Harper Adams University

Food Matters

A degree that matters

Reach Out FOOD FOR THE FUTURE

How to use this pack

What is included?

This pack includes:

- 2 x research projects that are taking or have taken place at Harper Adams University
- 4 activities to be completed

If food is something you love, this pack will give you an opportunity to see how many jobs are created in getting food from the fields to the supermarket shelves. It will also allow you to explore the food pyramid in knowing how much your body needs to keep it healthy.

Some sections of this pack will require you to have the internet. We would recommend parental supervision when searching the internet to support with the activities.

To complete the pack you will need some paper, a pen and coloured pens or pencils!

Crest Awards

The activities in this pack have been designed so they can be counted towards a Superstar CREST award. The awards are fun and easy to complete and you will get a certificate and badge from the British Science Association, which is something wonderful to show off to your teachers and school friends when you go back to school. To get the full award students need to complete 8 x 1-hour challenges. We will provide more than 8 fun activities for you to choose from across our packs. Once completed, just send evidence of your completed work to Harper Adams University (schoolsliasion@harper-adams.ac.uk) for verification. Harper will then submit and fund the award to CREST for certification.

Curriculum Links:

The following pack has been put together with the national curriculum in mind. The following activities and elements of this pack are linked to core national subjects such as reading and literacy skills, mathematics, and science.

Some links are around science, increasing scientific knowledge and conceptual understanding, nature and processes.

An introduction to Food Science and Food Technology

Food science looks into the physical, biological, and chemical makeup of food; and the ways in which food is processed.

Whereas, food technology is the use of the information generated by food science in looking into the selection, preservation, processing, packaging and distribution, as it effects the consumption of safe food.

This means every single item of food and drink that you buy in a supermarket comes to us through a food supply chain, from the farm to the food on your plate. It has been influenced by a food scientist along the way, as they are trying to make our food and drinks last as long as possible before going off or having an awful taste.

There are currently 3.2 million people working in the food and drink industry in more than 100,000 locations across the UK - not to mention the global opportunities.

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CREST AWARDS

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Research

Milk for baristas

Over 20,000 UK dairy farms have closed in the last 20 years. In 2015, over 700 new coffee shops opened, with a turnover of £7.9 billion. Agri-food Marketing with Business graduate Joe Towers responded by introducing a new type of milk for baristas that's given a new lease of life to his family's dairy farm.

Working with a London-based barista, Joe discovered a new market for the right type of milk to compliment speciality coffee. He introduced a new herd of Jersey cows to the family farm and the result was a milk with more protein and fat that worked perfectly for baristas.

With his family's help (including his brother a fellow Harper Adams graduate, Edward, who runs the farm) Joe created a new brand for the milk. The Towers now sell more than 20,000 litres a week to coffee shops across London via their partner, Allan Reeder, under the brand Brades Farm Barista Milk. The family is also working with researchers to see how the diets of their Jersey cows affect the taste and quality of their new milk.

Glossary (Key terms)

Dairy farmer	A farm that produces milk or milk products
Agri-food	The commercial production of food by farming
Baristas	A person who serves in a coffee bar

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Mission ImPULSEible

Final year BSc (Hons) Food and Consumer Studies student Charlotte Reynolds wanted to combine her passion for cutting edge innovation with the 'International Year of Pulses' (IYP) to create a new product for her dissertation.

She considered many pulses for this project, and with over 18,000 species the possibilities were plentiful. However, through extensive research, it became apparent that whilst lupins were considered a sustainable pulse with brilliant nutritional credentials, little had been documented about their use to improve public health. It was also interesting to discover that statistics on lupins within the UK agricultural industry go unrecorded, essentially making it a hidden crop. Lupins appeared to be the pulse with great potential, indicating a gap in the market to create something truly original.

Combining the IYP initiative and current UK market trends and demands for plant-based dietary foods, Charlotte created Blooming Food's lupin crisps. Blooming Food's lupin crisps are an innovative, uncomplicated and appetising snack, which are rich in protein and low in fat and calories. This makes them very appealing to the increasingly health conscious consumers.

Whilst Charlotte trawled through information to find sources for her project, she saw Pulse Canada's 'Mission ImPULSEible' new product competition. She emailed to ask whether she would be eligible to enter and they pointed her to the Global Pulse Confederation's #LovePulses worldwide competition.

"I felt anxious about entering because I believed the odds of me winning against entrants from potentially 193 countries was practically non-existent. It was my project supervisor Lorna White that encouraged me to enter by saying that participation in the event would be great to declare on my CV whether I got placed or not.

Glossary (Key terms)

Innovation	A new idea or product
Initiative	To act or take charge before others do
Credentials	A quality
Appetising	Stimulating one's appetite

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CREST AWARDS

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A few weeks later I received an email asking if I would be willing to give a talk at Food Matters Live due to my success in the competition. It was due to this email that I indirectly found out I had won first prize as the official email had gone into my spam folder!''

It was a complete shock, which is still only beginning to sink in.

''The prize included a trip to the Global Pulse Convention in Cesme, Turkey, which took place in May. There I will receive my award which will be presented by Dr Solh, Director General of ICARDA and Head of the Jury Panel for the Virtual Competition''.

Charlotte then travelled to Chicago to the Institute of Food Technology, one of the largest food exhibitions where the latest global food trends, and the products and innovations designed to address them, are on display.

The crisps she created will be showcased at the exhibition which has over 23,000 attendees. It is a great opportunity to get the product and brand known.

Blooming Food has far exceeded her original objectives in producing a successful dissertation. It has evolved into an on-trend, widely appealing and commercially viable product.

Charlotte hopes to launch Blooming Food as a business after graduating. She wants to get her lupin crisps into retailers across the UK and even internationally. This would show how pulses are not only economical and sustainable, but how they also have the ability to increase public health whilst addressing future food security concerns, all in a delicious snack.

*Do not eat wild Lupins!
Most Lupins are poisonous apart from two varities; Lupinus albus and Lupinus angustifolias.

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Glossary (Key terms)

Conscious	Aware of your surroundings
Anxious	Feeling worried/nervous
Objective	A goal
Graduating	Finishing university

Activity 1
What did you have for breakfast?

Example: Eggs on toast

Where did your breakfast come from?

Example: Eggs from a poultry farm and the bread from a bakery which grain came from an arable farmer.

Activity

Activity 2
Food supply chains

A food supply chain is the process that describes how our food from a farm ends up on our tables. The processes consist of production, processing, distribution, consumption and disposal.

Use this space below to draw a supply chain of a food product that you had for breakfast.

You will need:

Coloured pencils

Activity 3

Half the world to eat your breakfast

You will need:

2 coloured pens

1 piece of paper

Click on the above picture to play the video

How many jobs can you count to get our breakfast onto the table? _____

1. Fold a piece of paper in half lengthways and open up the paper
2. On the right hand side of the fold, list all the jobs/careers involved in the video

	Jobs/Careers
	e.g. Farmer

Activity 3 - Continued

1. Change pen colour
2. On the left hand side of the fold, list any university courses involved in the video that match the job/careers on the right hand side

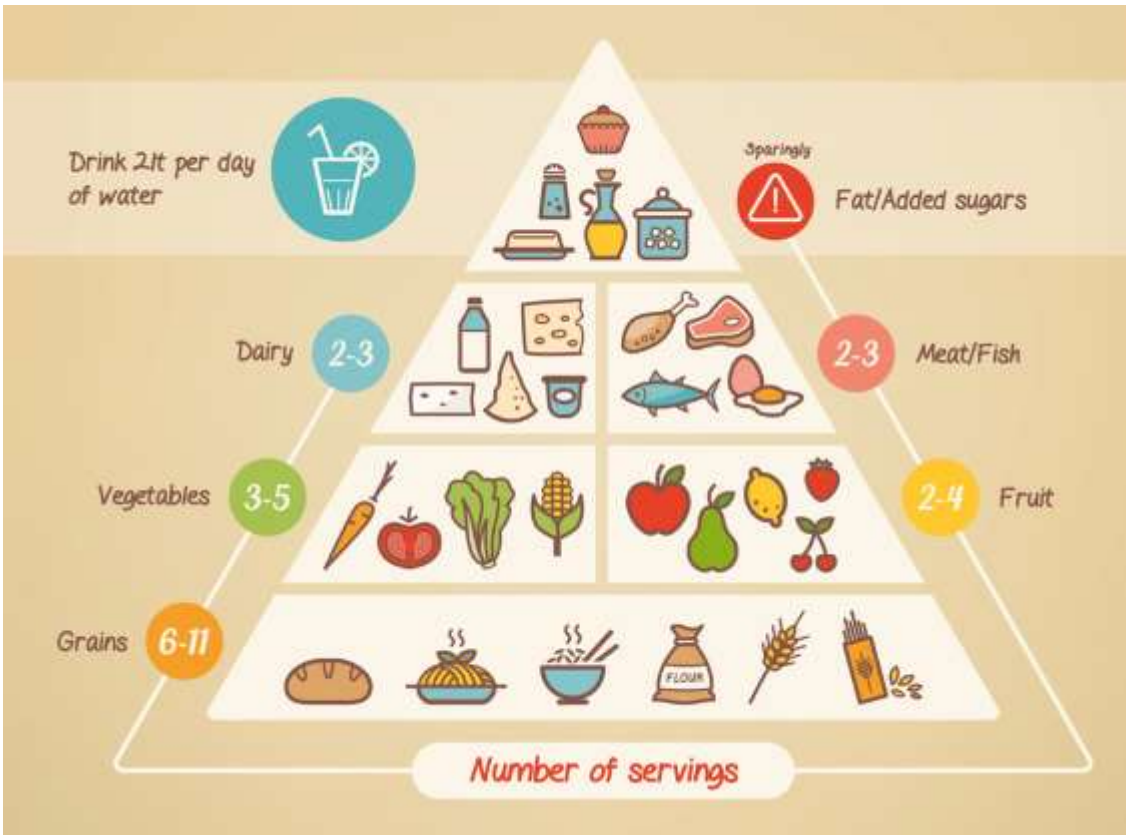
Courses	Jobs/Careers
e.g. Agriculture at Harper Adams	e.g. Farmer

We suggested you use UCAS.com to find out where you can study different courses.

Activity 4

The Food Pyramid

This is the Food Pyramid and it is designed to help us make healthy eating easier. Healthy eating is ensuring your body gets the right amount of nutrients; protein, fat, carbohydrates, vitamins and minerals are all needed in order to maintain in good health.

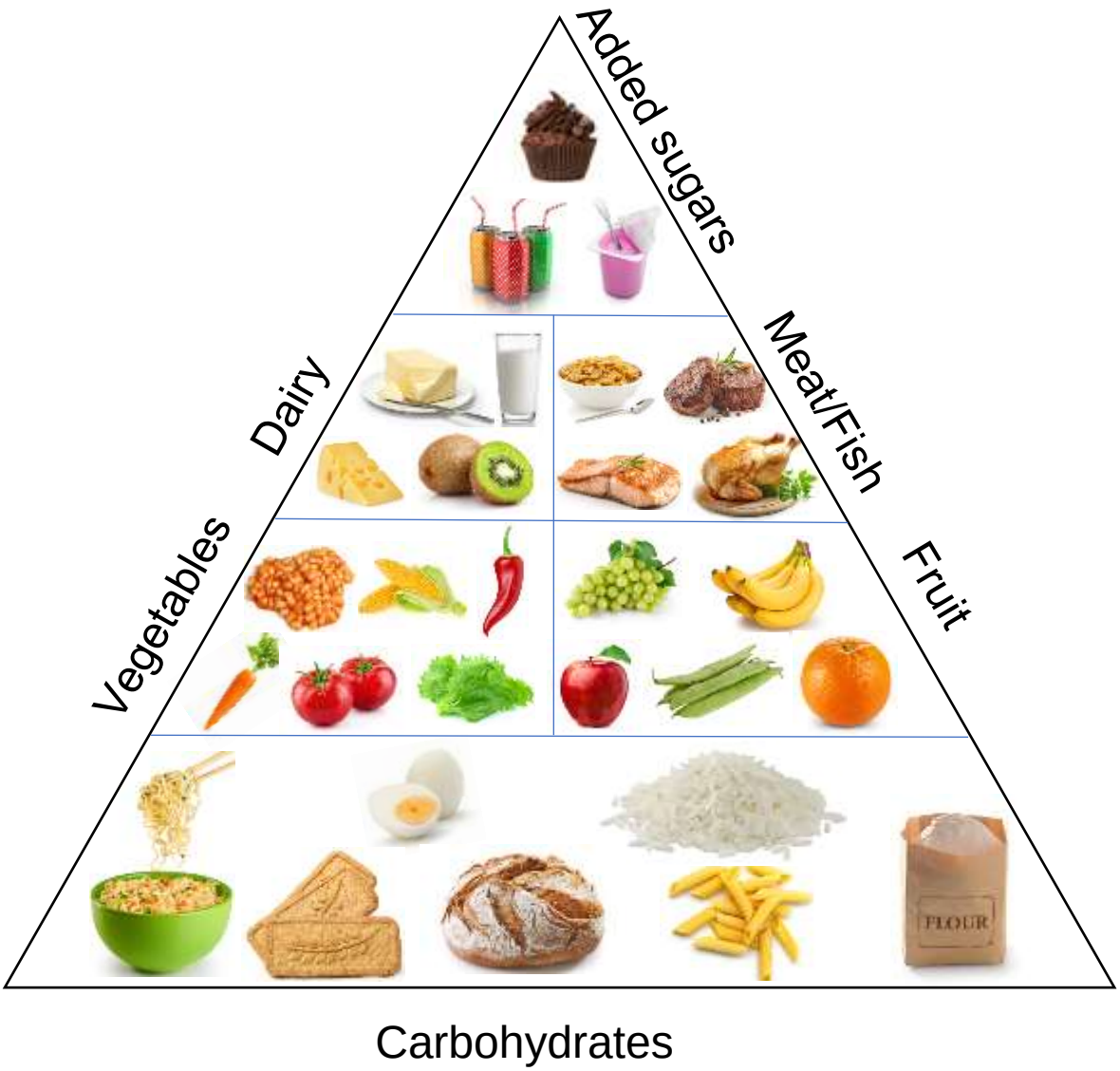


It is recommended that we eat:

- 6-11 servings of carbohydrates such as, rice, potatoes, pasta and bread
- 3-5 servings of vegetables such as, carrots, tomatoes and peppers
- 2-4 servings of fruit such as, apples, bananas and grapes
- 2-3 servings of dairy such as, milk, cheese and yogurts
- 2-3 servings of protein such as, chicken, eggs and steak
- A small serving of added sugars such as sweets and fizzy drinks
- 2 litres a day of water

Activity 4

The Food Pyramid – Continued



Odd one out

Look at the Food Pyramid and the foods on each shelf.
Circle any foods that are not on the shelf they belong too.

Activity

Activity 4

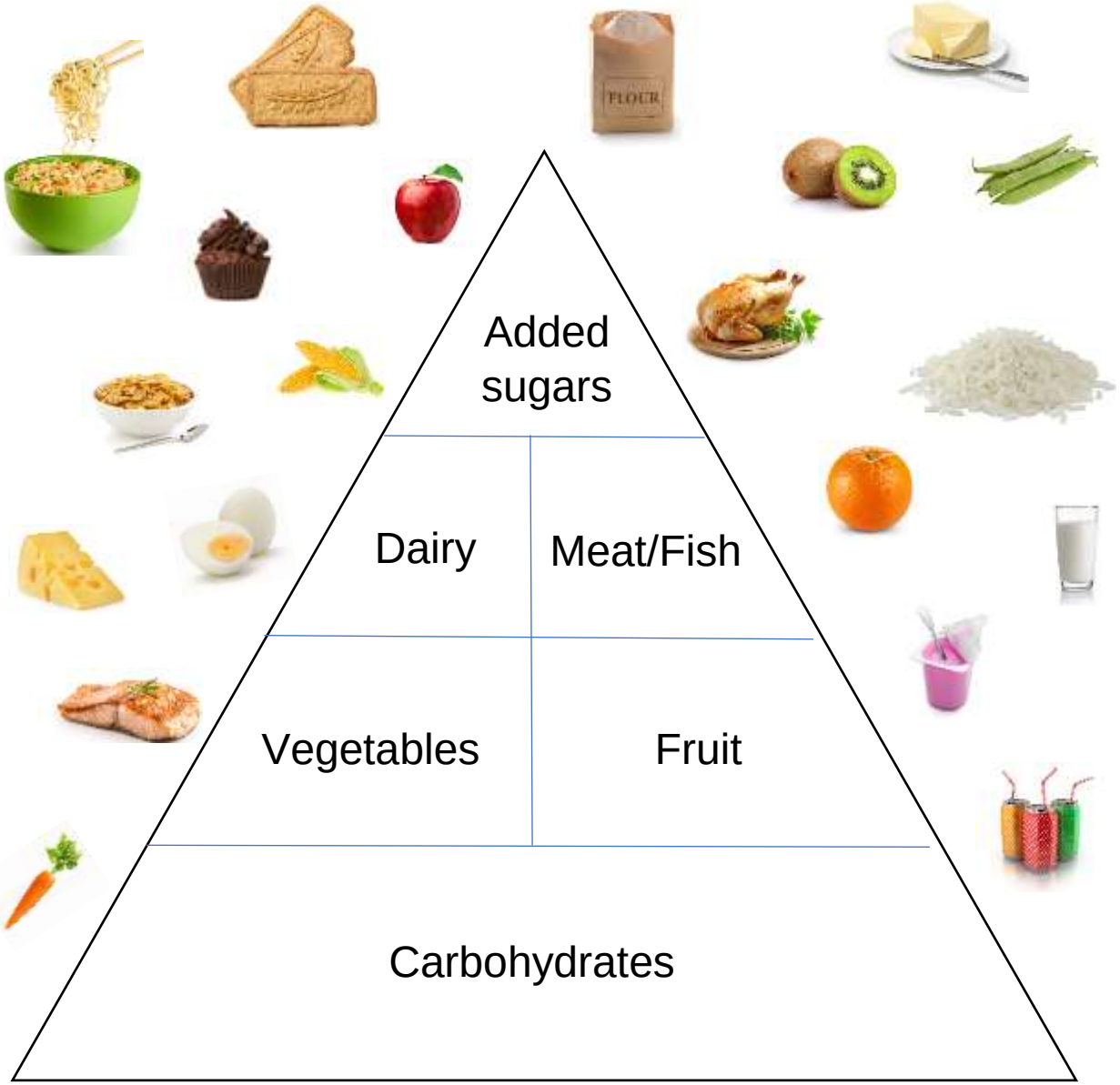
The Food Pyramid – Continued

You will need:

Coloured pencils

Where does the food belong?

Draw a line connecting each food to the shelf it belongs to on the Food Pyramid.



Activity

You will need:

Coloured pencils

Activity 4

The Food Pyramid – Continued

Draw a healthy breakfast, lunch and dinner picture.

Breakfast

Lunch

Dinner

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Thank you for completing your activities around Food. We hope you enjoyed learning more and getting creative.

If you would like to have a look at more of our education packs, please visit our website for more information.

Do not forget to send us your evidence of completion if you would like to submit your work for the SUPER STAR Crest award.

Please email your work to:

schoolsliasion@harper-adams.ac.uk

Use the subject line 'Food Matters – CREST award submission'

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