

# EXTRA TIME

## Learning Resources

### Day 10

### STEM – Design & Materials



FOUNDATION

# GET ACTIVE WITH CHELSEA FC

Extra Time Learning Resources  
Day 10: STEM – Design & Materials

## Striker Friday Tammy Abraham & Bethany England

### Focus: Balance

- Get a ball.
- Stand on one leg with your other foot on the ball.
- Now bend down and pick the ball up and raise it above your head, keeping one leg in the air. •
- Put the ball back down and stand up with your foot back on the ball in the start position.
- That is 1 rep. Repeat 10 times, try not to let your leg touch the floor.
- Change legs and repeat.
- Competition – how many can you do until your leg hits the floor?

### Manager's Challenge



What year was Tammy born?

What year was Bethany born?

What is Bethany & Tammy's squad number?

Which position do Bethany & Tammy play?

#### FUN FACT

Tammy signed for Chelsea as an Under-8, back in 2005!



# GET FOCUSSED WITH CHELSEA FC

## Challenge: Material Science

There are many different materials, all around us! The chairs you sit on at school will be made from plastic, and the cutlery you use to eat your school dinners could be made from plastic or metal. Even right down to the clothes that you are wearing – why don't you check the label to see what it is made from?

We are going to look at the Chelsea shirts through the years, look at their designs, and see how they have changed!

This is a shirt that Chelsea FC wore in the 1970s – around 50 years ago.

### SLEEVES

The shirts only came in long sleeves – there was no option for short sleeves.

### V-NECK

Most shirts in the 70s came in a V-Neck style, as this was the fashion of the time.

### COLOUR

All kits were made in one solid colour, without any patterns like modern kits, because it was deemed the solid colours looked better under floodlights!

### MATERIAL

The shirt was made from cotton. The shirts were renowned for being heavy to wear – especially if it rained, and players would often complain that it weighed them down when trying to run.



## Manager's Challenge



Would you have liked to wear this shirt when playing football? Write your reasons below – considering all of the advantages and disadvantages of wearing a shirt like this.

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## Challenge: Material Science

Material science is the study of all materials, from those we see and use every day – such as plastic, glass, and metal, as well as softer materials that we wear, like cotton and polyester!

This is a home shirt that Chelsea FC wear for the 2019/20 season.

### SLEEVES

It is now deemed that short sleeves are better for footballers to wear as it creates less drag when running.

### COLOUR

Kits now come in a variety of colours, including stripes and hoops. On our home kit, the pattern is taken from different parts of our Stamford Bridge stadium!



### V-NECK

The neck is now moulded as much to people's body shape as possible.

### MATERIAL

The shirt is now made from an extremely lightweight polyester, so that it doesn't weigh players down, even when wet. Polyester is also far cheaper to use than cotton, more durable, and better for the environment. Did you know that it takes approximately 2,700 litres of water to make just one cotton t-shirt?!

## Manager's Challenge



Would you like to wear this shirt when playing football? Write your reasons below – considering all of the advantages and disadvantages of wearing a shirt like this.



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## Challenge: Football Boots

Look at these football boots!



Can you describe the similarities and differences below? You might want to think about materials, weight, colours and laces.

## Tammy & Bethany's Striker Quiz!

How many goals has Tammy scored so far for Chelsea in all competitions for the 2019/20 season?

A. 13

B. 14

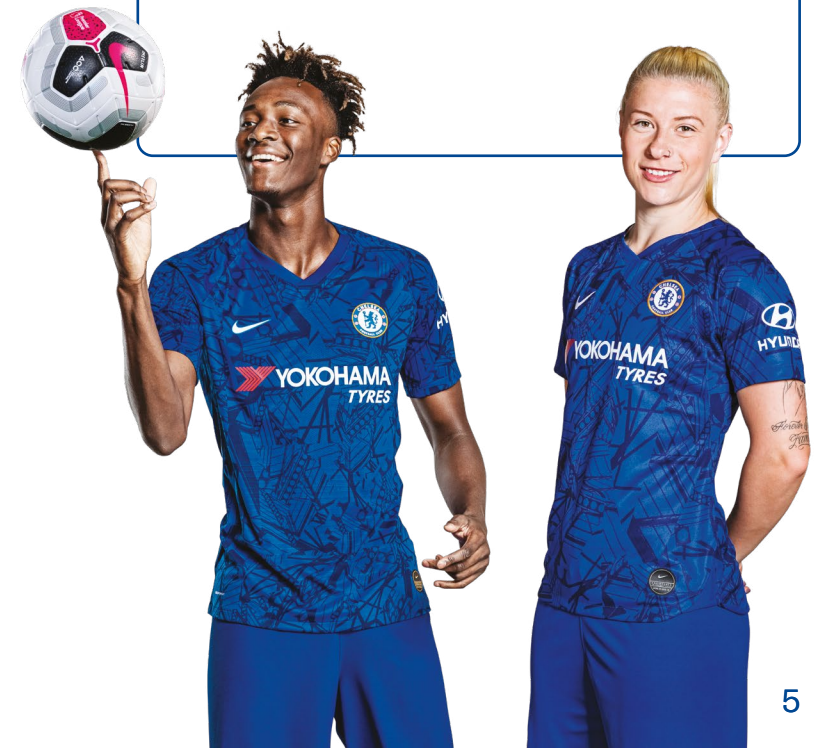
C. 15

How many goals has Bethany scored so far for Chelsea in all competitions for the 2019/20 season?

A. 19

B. 20

C. 21



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## Challenge: Be the designer

Over to you! We want you to design your own pair of football boots, thinking about all of the things that you have learnt so far and draw them below. Use the list below to explain your choices:

Material: (EG. Leather/plastic)

Colour:

Which studs have you chosen?

Do they have laces?

Draw your boot here

## Manager's Challenge



Can you design your own football boot on Nike's website?

You will need a computer and the link below.

Think carefully before you start.

<https://nikebyyou.nike.com/mercurialbyyou/?piid=10000556&p-bid=773074544>

You could also design a special boot for one of the strikers in today's workbook.



# DAILY THINKING CHALLENGE

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## Striker Friday Tammy Abraham & Bethany England

How would you describe a rainbow to someone?  
Write down your thoughts below.

Share your ideas with someone else and  
see if they have the same.

### Manager's Challenge



What's your favourite colour?  
Tell us why you like it.

What other colours would you  
add to your own rainbow?

Draw or create your own  
rainbow and show us what  
you have drawn!



#### FUN FACT

Bethany scored 22 goals in the 2018/19 WSL season, finishing as Chelsea's top goalscorer!

## Extra Time Challenge

In many communities across the world, children like Akim and Lim (pictured opposite) come up with ingenious ways to play football and other games – from making footballs with tape and pieces of fabric, to building toys out of used bottles!

How would you make your own football using recyclable materials found at home?

### What to use:

- Rubber bands
- Plastic bags
- Used crisp packets
- Newspapers
- Tape
- Anything else you find around the house!

### Manager's Challenge



Are your skills up to the challenge?

- What kind of football can you create only using 3 different materials?
- Who can create a 'recyclable football' and volley it into a bin to score?
- Who can get the most keepy uppies in your household using your 'recyclable football'?
- Can you do the ultimate 'around the world' keepy uppy challenge? Volley to knee to chest to shoulder to head and into the bin to score!

Upload any photos or videos of yourself completing these challenges to Twitter and tag **@CFCFoundation** and **@PlanUK** using the **#FootballForChange**.



Chelsea FC and global charity partner, Plan International launched Football for Change in December to help children play football, learn and thrive.

By donating footballs and kit to communities across the world, we're helping children from Asia to Africa play the game we all love!

For more information about Football for Change visit [plan-uk.org/footballforchange](https://plan-uk.org/footballforchange)