

## Cloning

### Topic

Cloning, science

### Learning outcomes

- Use words to talk about scientific achievements and discoveries
- Read a short text about cloning and identify key points
- Give and justify opinions related to the topic of cloning

### Age and level

13-17, Adults (B1+)

### Time

Approximately 60 minutes

### Materials

- Presentation OR Student worksheet
- (Optional) Cut-up text (one per pair / small group)

### Introduction

The focus of this lesson is on oral communication and the topic of cloning. Students start the lesson by ranking scientific achievements and discoveries, then move on to read a short text about cloning. They discuss issues related to cloning via a series of scenarios, and then a discussion.

A student worksheet accompanies this lesson. However, teachers can use a presentation for a no-printing option. The text for Task 2 can be presented as cut-ups which are available in the Appendix at the end of this lesson plan.

**Procedure**

<b>Task 1: Ranking activity</b> (10 mins)	<ul style="list-style-type: none"> <li>• Write 'Science and Modern Life' on the board. With the whole class, brainstorm what scientific achievements or discoveries have been most important for modern life.</li> <li>• Write their ideas on the board or get some of the students to write them on the board as the other students shout them out. You may need to give the students one or two examples to start them off.</li> <li>• Now show <b>slide 2</b> of the presentation or refer students to <b>Task 1</b> in the student worksheet.</li> <li>• Check that everyone understands the vocabulary, then get students to rank the achievements / discoveries from 1-10 in order of importance. Highlight that 1 = most important, and 10 = least important.</li> <li>• After a couple of minutes, put students into small groups. Get them to compare and discuss the differences in their answers, and to decide upon the top five most important discoveries as a group.</li> <li>• Once all the groups have decided, you can then get each group to report their top five back to the class. Ask them if they would add anything else to the top five, and to say why.</li> </ul>
<b>Task 2: Reading</b> (10 mins)	<ul style="list-style-type: none"> <li>• Check that students know what 'cloning' means and ask them to say where they ranked it in the previous task and why.</li> <li>• Explain that students are going to read a text about the first animal to be cloned from an adult cell, Dolly the sheep. Ask if they know anything about the experiment.</li> <li>• Show <b>slide 3</b> of the presentation or refer students to <b>Task 2</b> in the student worksheet. Alternatively, you can copy the text in the <b>Appendix</b> and cut up the sentences. Hand one set of sentences for each pair / group to order.</li> <li>• In pairs / small groups, students put the text in order. Check the correct order with the class: <i>D, A, F, C, E, B</i>. Allow students to choose a different order if they can justify their choices.</li> </ul>
<b>Task 3: Comprehension</b> (10 mins)	<ul style="list-style-type: none"> <li>• Show <b>slide 4</b> or refer students to <b>Task 3</b> in the student worksheet.</li> <li>• Give students a few minutes to discuss questions 1-5 in pairs / small groups. Then invite some to share their answers / ideas. Explain that they will discuss some of the ethics of cloning in the next part of the lesson.</li> </ul>

	<p><b>Answers:</b> 1. Roslin Institute, near Edinburgh, 2. 1996. 3. 6 years old 4. Because she was cloned from a sheep who was already six years old</p>
<p><b>Task 4:</b>  <b>Discussion based on scenarios (15-20 mins)</b></p>	<ul style="list-style-type: none"> <li>Put students into small groups. Show <b>slide 5</b> or refer everyone to <b>Task 4</b> in the student worksheet.</li> <li>Explain that students should read and then discuss the different scenarios. They can choose the scenarios they'd like to discuss and can discuss them in any order. If you are using the presentation, show <b>slide 6</b> after five minutes or so.</li> <li>Alternatively, you could give different groups one different scenario to discuss.</li> <li>Walk around as students discuss and help if necessary. Give a time limit. It doesn't matter if groups don't have time to discuss all the scenarios.</li> <li>Once the time limit is over, ask different groups their opinions on some of the scenarios and ask them if their opinions on cloning have changed.</li> </ul>
<p><b>Task 5: Open discussion (10 mins)</b></p>	<ul style="list-style-type: none"> <li>Show <b>slide 7</b> or refer students to <b>Task 5</b> in the student worksheet. Students can work in the same groups to discuss the questions. Encourage them to justify their answers and give reasons for their opinions here.</li> <li>Again, they can choose to discuss any of the questions and in any order. Depending on the group, you could then open up some of the questions for class discussion.</li> <li>Monitor and make a note of any good language / errors for feedback at the end.</li> </ul>
<p><b>Follow up / Homework</b></p>	<ul style="list-style-type: none"> <li>Students write a short essay answering any of the questions in Task 5.</li> <li>Students research the latest stories about cloning and present one to the class in the following lesson.</li> </ul>

### Contributors

Adapted by Kim Ashmore from a lesson contributed by Jo Budden

## Appendix: Task 2

Cut up the following text, then give one set to each pair / group.

.....✂.....

Dolly the Sheep, the first animal cloned from an adult cell, died in 2003. It had taken hundreds of attempts to produce Dolly and since many people believed that it was impossible to clone something as complex as a sheep, Dolly was a real scientific breakthrough.

.....✂.....

However, Dolly who was born in the Roslin Institute near Edinburgh, Scotland in 1996 died at only six years old.

.....✂.....

Sheep normally live between 10 to 16 years so Dolly was quite young when she died.

.....✂.....

Since Dolly was cloned from an adult sheep that was also six years old, investigators are researching into whether this may have had something to do with her early death.

.....✂.....

They believe that there is a strong possibility that the fact that Dolly's genetic material came from a six-year-old sheep may have caused her to age faster than normal.

.....✂.....

Dolly's death has sparked off further debate into the safety of cloning, and the ethics of cloning humans.

.....✂.....