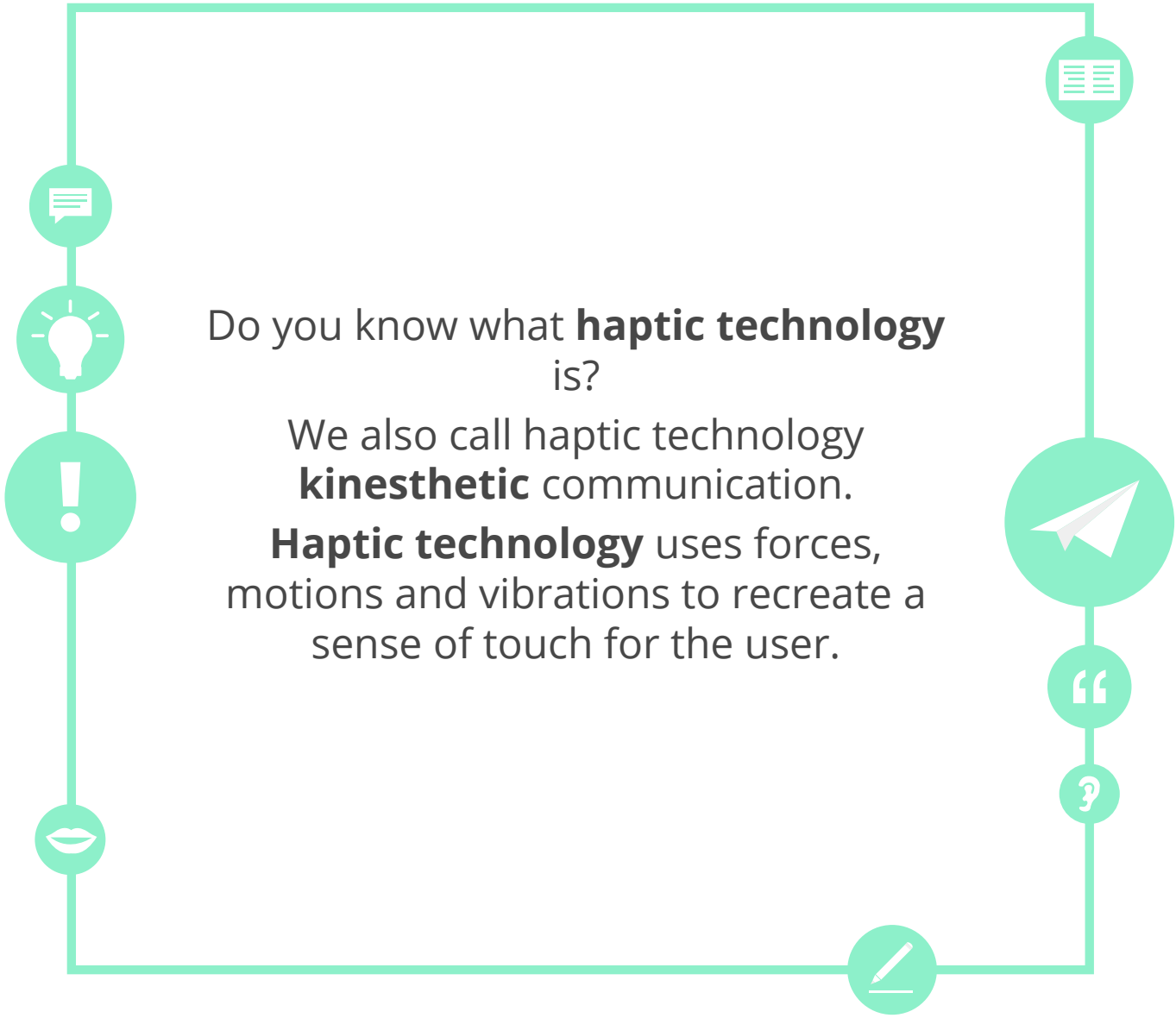
Haptic technology

READING

LEVEL	NUMBER	LANGUAGE
Advanced	C1_4025R_EN	English

Goals

- Can read and understand a technical text on haptic technology.
- Can explain my own views on haptics and the future of this technology in depth.



Do you know what **haptic technology** is?

We also call haptic technology **kinesthetic** communication.

Haptic technology uses forces, motions and vibrations to recreate a sense of touch for the user.

Technology in your daily life

How important is technology in your daily life?
How often do you use technology and for what?

at work

at home with family and friends

for making purchases or performing household tasks

entertainment and leisure

Haptic technology and you

Brainstorm all the ways that haptic technology is used that you know of.

What is your personal experience with this technology?

Virtual reality and haptic technology

There are some conflicting views when it comes to virtual reality technology, which makes use of haptic technology. Read the two opposing opinions below. Which is closest to your own point of view? What do you think? Is virtual reality technology exciting or frightening? Why?

> "I love the idea of even better virtual reality technology! I play a lot of computer games and as the technology gets better, the experience gets even more exciting. It feels closer and closer to real life! Sounds, sensations, and vibrations all add to the experience."

> "I find virtual reality a bit pointless. I hate the idea and want nothing to do with it. It all seems really strange to me; why would people want to simulate reality when they could just walk out their front door and actually take part in real life?"

Haptic technology

People often think haptic technology is something obscure that is used only by tech enthusiasts, but in actual fact you probably already use haptic technology on a daily basis. Haptic technology, **in a nutshell**, is technology that recreates a sense of touch for the user by utilising motions, forces or vibrations. If you own any kind of smartphone, then you're actually already familiar with haptic technology – this same technology is used in the touch screens of most **mainstream** phones.

Haptic technology

Touch screens are essentially just flat plates of glass, but it's haptic technology that allows the user to *feel* the keys, and to input information into the device. Think about it: the buttons you press on your smartphone aren't actually divided and shaped like conventional buttons, instead the buttons are virtual. It is vibration, or in other words haptic technology, that simulates the tactile feel of a button for the user.

Haptic technology

Smartphones these days are ubiquitous; for most people it's now hard to imagine functioning in everyday life without these useful devices. As a result of the rise in use of smartphones, haptic technology has become a bit more mainstream. **Prior to** the advent of smartphones, haptic technology was used more in niche areas of interest such as gaming.

Haptic technology

For many years, virtual game designers have been using haptic technology to **enhance** the user experience, for example to simulate force feedback in joysticks, steering wheels and flight sticks. For gaming enthusiasts, the current advances in haptic technology are especially exciting. Thanks to haptic technology, virtual reality games and experiences are becoming extremely sophisticated. Haptic technology **lulls** the human brain into a false sense of security and makes us believe that there is something there which in reality, is not. A kind of 21st century magic, **so to speak**. As this technology becomes more advanced, gaming experiences are becoming more and more realistic. Nowadays, the prospect of achieving full touch simulation no longer seems a distant dream.

Give a brief definition of each word or phrase below based on its context in the text

in a nutshell

so to speak

mainstream

prior to

to enhance

to lull

Old school or keeping up with the times?

Do you remember when you got your first mobile phone?

What was it like?

What about your first smartphone?

How have mobile phones changed the way we live our lives?

What are the pros and cons of this?

The five senses

Technology these days mainly covers the senses sight and hearing. With haptic technology, we are moving towards advanced touch technology. What about the other two: taste and smell? What kind of future technology do you see for them?

Stranded on a desert island

Oh no! You are being sent to live on a deserted island and you are only allowed to bring ten things with you. The good news is that there is internet on the island. But is technology important out there? What would you bring and why?

A spanner in the works

Good and bad news, your friend is coming to the desert island with you, but you are now only allowed to take 6 things between you! The things your friend wants to take are listed below, do you agree with their choices? Debate with your friend to try to compromise on the six things you will take!

radio	games console	teddy bear
pet dog	a year supply of chocolate	shampoo

Haptic technology

What does the **future hold** for haptic technology? Researchers hope that some day you might be able to use haptic technology in video conference calls in order to **simulate** the presence of another person. Perhaps you might even be able to shake the hand of your new colleague in Australia, even if you yourself are in an office on the other side of the globe! The dream is to be able to make these simulated experiences and encounters as close to IRL – that is, *in real life* – as possible. Gone are the days when these kind of ideas were confined merely to dramatic science fiction movies. There is still quite some way to go before we get there, but research is growing gradually closer to making such experiences a reality.

Haptic technology

There is also research going into the educational **applications** of haptic technology. In recent years, special gloves have been built which can teach the wearer a simple piano tune in under an hour. Similar studies have been carried out with gloves and a game program which can teach the user to type the Braille alphabet in a given amount of time. This is all carried out through passive learning, whereby the vibrations guide the fingers into certain positions. Through repetition of certain actions in a planned-out process, the necessary movements are **consigned** to our **muscle memory**. Who knows where this technology will take us in the future? What is understood, however, is that haptic technology has the potential to **revolutionise** the way we learn.

Use the words and phrases below to give a short summary of the information in the text so far

to simulate

what the future holds

to consign

application

to revolutionise

muscle memory

Can you imagine?

What are your initial reactions to the potential of haptic technology?

Can you imagine a future where you will be able to shake the hand of a colleague who is in another place? If this is one day possible, what do you think the next steps are?

Thinking about education

The text refers to the educational applications of haptic technology: 'through repetition of certain actions in a planned-out process, the necessary movements are consigned to our muscle memory.' Thinking about this, discuss the questions below.

1. Are you surprised by the educational potential of haptic technology?
2. How do you think motor skills like writing, dancing and playing music might be taught in 20 years?
3. How will schools look in 20 years? Do you think teachers can ever be replaced by technology?

Haptic technology

However, not everyone is so excited about these advances in technology. In recent years there has been a bit of a technology **backlash**. While most people would agree that much technological advancement is for the **greater good** of humanity, some people are also concerned that we are losing touch with reality, and that haptic technology is in part responsible for this. **Sceptics** posit that we will soon become a generation of **couch potatoes**, unable to move and unable even to communicate effectively, all thanks to our increasing reliance on technology. Rather than being excited at the prospect of being able to simulate experiences that are close to IRL, critics argue that this is in fact a rather depressing state of affairs and that by losing touch with reality in this way, we also lose some kind of essential human self. Wouldn't we be better investing our money into medical research, or tackling climate change so that there is still a real world for us to see and engage with and so that we are healthy enough to be able to do so?

Vocabulary review

Look at the words and phrases from the text on the cards below. Check your understanding of them with your teacher. Can you use each in a sentence of your own?

greater good

sceptic

backlash

couch potato

A backlash

The text comments on the backlash against technology. Can you think of any other changes and developments in society over the past 100 years that have resulted in a backlash?

A new kind of vegetable

Think about the educational applications of haptic technology in relation to the quote below. What do you think? Will this kind of education help to develop our brains, or is it too passive? Will we become zombies passively learning but not thinking?

> Sceptics posit that we will soon become a generation of couch potatoes, unable to move and unable even to communicate effectively, all thanks to our increasing reliance on technology.

A debate about technology

Read the two opposing views below. Which is closest to your own and why? What do you think: are we losing touch with reality as technology advances? Are we becoming ruder? And is spending money on technology a mistake?

I am so grateful for the technological advances of the past 50 years, and I just can't understand anyone who thinks otherwise. People are always scared of change, but they need to recognise the enormous advances we have been able to make thanks to technology!

I acknowledge that in some ways, we have benefitted – but in others, we are losing out in a significant way. Twenty years ago people actually spoke to one another, these days you're lucky if someone even looks up from their smartphones when they bump into you!

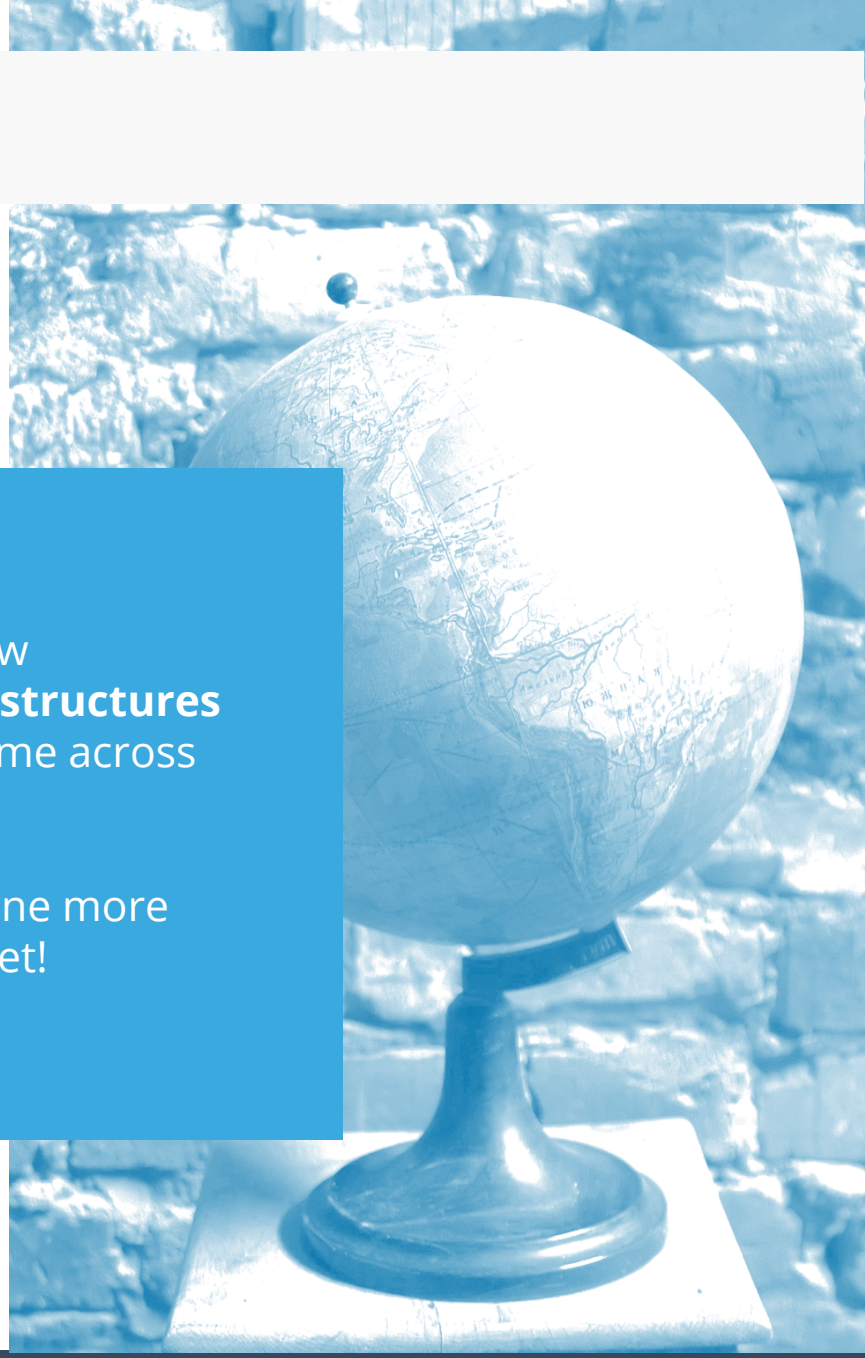
I think you're exaggerating. People have always been rude, and have always sought out distractions. It's untrue to say, however, that we no longer talk to one another! Technological advances do not mean we lose touch with reality, but rather that we are better able to engage with it, and with each other.

I have to disagree with you there. What has technology given us? We have become ruder, more ignorant and less communicative. We do nothing in real life anymore, just stare at screens. An utter waste of our money and time!

The big question

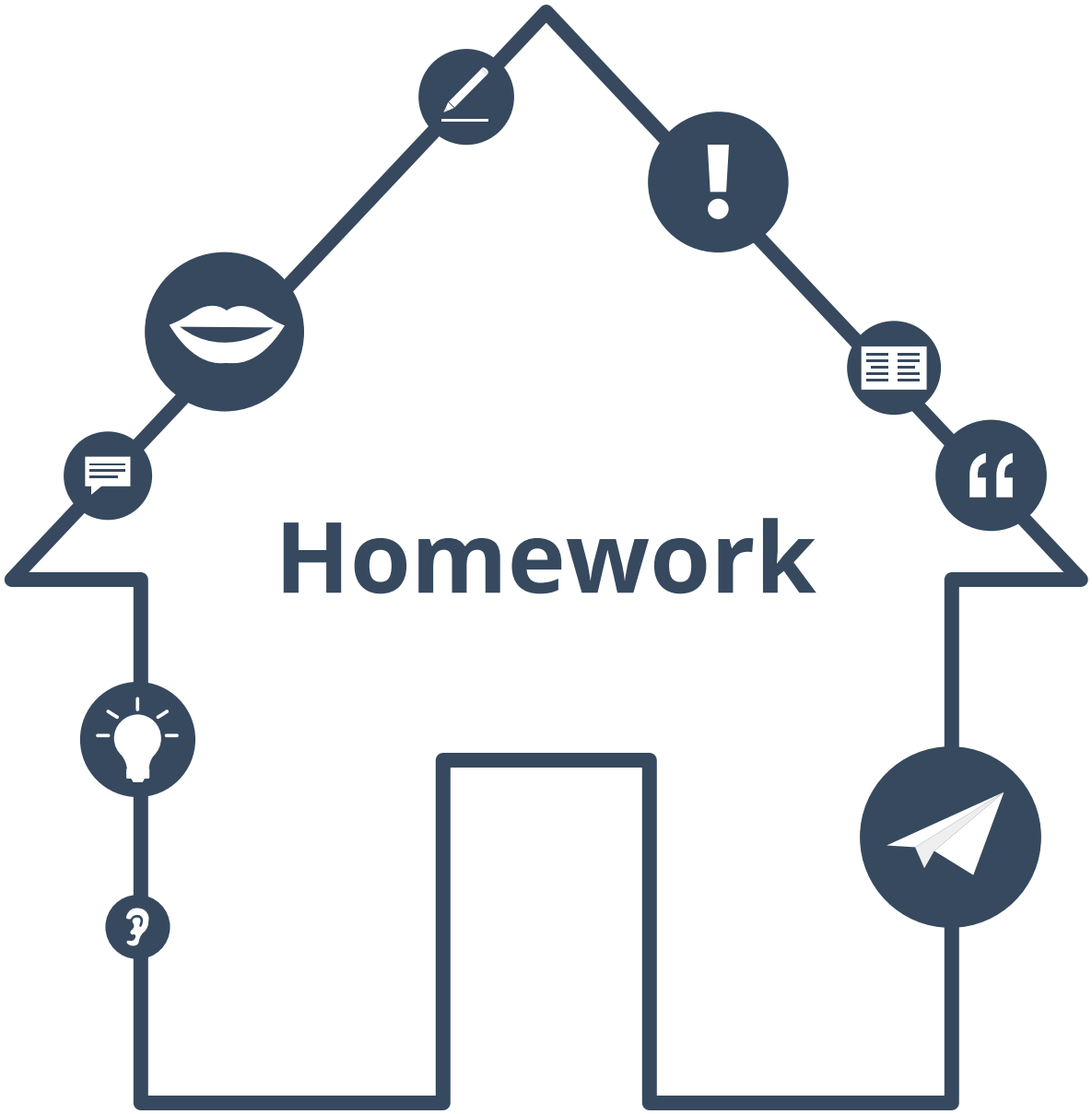
Do you think technology such as haptic technology deserves research funding? Think about the opinions on the previous slide and your discussion throughout the lesson and debate this question with your teacher.

Reflect on this lesson



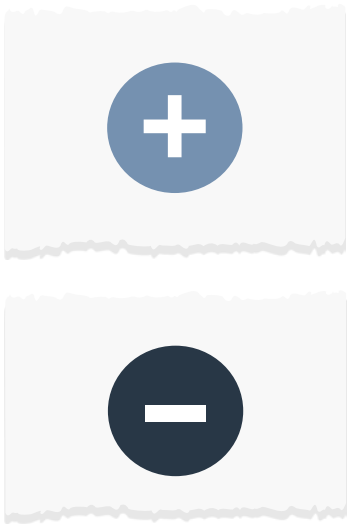
Take a moment to review any new **vocabulary**, **phrases**, **language structures** or **grammar points** you have come across for the first time in this lesson.

Review them with your teacher one more time to make sure you don't forget!


Homework

Homework evaluation activity

How did you find this lesson? Which parts were most challenging? Which were easiest? Give your feedback here!



Homework writing activity

What is haptic technology? Give a brief description of this kind of technology and give your opinion on the potential benefits this technology might offer to society.

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