



## THE BIG QUESTION

**How does growing up change us?**

### Answer

Growing up changes us both **physically** and **mentally**. Our bodies grow taller and stronger, our brains develop, and we learn new skills and ways of thinking. We also gain experiences that shape our emotions, behavior, and understanding of the world.

# Unit (2): Growth Facts

## Key Words

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### Practice



Work with a partner to answer these questions. Try to include the key word in your answer. Write the sentences in your notebook.

1. What is your **average** day at school like?
2. When might you need to use a **conversion** chart?
3. How does showing a person next to a very tall tree in a photograph help you appreciate its **height**?
4. How does the **length** of your hand compare to the length of your feet?
5. Why do you think that babies grow at such a fast **rate**?
6. Why do airlines check the **weight** of suitcases before they can be loaded onto a plane?



# Unit (2): Growth Facts

## Key Words

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### ANSWERS

1. Answers will vary.
2. You might need to use a conversion chart for money when traveling abroad.
3. You are able to understand the tree's height by comparing it to the person's height.
4. The length of your hand is shorter than the length of your foot.
5. Babies grow at such a fast rate because they are so tiny to begin with.
6. They need to know how much weight is on the plane to make sure it can take off and fly safely.

# Unit (2): Growth Facts

## Academic Words

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### Practice



Work with a partner to answer these questions. Try to include the **purple** word in your answer. Write the sentences in your notebook.

1. What **category** could you use for cars, trains, and buses?
2. What are some of the most **enormous** animals you have seen in pictures or at a nature preserve?
3. What is something that people in your **generation** can do to help the environment?
4. Why do students feel good when they get 100 **percent** of the answers on a test correct?



# Unit (2): Growth Facts

## Academic Words

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### **ANSWERS**

Possible responses:

1. Cars, trains, and buses fit in the category of vehicles.
2. The most enormous animal I have ever seen is a whale.
3. People in my generation can recycle to help the environment.
4. I feel great when I get 100 percent of the answers correct on a test because it shows I learned the material.



# Unit (2) - Lesson (1) – Pages: (100-101)

## Reading 3

### Informational Text Science

**Set a purpose for reading** How do different plants and animals grow? As you read the article, think about how all living things grow and change.

## Growth Facts: The Long and Short of It

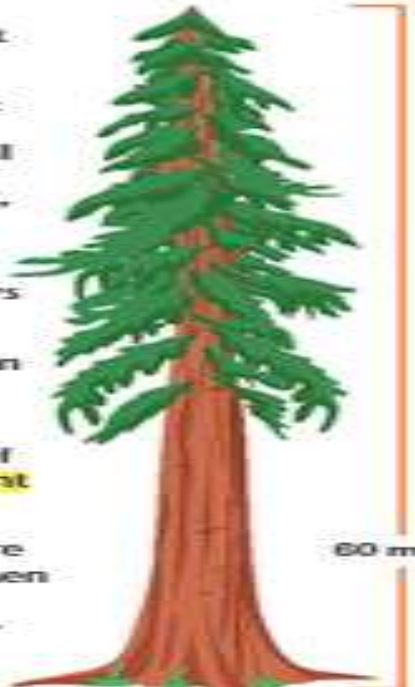
All animals and plants grow. They each start out as a small egg or seed and then get bigger.

When we look at plants, they don't seem to be moving, but some of them are growing at **rates** almost fast enough to see. Kudzu is a plant that grows so fast some people call it the "mile a minute vine." In reality, kudzu doesn't quite live up to its nickname, but it does grow fast: 30 centimeters a day. Kudzu originally came from Japan. Now it can be found all over the world, in all kinds of places. In many places, it is considered to be a pest, climbing up and over other plants in its quest to grow.

The fastest-growing tree in the world is the paulownia tree from China. It grows about 6 meters in a year. All trees make **oxygen**, but this tree sets the record. It produces three to four times more oxygen than any other tree.

Other trees grow at very slow rates. Even though they may be 5,000 years old, bristlecone pines in the mountains of California only grow to a maximum **height** of 18 meters. Compare that to coastal redwoods, which may grow up to about 2.5 meters in a single season! One is more than 5,000 years old and was around when the pyramids were built in Egypt. Most pine trees grow new **needles** every year, but bristlecones even grow their needles slowly—about once every 40 years.

**oxygen**, a gas that all animals breathe in order to live and grow  
**needles**, the sharp, narrow leaves of a pine tree



▲ redwood



▲ kudzu growth per day



▲ paulownia tree



▲ bristlecone pine

## Unit (2) - Lesson (1) – Page: (101)

### Before You Go On

1. Using the conversion chart, change the metric measurements in the text to U. S. Customary Units.
2. How are the childhoods of chimpanzees and human children alike? How are they different?



### On Your Own

Which growth fact do you find most interesting? Why?

### ANSWERS

1. Kudzu:  $30 \text{ cm/day} = 11.7 \text{ in.}$   
Paulownia tree:  $6 \text{ m/year} = 19.68 \text{ ft}$   
Bristlecone pine:  $18 \text{ m} = 59.04 \text{ ft}$   
Coastal redwood:  $2.5 \text{ m/season} = 8.2 \text{ ft}$   
Newborn blue whale:  $5 \text{ kg/hr} = 11 \text{ lbs}$   
Newborn blue whale:  $25 \text{ ft} = 7.62 \text{ m}$   
Reef:  $4 \text{ mm/yr} = .156 \text{ in.}$   
Human newborns:  $51 \text{ cm} = 19.89 \text{ in.}$   
Human newborns:  $3.5 \text{ kg} = 7.7 \text{ lbs}$   
Human teenagers:  $9 \text{ cm/yr} = 3.51 \text{ in.}$
2. Human childhood is twice as long as that of a chimpanzee.

## Unit (2) - Lesson (2) - Pages (102-104)

# The Old Grandfather and His Little Grandson®

An adapted folktale by Leo Tolstoy

The grandfather had become very old. His legs would not carry him. His eyes could not see and his ears could not hear. He had no teeth. Sometimes when he ate, bits of food dropped out of his mouth. His son and his son's wife no longer let him eat with them at the table. He had to eat his meals in the corner near the stove.

One day they gave the grandfather his food in a bowl. He tried to move the bowl closer. It fell to the floor and broke. His daughter-in-law **scolded** him. She told him that he **spoiled** everything in the house and broke their dishes. She said that from now on, he would get his food in a wooden dish. The old man sighed and said nothing.

A few days later, the old man's son and his wife were in their hut, resting. They watched their little boy playing on the floor. He was making something out of small pieces of wood. His father said, "What are you making, Misha?"

The little grandson said, "I'm making a wooden bucket. When you and Mama get old, I'll feed you out of this wooden dish."

The young man and his wife looked at each other. Tears filled their eyes. They were **ashamed** they had treated the old grandfather so badly. From that day on, they let the old man eat at the table with them, and they took better care of him.





## Before You Go On

1. Why do the man and his wife make the grandfather eat his meals in the corner?
2. Why does Misha's bowl make his parents feel ashamed?

## ANSWERS

1. They made the grandfather eat in the corner because he was messy and food dropped from his mouth.
2. Misha's bowl makes the parents realize they treated the grandfather poorly.

# Unit (2): Reading Comprehension

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## Comprehension



### Recall

1. According to the article, how many centimeters does kudzu grow in a day?
2. In the folktale, what does Misha make for his parents?

### Comprehend

3. Based on “Growth Facts: The Long and Short of It,” what **category** of growth could you use to group corals and bristlecone pines?
4. How do the man and his wife grow and change from the beginning of the folktale to the end?

### Analyze

5. In what ways is “Growth Facts: The Long and Short of It” both informative and entertaining?
6. How might Misha’s parents benefit from what Misha did?

### Connect

7. How might learning about how plants and animals grow and change help you in life?
8. What can children learn from their parents? What can parents learn from their children?



## ANSWERS

1. 30 centimeters
2. Misha makes a wooden bucket.
3. Coral and bristlecone pines are both very slow-growing.
4. At first, the man and his wife don't seem to care about the grandfather, but by the end of the story, they treat him as an important family member and care for him.
5. Possible answer: It is both informative and entertaining in the way it compares other kinds of growth to another.
6. Misha teaches his parents to be more patient with the grandfather. And when they get older, he will be patient with them.
7. Answers will vary.
8. Answers will vary.