

What is Cystic Fibrosis?

KS3 Lesson Plan Science / biology

Learning objectives

- * Explain why some people develop cystic fibrosis.
- * Describe how cystic fibrosis can impact the lives of people who have it.
- * Identify what some of the treatments available for cystic fibrosis are.

Resources required

- * Lesson Presentation
- * Starter Activity Sheet
- * Question Sheet
- * CF and the Body Information Sheet (including puberty and fertility)
- * CF and the Body Information Sheet (without puberty and fertility)
- * Body Labelling Activity Sheet

Key vocabulary

Cystic fibrosis, lungs, digestive system, mucus, disease, condition, respiratory, heredity (noun), hereditary (adjective), genes, genetic, mutation, enzymes, pancreas, physiotherapy, CFTR modulators, antibiotics, calories.

Prior learning

Your students may have differing levels of knowledge about cystic fibrosis, ranging from very knowledgeable to having never heard of the condition. Build on any existing knowledge but consider the accuracy of the information students have and challenge any misconceptions. There is a wealth of information about CF on our [website](#).

Special considerations

We know that CF is often discussed in schools when teaching about genetics and genetic conditions. If you have a young person with CF in your class, this lesson could be difficult for them. We've created a [factsheet for teachers](#) full of important information that can help you with teaching a lesson on CF.

This lesson mentions puberty and fertility on the CF and the Body Information Sheet (including puberty and fertility). Be mindful of any children with CF who may be in the class and may find discussions of puberty and fertility particularly embarrassing. Use your discretion and use the CF and the Body Information Sheet (without puberty and fertility), if more appropriate. You could just say male and female fertility can be affected in CF, however improved treatments mean more and more adults with CF are becoming parents.

Be mindful of the fact that some children may share details of their health conditions (CF and other conditions) during discussion and group work activities. Consider how you will support any students who may find the content of this lesson challenging, in line with your school policy. This may include signposting students to external organisations.

| Time | Main activity | Notes and key questions |
|---------|--|---|
| 10 mins | <p>Starter: Introduce the lesson title and learning objectives and hand out the Starter Activity Sheets. Students should carefully read the terms and definitions then draw a line between each matching pair.</p> <p>Check the answers as a class.</p> | <p>The correct answers can be displayed using slide 3 once students have attempted to match the terms and definitions.</p> |
| 10 mins | <p>Play the video embedded in slide 4 and ask students to complete the Question Sheets as they watch it.</p> <p>Share the answers using slide 5.</p> | <p>The answers on slide 5 will appear one at a time so students' responses can be requested before the answer is displayed.</p> |

| Time | Main activity | Notes and key questions |
|---------|--|--|
| 15 mins | <p>Hand out the Cystic Fibrosis and the Body Information Sheet and the Body Labelling Activity Sheet. Use slide 8 of the presentation to explain that students need to read the information closely, then annotate the body parts with labels that explain how cystic fibrosis can affect different parts. Revisit the learning objectives and explain that there is one more to do.</p> | <p>Once they have labelled their figures, using the diagram on slide 8, share answers and discuss as a class.</p> |
| 20 mins | <p>Use slide 9 to explain that, although there is no cure for cystic fibrosis, there are treatments that improve the quality of life and that you are going to look at these treatments. Students' task is to make a note of the name of each treatment, explain how it benefits people with CF and identify any negative aspects of the treatment.</p> <p>Go through all six slides, using the information to explain the pros and possible cons of each treatment.</p> <p>Dual coding task: Set the pupils the task of creating and drawing a simple image that represents all six</p> | <p>Individual students could be asked to share what they have recorded after each treatment has been discussed.</p> <p>A visualiser would be perfect for sharing students' icons and images.</p> |

Lesson reflections / next steps / teacher notes

Assessment criteria

- Can students explain why some people develop cystic fibrosis?
- Can students describe how cystic fibrosis can impact the lives of people who have it?
- Can students tell someone what some of the treatments available for cystic fibrosis are?

Further learning opportunities

- Students could explore other heredity diseases as part of the NC science curriculum - Genetic inheritance - inherited disorders and mutation.

Home learning opportunities

- Students can research other treatments for people with CF that were not covered in this lesson.
- Students can use the information learned in today's lesson to create a leaflet for the relatives of people with CF which explains why their loved one has CF and what treatments are available to help enable them to lead a rich, full and active life.