The Guardian Weekly

Koreans succeed in cloning human embryos

Level 1 | **Elementary**

1 Key Vocabulary

Fill the gaps using these key words from the text:

stem cells **organs** **cloning** **disease**
embryo **blatocyst**

1. Copying an animal or a human to make another animal or human is called _____ .
2. The small egg that eventually becomes a baby is called an _____ .
3. _____ change a fertilised egg into 10 trillion cells during pregnancy.
4. Diabetes is a long-term _____ .
5. A _____ is a tiny ball of cells that together become an embryo.
6. The heart, brain, liver and kidneys are all human _____ .

2 Find the Information: Correct the statements

Look in the text and correct the underlined words in these sentences:

1. The first cloned animal was a horse.
2. President Bush is in favour of stem cell research.
3. Scientists have now cloned a human baby.
4. They used 252 eggs from 16 women to clone 30 blatocysts.
5. The scientists were from the US and Japan.
6. The research could lead to treatment for short-term diseases.
7. The first stages for cloning for use in medical treatment and for cloning babies are different.
8. Humans have 10 billion cells.

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Cloning is copying an animal or a human to make another animal or human which is exactly the same. Scientists take DNA from one egg and put it into another egg. This then makes a copy which is exactly the same as the first egg. The first cloned animal was a sheep but scientists have also cloned mice, rats, rabbits, horses and even a mule. Now, for the first time, they say they have also cloned a human embryo, the small egg that eventually becomes a baby.

South Korean and American scientists say they have cloned human embryos and taken cells called stem cells from one of them. Stem cells are very important in the development of an unborn baby. They change a single fertilised human egg into about 10 trillion cells during a nine month pregnancy.

The Korean and US scientists used 242 eggs from 16 women to clone 30 blastocysts. A blatocyst is the tiny ball of cells that together become an embryo. Then the scientists took the original DNA out of the egg, and replaced it with chromosomes from an adult cell. "This is not a human clone," said Donald Kennedy, a leading biologist. This research could lead to treatments for long-term diseases such as diabetes, Parkinson's and Alzheimer's.

American politicians do not allow US government money to be used for stem cell research. Dr Kennedy said he hoped that now they would change their decision. But the White House said that President George Bush is against stem cell research. Leon Kass, chairman of the president's council on bioethics said "The age of human cloning has arrived. Today we have cloned blastocysts for medical research, tomorrow we will have cloned blastocysts for baby-making.".

Scientists have been working on cloning research for many years and hope that their research will help to treat many different diseases. Now that they have cloned stem cells, they will have to find out how to change these cells into human tissue. They will then be able to use this tissue to treat diseases. In the long term, some scientists believe it could be possible to grow complete human organs, such as livers or kidneys.

Many people are against stem cell research and cloning. They say that it will lead to human cloning and cloned babies. The first stages of cloning for use in medical treatment and cloning to produce a cloned baby are exactly the same.

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3 Comprehension Check

Choose the best answer:

1. Why are some people against stem cell research?
- **a.** Because it is very expensive.
- **b.** Because it uses human DNA.
- **c.** Because it might lead to cloning babies.

2. What are the possible benefits of stem cell research?
- **a.** It could lead to cloning babies.
- **b.** People could use it to treat serious diseases.
- **c.** They could clone rats, rabbits and horses.

3. What is President Bush's opinion?
- **a.** He is in favour of stem cell research.
- **b.** He is against stem cell research.
- **c.** He doesn't care.

4. What is the next task for scientists?
- **a.** They have to find out how to change stem cells into human tissue.
- **b.** They have to grow complete human organs.
- **c.** They have to get money from the US government.

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4 Vocabulary: Prepositions

Fill the gaps using a preposition.

1. Scientists take DNA _____ one egg and put it _____ another egg.
2. _____ the first time, they have cloned a human embryo.
3. They replaced the DNA _____ chromosomes from an adult egg.
4. This research could lead _____ treatment for serious diseases.
5. Scientists have been working _____ cloning research for many years.
6. _____ the long term, it may be possible to grow human organs.

Now check your answers in the text.

5 Vocabulary: Word Building

Complete the table:

	Verb	Noun
1.	develop	_____
2.	decide	_____
3.	research	_____
4.	treat	_____
5.	replace	_____
6.	govern	_____

6 Discussion

Do you think it is morally acceptable to create a human clone?

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7 Key

1 Key Vocabulary

1. cloning;
2. embryo;
3. stem cells;
4. disease;
5. blatocyst;
6. organs.

2 Find the Information: Correct the statements

1. sheep;
2. against;
3. embryo;
4. 242;
5. South Korea;
6. long;
7. (exactly) the same;
8. trillion.

3 Comprehension Check

1. c; 2. b; 3. b; 4. a

4 Vocabulary: Prepositions

1. from, into;
2. for;
3. with;
4. to;
5. on;
6. in.

5 Vocabulary: Word building

1. development;
2. decision;
3. research;
4. treatment;
5. replacement;
6. government.