



## Grade 7 Sample Lesson Plan: Body Systems – Growing Up

### SOLs

- Describe how heredity influences growth and development.

### Objectives/Goals

- Students will identify the key factors that influence puberty and development in adolescents.
- Students will describe the role heredity plays in growth and development.
- Students will categorize the mental, social, and physical changes that occur during puberty.

### Materials

- *Growing Up* handouts (3 notes pages, *Boy or Girl? Or Both?* activity, and review worksheet)
- *Growing Up* PowerPoint presentation
- Small 3x5 pink/blue index cards (1 pink, 1 blue for each student)

### Procedure

#### *Step 1*

- As an introduction and to check prior knowledge, provide each student with *the Boy or Girl? Or Both?* activity sheet AND 1 pink/1 blue note card.
- Use the PowerPoint presentation Slides 1, 2, and 3 while going over the information.
- Explain the directions to the students (Slide 1): This activity will be completed together; however, you need to mark your own papers with the correct answer. Each number will be read aloud, and you are to hold up the color of paper you think the gender corresponds to during this time of your life (preteen/teenage years) ONLY. Example: After #1 GROWTH SPURT is read aloud, you would hold up pink paper if you think a growth spurt only happens to girls, blue paper if a growth spurt only happens to boys, OR both the pink and blue papers if a growth spurt happens to both boys and girls.
- After all students have cast their 'vote' by holding up the paper, provide them with the correct answer to mark on their handout (Slide 2).
- For Slide 3, tally the total marks for just girls, just boys, and then both boys/girls (3, 3, 16).
- These 22 changes are mental, emotional, and physical. Details can be provided on specific ones depending on the class dynamics and maturity level. Emphasis should be

placed on the fact that both boys and girls go through a lot of changes during this time period in their life; even though it feels like they are all alone, asking questions and talking about it is the best way to feel comfortable with their teenage years.

### Step

- Utilize the remaining slides in the PowerPoint presentation to complete the notes on growth and development and heredity.
- Slide 4: Adolescence IS A TIME PERIOD BETWEEN CHILDHOOD AND ADULTHOOD (teenager). This is usually considered between the ages of 13 and 19. The Endocrine System PRODUCES HORMONES THAT REGULATE GROWTH AND DEVELOPMENT.
- Slide 5: Hormones are the body's CHEMICAL messengers. Hormones help control how cells and organs do their work. Puberty is a TIME WHEN YOUR BODY BEGINS TO DEVELOP AND CHANGE INTO AN ADULT. Puberty can be influenced by YOUR PARENTS (HEREDITY).
- Slide 6: So, what's happening to me? During adolescence (teen years), your body will go through puberty (physical changes towards adulthood). These changes occur because your endocrine system (body system that causes growth) is releasing hormones (chemical messengers) that are telling your cells how to work.
- Slide 7: Heredity is THE PASSING OF TRAITS FROM PARENTS TO THEIR OFFSPRING. DNA is the instructions on the way we're built. It stands for deoxyribonucleic acid. CHROMOSOMES carry the information that we get from our parents. Each parent gives us 23 chromosomes for a total of 46. GENES are specific instructions that make us look the way we do. Example: blue eyes.
- Slide 8: Putting it together: Our DNA library has 46 books. These books are all titled CHROMOSOMES. Inside each book are chapters or GENES which are the instructions to tell our hair to be brown or our height to be 5'8".
- Slide 9: Puberty is influenced by several factors that include: ENVIRONMENTAL influences such as air, water, and climate. NUTRITION and consuming our daily nutrient needs. Regular EXERCISE or activity. HEREDITY – an example of this would be if your mom/dad had bad acne as a teenager you are more likely to also have acne problems. It's important to remember we are DIFFERENT! Puberty and all these changes occur throughout several years and at various times for people. It's important to remember that we are the SAME! We all go through puberty and end up being adults in adult bodies!

### Step 3

- Provide each student with the *Growing Up Review* handout.
- This could be given as homework, in class group work, or at the beginning of their next class.
- Correct answers are as follows (1) change, (2) hormones, (3) endocrine, (4) puberty, (5) different, (6) hygiene, (7) mental, (8) mood swings, (9) feelings, (10) independent.

### Assessment Idea

Students can be graded on the *Growing Up Review* handout (see Step 3 above). Another assessment idea could involve having the students journal about 3 traits they inherited from their mother and 3 traits from their father. Remind students that they don't all need to be

physical traits but could be mental or emotional similarities. If a student doesn't know one or both of their biological parents, they can complete a journal entry based on the one parent they know or write about the traits they've noticed about themselves (not linking it to one parent or the other).

### References

- Adams, Stacy (2019), Health and Physical Educator; Shaler Area School District, Glenshaw, PA
- Bill Nye: Genes (<https://www.billnye.com/the-science-guy/genes>)
- Bronson, M.H. (2007). Glencoe Teen Health Course 1
- KidsHealth: All About Puberty (<https://kidshealth.org/en/kids/puberty.html>)

### Handout

The next page includes handouts for the lesson. These handouts are designed for print use only.