



ft. Alisha Lehmann

# SCIENCE & TECHNOLOGY

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# WELCOME

Ever wondered how famous football players like Alisha Lehmann move so realistically in your favourite video games?

Today, we'll explore a cool technology called **motion capture**, discuss why it's important to stay active, and understand how real-life movement powers the digital world.

81  
RF



**Lehmann**

TEM	SCH	PAS	DRI	DEF	PHY
79	76	74	82	57	70

# THE KEY STEPS TO CAPTURE

## Part one

Video game creators use a special technology called motion capture, or MoCap, to make characters move just like they do in real life.

They start by filming real players with smart cameras that have a special job to watch their elbows, knees, and other parts of the body that bend and move a lot when we play football...

# EXPLORING HUMAN MOVEMENT

## ORGANISATION

Stickers or tape

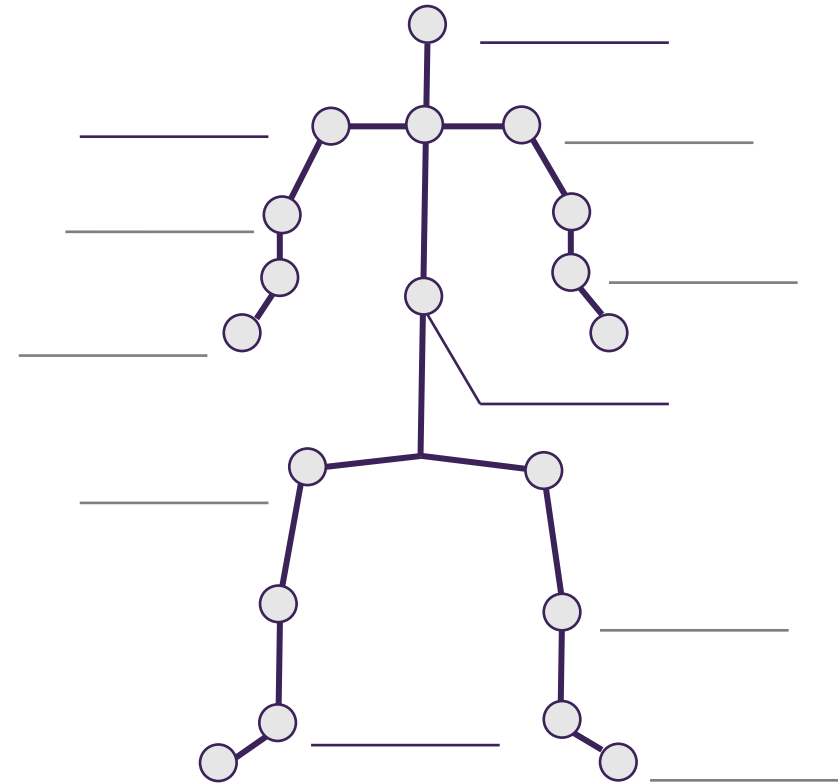
## EXERCISE

Our bodies move in amazing ways, thanks to our joints. Can you identify these key joints on a skeleton?

Ankle, elbow, fingers, head, hip, knee, neck, shoulder, spine, toes, wrists

## ACTIVITY

Can you work with a partner to use stickers or tape to mark these joints on yourself, mirroring the MoCap process. Can you then make football motions like passing or dribbling and identify which joints move the most?



# THE KEY STEPS TO CAPTURE

## Part two

The smart cameras talk to computers and tell them all about the player's awesome moves.

The computers are great learners; they study the movements and teach the virtual version of your favourite player to do the exact same moves...

# LEARNING THROUGH MIMICRY

## ORGANISATION

Space for children to move  
Footballs (nice to have)

## ACTIVITY

Pair up and take turns making football moves. Your partner must copy your moves exactly, just like the computer does in motion capture!

# THE KEY STEPS TO CAPTURE

## Part three

After capturing all those cool movements, it's time to bring a video game character to life.

Elsewhere in the studio, top designers have been creating the virtual avatar of each player, designing their face, body and team kits.

The movements recorded then get mapped to the character and that's how game developers can make the characters move in the game.

# DESIGN YOUR FOOTBALL AVATAR

## ORGANISATION

Paper and pens/pencil

## ACTIVITY

Design your own avatar for a football game. Give yourself a cool football kit and a power pose!





**HAVE FUN!**