FOOD TECHNOLOGY – LESSON 1

“FROM THE SEA TO THE PLATE”
The Holderness Coast Catch!

TEACHERS NOTES:
Background information that relates to the Holderness FLAG fishing industry can be found in the appendix taken from the Holderness Coast Fishery Local Action Group strategy 2011–2015. This will give you additional information to the brief lesson introduction below.

LESSON OBJECTIVES & OTHER SUBJECT AREAS COVERED:
This lesson focuses on a classroom discussion about the Holderness Coast fishing industry and about eating fish and seafood. The lesson covers:

• Local History and background information as well as current information relating to the Holderness fishing industry
• A Food survey & discussion/market research activity

RESOURCES AVAILABLE TO SUPPORT THIS LESSON:

• ‘The Holderness Catch’ - a map of the Holderness coast showing what is caught and landed along this coastline
• ‘The Crazy Cat’ - an information sheet about a local fisherman, John White, from Withernsea and his boat ‘The Crazy Cat’
• A Classroom Survey - a suggested survey that can be used for this lesson

POSSIBLE SMSC PROMOTION:
Sustainable fishing – an opportunity to discuss moral issues that relate to fishing sustainably and protecting the local industry Cultural/Spiritual – fish eating habits!
INTRODUCTION:

Background information
Did you know? The oldest economic activity in Holderness is fishing. The first people to settle in the area after the Ice Age, before people started to farm the land, were hunter-gatherers who hunted fish and fowl on the coasts and in the meres and marshes of the surrounding countryside.

Whilst the Holderness fishing industry has declined and changed significantly over the last few decades – mainly as a result of whitefish fishing restrictions, today, Bridlington is the largest shell-fishing port in the British Isles, landing mainly a mixture of shell fish including crab, lobster and whelk. A similar catch, though mainly Lobster and crab are also landed at Hornsea, Withernsea, Flamborough, Easington, Spurn Point and Tunstall. The vast majority of this catch is exported to supply markets and restaurants in France, Italy and Spain.

To conclude, the Holderness fishing industry is a vital component of the UK’s economy – but it would become a much more lucrative and sustainable industry if more of the fish caught was processed and eaten within the UK.

ACTIVITY:

A class survey - Do You Eat Fish?
(Use sample survey included in this pack)

Divide class into groups of 4-6 pupils. One pupil in each group is responsible for asking the pupils in the group the questions and writing the number of responses to each question in the survey table. This pupil also needs to add his/her own response too!

TOTALS NEED TO BE RECORDED FOR EACH QUESTION.

GROUPS NEEDS TO FEED BACK RESULTS TO REST OF CLASS.

NOTE FOR TEACHERS: Alternatively, the questions in the survey could be opened up within the classroom to provoke a lively discussion or debate – see suggested survey questionnaire as part of this resource pack.
EVALUATION OF SURVEY:

The results of your class survey, debate or discussion may have highlighted a number of reasons why people aren’t eating much fish. These could include:

- People think that fish is too expensive to buy. (some shell-fish may be quite expensive, but no more expensive than prime cuts of meat)
- We don’t know how to cook it. (and yet there are many celebrity chefs that actively promote fish – Rick Stein, Jamie Oliver)
- What do you think it means to be sustainable and why is it a good thing?
- How do you think we could promote and encourage more people to eat fish?
- How do you think we could encourage more people to eat fish or seafood that is caught locally such as crab and lobster?

...more classroom discussion:

How do you think the local fishermen and wet fish shops can encourage more people to eat the local catch? Do we need a local fish recipe book? Does there need to be more exciting recipes using locally caught fish that might encourage people to try putting fish on their family menus at home?

Additional Activity:

- Design a poster about the local fishing industry that could encourage people to eat our local catch

- A Day in the life of Skipper John White of the “Crazy Cat” Allow students to read the information sheet about the “Crazy Cat” and continue an open class discussion.

Eating fish on Fridays

Did you know that Christians, especially Catholics, traditionally eat fish on Fridays because Fridays were ‘fasting’ days when meat was not eaten.
# CLASSROOM SURVEY

"FROM THE SEA TO THE PLATE" | DO YOU EAT FISH?

These are some sample questions that you could ask each other to see how many students in your class eat fish! You could even add some of your own questions. Once you have gathered all the responses to the survey, you could make a graph to show the results from your class. What do you think might encourage more people to eat more fish?

<table>
<thead>
<tr>
<th>1</th>
<th>DO YOU EAT FISH?</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2</th>
<th>IF YOU ANSWERED YES - HOW OFTEN DO YOU EAT FISH?</th>
<th>ONCE PER WEEK USUALLY</th>
<th>LESS THAN ONCE PER WEEK</th>
<th>MORE THAN ONCE PER WEEK</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>3</th>
<th>IF YOU ANSWERED NO CAN YOU EXPLAIN WHY (TICK ALL THAT APPLY)</th>
<th>NEVER TRIED IT</th>
<th>WE DON'T EAT IT AT HOME</th>
<th>DON'T LIKE THE TASTE</th>
<th>DON'T LIKE THE LOOK OF IT</th>
<th>DON'T KNOW HOW TO COOK IT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>4</th>
<th>DO YOU THINK FISH IS EXPENSIVE TO BUY?</th>
<th>YES</th>
<th>NO</th>
<th>DON'T KNOW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5</th>
<th>HAVE YOU EVER TRIED ANY KIND OF SHELL-FISH?</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6</th>
<th>IF YOU ANSWERED YES, HAVE YOU TRIED (TICK ALL THAT APPLY)</th>
<th>CRAB</th>
<th>LOBSTER</th>
<th>OTHER (PRAWNS, MUSSELS ETC)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td><strong>TOTALS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THE HOLDERNESS ‘CATCH’
The “Crazy Cat” is a fishing boat that works off the Holderness coast from Withernsea. Skipper and owner, John White has been fishing for over 20 years and mainly fishes for brown crab and lobster.

Lobster, Brown Crab and Whelk are the three main types of shell-fish caught off the Holderness coastline. All are scavenging creatures that eat from the sea bed. Fishermen like John, lay pots along the sea bed that are baited usually with dead fish to tempt the shell-fish into for feeding. The shellfish find it easy to find a way into the pot to get to their food but are unable to get back out again!

This small fishing industry is very weather dependant. The boats are only small in size compared to the huge trawlers that are out in the big seas and oceans across the globe and for safety reasons, won’t go out in bad stormy weather. Typically, the Crazy Cat will lay around 250 pots each day that they go out to sea, and bring in the catch from a further 250 pots set from two days before. The boat is often out at sea for 6 to 8 hours at a time.
John prides himself in fishing in a sustainable way and has won awards that recognise the work that he is doing, particularly as he works collaboratively with the Yorkshire Wildlife Trust on their V-notching programme. Vnotching is very time consumable, but ultimately protects and identifies individual lobsters. When a female lobster is caught from one of his pots, the tail is notched so that it is identified as a breeding creature and is put back into the sea. This will give the creature a further 3–4 years to breed to help maintain lobster stocks. John’s pots also have plastic panels to help minimise damage to the creatures as the pots are hauled up to the boat and they also have escape gaps to allow smaller creatures to escape. The Crazy Cat has been awarded the “Responsible Fishing Award” to mark John’s best practice to help preserve and sustain the local lobster and crab stocks.

The crab and lobster fishing industry is seasonal. Crab is mainly fished from April to June. During the winter months when the sea temperatures are cold, many creatures go into hibernation. Crab is fished nearer to land than lobster and both creatures are only landed if they are of a certain size and therefore age. Juveniles are returned to sea to allow them to grow and breed. Typically a landed lobster or crab are estimated at least 7 years of age.

Once John has landed his catch, he sells some of his catch to a local fishmonger and then the rest of the catch is transported to a seafood export company based in Bridlington, where it is then exported to the European continent.
“BRAIN FOOD”
Why eating fish is nutritionally good for us!

TEACHERS NOTES:
A great deal of background information can be found by looking at the shellfish.org website

LESSON OBJECTIVES & OTHER SUBJECT AREAS COVERED:
• An understanding of the nutritional content of fish & shellfish
• Food tech/nutritional science
• Recognising the varieties of fish we eat

RESOURCES AVAILABLE TO SUPPORT THIS LESSON:
• A ‘Healthy Eating’ PowerPoint slides - this includes a slide about the 5 food groups and a slide about the nutrients found in fish and seafood

• Two ‘Healthy Eating’ Activity Worksheets and a ‘Healthy Eating Information Sheet’ - to help pupils complete the Healthy Eating Activity Worksheets

• ‘Fish is the Dish’ PowerPoint slides - this can be used a quiz to test pupils’ knowledge on the variety of fish available for us to eat - do they know what a sardine looks like before it is processed for food?

The PowerPoint files can be downloaded by clicking on this link:

www.eastyorkshirecoast.com/downloads/foodtech_lesson2.zip

Save the zip file to your computer and double-click to extract the PowerPoint file.
POSSIBLE SMSC PROMOTION:

Classroom discussions may be opened up to debate what it means to eat healthily and the impact that may arise from eating a balanced diet/including fish in our diets. Also discussions on vegetarianism and vegan diets. Discussions on sustainable fishing will also contribute to a moral understanding.

USEFUL WEBSITES

www.fishisthedish.co.uk
www.seafood.org.uk
www.msc.org
INTRODUCTION (STARTER) 10 MINS

Begin the lesson by asking students what a balanced diet is and show the 1st slide of the ‘Healthy Eating’ PowerPoint to explain the 5 food groups that make up the ‘eatwell plate’!

• Discuss the ‘portions’ of the eatwell plate which demonstrates of much of each food group we should ideally have in our diets

• Ask students if they think they eat a balanced diet

• Move to the second slide which shows the nutritional content of fish and seafood. Discuss, as a class, each of the 5 nutritional components of fish and seafood and how they help us to maintain health and well-being.

HEALTHY EATING ACTIVITY (MAIN ACTIVITY) – 20 MINS

Hand out the Healthy Eating Activity sheets and the information sheet and ask students to complete the worksheets. Students could work as a group to allow for discussion enabling them to reach their answers. This will help in supporting the mixed ability groups. After the sheets have been completed, ask for students or groups to feedback their answers to the class to evaluate how they have done.

ADDITIONAL ACTIVITIES

Which Fish is the Dish?

• Ask students to work in a group of four and Using the ‘Fish in the Dish’ PowerPoint go through each slide and ask students to discuss in their group the answer to the question to identify the fish. A representative in each group to put their hand up to answer on behalf of their group.

• Briefly discuss what it means if a certain fish is classed as sustainable Healthy Eating Activity Sheets

PLENARY – 10 MINS

Before students leave, ask them to think about what they are having today for either their lunch or tea and do they think that what they are eating would qualify as being a balanced diet? Is anyone eating fish today?
HEALTHY EATING
Information sheet for pupils

LOW FAT CONTENT
Fish is natural low in fat, particularly the fats that are not good for our health such as saturated fats that are often found in meat fat and dairy fat.

OMEGA-3
Omega-3 is a natural ‘good’ fat found in fish, including shellfish. It is considered a ‘Super Food’ because of the many health benefits it can provide us with. Benefits include protection for the heart, brain development and is also helpful in protecting us from cancer.

WHY WE SHOULD EAT FISH

HEALTHY EATING

MINERALS
Minerals such as calcium are good for healthy bones, particularly during growth periods such as childhood and also as we get older, when our bone density decreases.

VITAMINS
Vitamins helps our body to function properly. They help to provide a healthy immune system, keep our skin healthy and help us to produce and grow new cells in our body.

PROTEINS
Seafood is an excellent source of protein, providing our body with nourishment for our muscles, helping us to convert our food into energy.
It is vital that we eat a fresh and nutritious balanced diet to help keep our bodies and minds healthy. Seafood contains a range of nutrients that support a healthy diet. Use the information on the ‘Why We Should Eat Fish’ sheet, label the skeleton by drawing arrows from the various nutrients found in the seafood, to the relevant parts of the body. Also, in your own words add some information about each nutrient on how it helps to maintain a healthy body.
HEALTHY EATING
ACTIVITY WORKSHEET

SEAFOOD FOR LIFE?

Nutrients from a balanced diet help to provide us with energy as well as helping our bodies to maintain good health and growth when needed throughout our lives. Our bodies demand a variety of needs as we grow from being a child into a teenager and then into adulthood and old age.

See if you can answer the following questions about why we need a variety of nutrients in our diet.

What important nutrients would a very young child require and why?
What do you think it is important for elderly people to eat a balanced diet? What are their bodies needs and which nutrients could help?

What important nutrients would a young adult need at this stage of life and why?
HORNSEA CRAB CAKES

A really simple way to turn delicious crab meat into a light meal for 4 to 6 people. The crab cakes could be served with a lovely fresh salad with a tangy homemade salsa dressing. We have included the recipe for the salsa dressing too!

INGREDIENTS:

500g peeled and boiled potatoes (this takes 15–20 minutes, but can be prepared beforehand)

500g fresh mixed white and brown crab meat (2:1 brown to white)

Lemon

Olive oil

Few sprigs of fresh parsley

½ fresh red chilli

3 spring onions

Black pepper to taste

SALSA INGREDIENTS:

1 red pepper (quartered and deseeded)

5 medium sized tomatoes

1 fresh red chilli (halved lengthways and deseeded)

1 spring onion (trimmed and finely sliced)

3 tbsp. extra virgin olive oil

Few fresh sprigs of basil & juice of ½ lemon
**EQUIPMENT:**

1 large, 1 medium and 1 small sized mixing bowls  
Potato masher  
Spatula  
1 Vegetable chopping board  
Hand held blender  
Sharp knife for chopping  
Grater  
Table spoon  
Plate and cling film  
Frying Pan

**METHOD:**

1. Mash the potatoes in a large bowl and then add the crab meat, some black pepper and mash again to combine it all together.

2. On a chopping board—chop up the spring onions finely and put into a small bowl; chop the parsley finely and add to the bowl of spring onions. Finely chop the ½ red chilli and add to the bowl with the spring onions and parsley.
3. Finely grate the rind of the lemon into the bowl with the spring onions, parsley and chilli and mix all together. Add this to the large bowl of mashed potatoes and crab meat mixture and stir in well to combine evenly. You can use the masher again to help!

4. Divide the mixture into approximately 12 portions and shape with the help of a spoon and your hands, each portion into a ‘patty’. Place onto a plate, cover with cling film and allow to firm up in a fridge for at least ½ an hour or longer if possible.

5. Whilst the patties are chilling and firming up, you can make the salsa. Heat a dash of olive oil in a large frying pan and when hot, add the red pepper, tomatoes and chilli—to ‘blacken’ slightly. This will only take 3–4 minutes. And then put into a medium sized bowl.
6. Add the finely sliced spring onion, the basil leaves, lemon juice and olive oil. Using a hand held blender—blend everything together with a few short bursts—try to keep the consistency to smallish chunks—not blended finely! Add some black pepper to season and stir.

7. Now to cook the crab cakes. Heat some olive oil in the frying pan to a high heat. Add 6 of the patties and cook for about 2.5 minutes and then turn each patty over to cook for a further 2.5 minutes—or until crisp, golden and cooked through. Place onto a serving plate and keep warm whilst you cook the remaining 6 patties in the same way.

8. Serve the crab cakes with a spoonful of salsa on the top with a crunchy crisp green salad.

Chillies
Take care when preparing the chillies in this recipe. SLICE LENGTHWAYS AND REMOVE SEEDS TO REDUCE THE INTENSITY OF HEAT, THEN SLICE FINELY. WASH HANDS THOROUGHLY AFTER HANDLING THE CHILLIES AND DON’T RUN YOUR EYES OR TOUCH SENSITIVE AREAS OF SKIN!