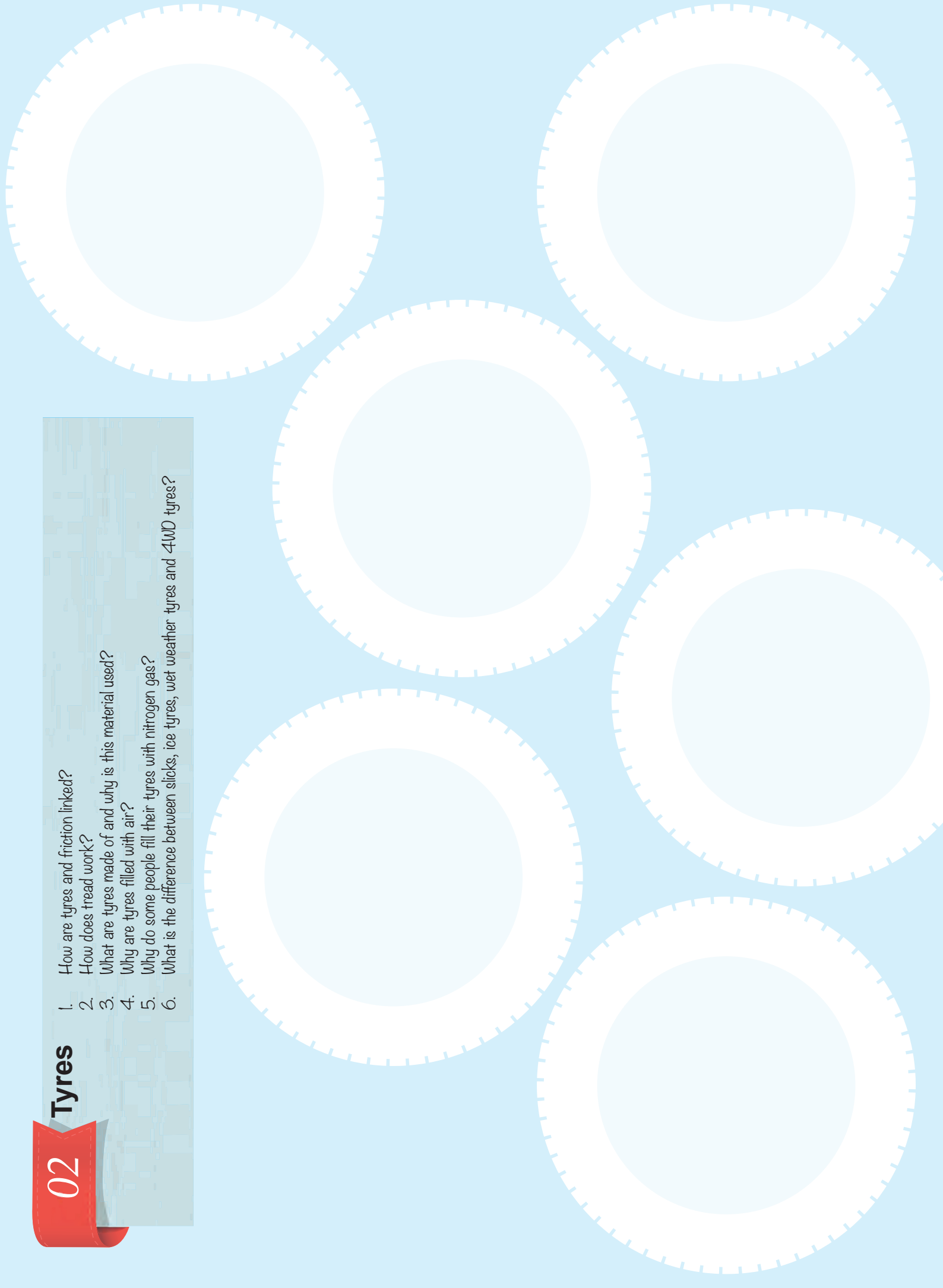
**01 Brakes**

1. How are brakes and friction linked?
2. How do brakes work?
3. What are brake pads made of?
4. What different types of car brakes are there?

## Tyres

02

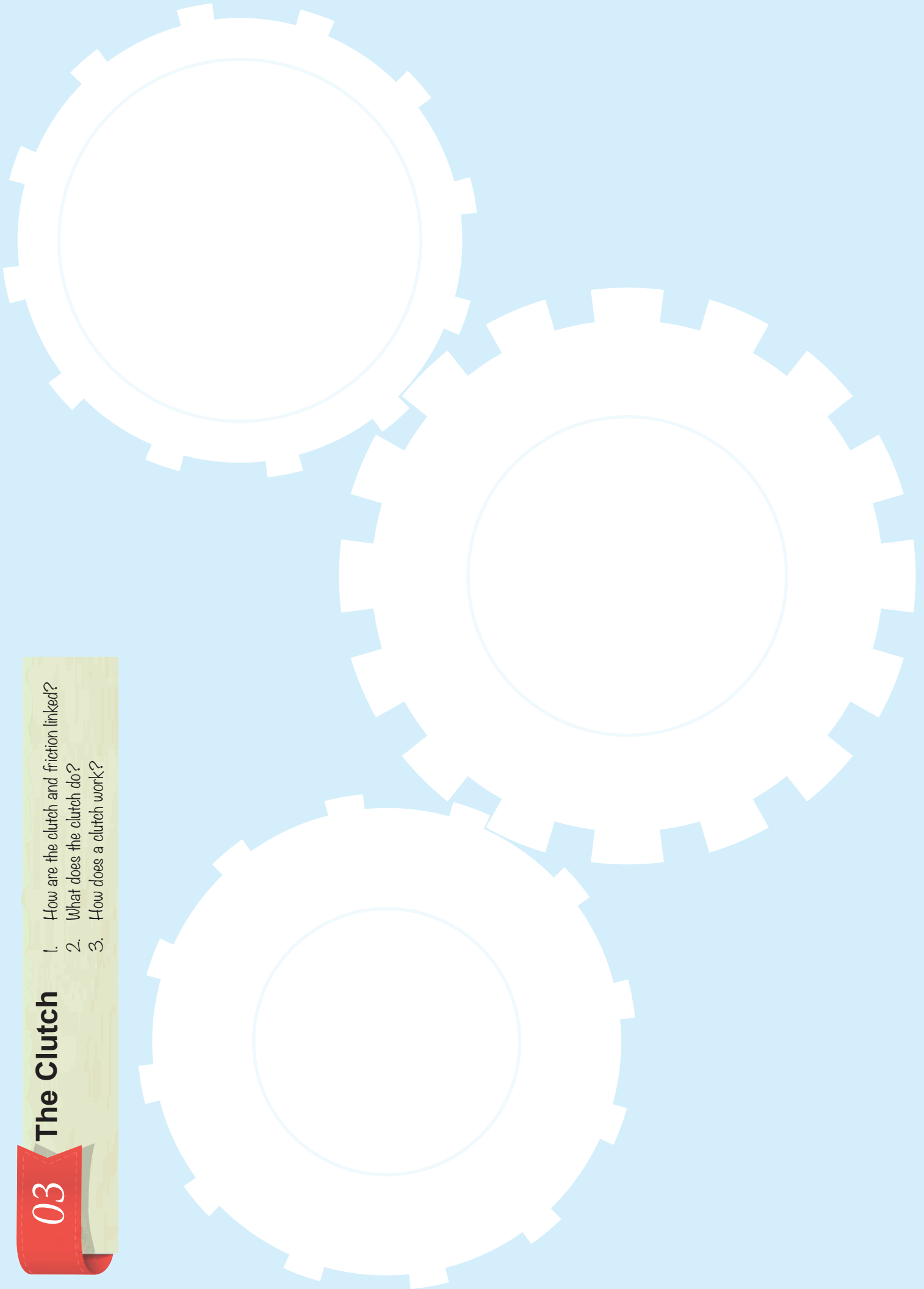
1. How are tyres and friction linked?
2. How does tread work?
3. What are tyres made of and why is this material used?
4. Why are tyres filled with air?
5. Why do some people fill their tyres with nitrogen gas?
6. What is the difference between slicks, ice tyres, wet weather tyres and 4WD tyres?



## 03

**The Clutch**

1. How are the clutch and friction linked?
2. What does the clutch do?
3. How does a clutch work?



04

**Wheels**

1. Why are wheels round?
2. What role do bearings play in a wheel?
3. What link is there between wheel bearings and friction?



05

**Oil in the Engine**

1. What is the link between engine oil and friction?
2. What is engine oil made of?
3. How is engine oil made?
4. What happens if you don't have oil in your engine?



06

### Spoilers & Body Kits

1. What is the link between spoilers, body kits & air resistance?
2. What are spoilers and body kits?
3. What is the function of a spoiler on a car?
4. What is the function of a body kit on a car?



07

**Other Parts**

1. What other parts of the car are related to friction or air resistance?
2. How do these work to either increase or decrease friction or air resistance?



## References

List all the websites and books that you used to get your information below. Write the name and author of any books and the name of any websites and their web address.

You may find the following websites useful but there are tonnes of others you can also use.

[www.formula1-dictionary.net/](http://www.formula1-dictionary.net/)

[www.bbc.co.uk/education/clips/z462tfr](http://www.bbc.co.uk/education/clips/z462tfr)

[en.wikipedia.org/wiki/Tread](http://en.wikipedia.org/wiki/Tread)

[auto.howstuffworks.com/tire.htm](http://auto.howstuffworks.com/tire.htm)

[auto.howstuffworks.com/clutch.htm](http://auto.howstuffworks.com/clutch.htm)

[www.theaa.com/motoring\\_advice/safety/filling-tyres-with-nitrogen.html](http://www.theaa.com/motoring_advice/safety/filling-tyres-with-nitrogen.html)