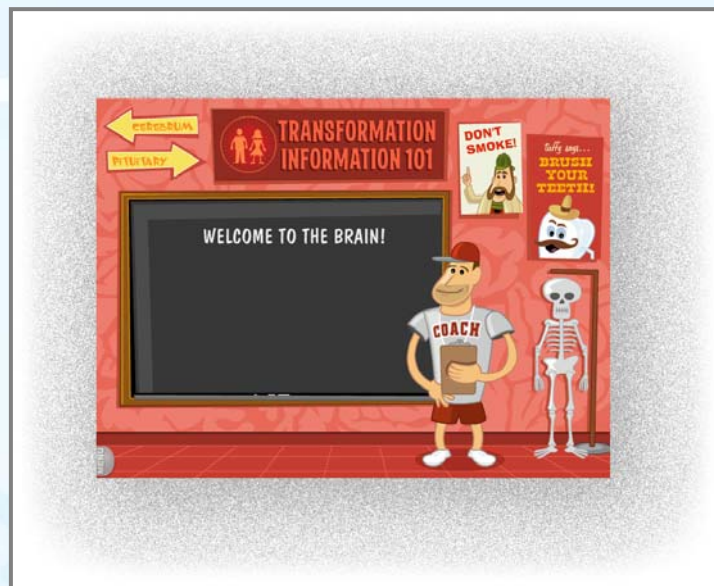


**LESSON TITLE:**

Transformation Information 101 (*Introduction only*)

**LESSON DESCRIPTION:**

In this instructor-led animated activity, students will understand that the brain is the control center of the body and controls the puberty process. During this introduction, Coach will lead the students through different changes that start to happen in males and females when puberty begins, as well as the hormones that are involved in those changes. Once this introduction to puberty is complete, the instructor can select a specific program on what changes occur during puberty for only females, males or a combined program for both.



**GRADE LEVEL:**

4-6

**INSTRUCTION PHASE:**

Knowledge, Comprehension, Analysis, Synthesis

**DURATION:**

10 minutes

**DELIVERY METHOD:**

Educator-led  
Individual

**MATERIALS:**

1. Computer(s) with Internet access or Kit on CD
2. Projector

### **MANAGEMENT:**

- For this educator-led activity, students will be working in one large group or in two to three smaller groups to watch the activity on the projection screen in the front of the classroom.
- This activity is meant to be an introduction to the topics that will be covered throughout the kit. This will just be a basic introduction to some of the changes and why they happen, with a special emphasis on the maturity of the student.
- *The educator will need to reserve computer lab time for this activity. Please be aware that the lesson activity after this one may also require the use of this same equipment. If needed, please adjust equipment reservation time accordingly.*



### **LESSON OBJECTIVES & STANDARDS:**

The students will be able to:

1. Define the term puberty.
2. Explain the function of the pituitary gland and why it is referred to as a “biological clock”.
3. Explain what hormones are and their role in development.

#### National Standards

Health: 1, 3

#### PA State Standards

Health, Safety and Physical Education: 10.1.6A, B

### **ANTICIPATORY SET:**

Begin by relating student experiences to the objectives of the lesson by asking the following:

- *What kinds of things do you think will happen to you during puberty?*
- *Is the reproductive system the only thing that changes during puberty?*
- *Are any of you beginning to experience some of the changes of puberty?*
- *How do you think the body knows when to start the puberty process?*
- *Why does puberty begins at different times for everyone?*
- *Why is the rate of development different for everyone?*

### **TEACHING – Input:**

#### Lesson Terms

1. **Adolescence** is the stage of the life cycle between the ages of 11 and 21.
2. The female hormone that produces secondary sexual characteristics and affects the menstrual cycle is called **estrogen**.
3. **Hormones** are special chemicals made by the body that cause changes.
4. The **hypothalamus** is a small area of the brain that helps control the reproductive functions as well as many other important bodily functions.

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5. The **pituitary gland** is a pea sized gland found at the base of the brain. It is called the master gland or control gland because the hormones it produces control the other endocrine glands.
6. **Progesterone** is the female hormone that prepares the lining of the uterus for a fertilized egg.
7. **Puberty** is the time in life when boys and girls become physically capable of producing offspring.
8. **Testosterone** is the male hormone released into the bloodstream from the testes that causes the male secondary sex characteristics to develop during puberty.

### **TEACHING – Modeling:**

- Students will gather as one large group or two-three smaller groups to watch the activity as it is projected onto the large screen in the classroom. Once the activity is launched, the Coach will appear and introduce the students to **Transformation Information 101**.
- The activity begins with the Coach giving a brief overview of some of the changes that begin to happen during puberty.
- Before the Coach introduces the classroom, he will make note of the maturity level needed for the students to be able to complete this activity.
- The Coach will then introduce three characters to the students: Ella Estrogen, Paula Progesterone, and Ted Testosterone.
- He will explain that these hormones are the ones that are responsible for the changes that happen in males and females.
- Once the introduction is complete, the instructor may move onto the specific changes that happen to males and females. These activities are called “Boys to Men – Body Changes” (If the instructor only wants male information), and “Becoming a Woman” (If the instructor only wants female information).
- If the instructor (or school district) feels that it is appropriate for both male and female information to be shown together, the activity called “Combined Program – Boys & Girls” will show both sets of information.
- Each of these activities will have an individual lesson plan, located in the *Recommended Sequence of Activities*.



### **TEACHING – Check for Understanding:**

1. Puberty is defined as a time when the body begins to develop into an adult.
  - Why do you think everyone has to go through puberty?
  - What age range does this happen for girls? For boys?
  - How does puberty fit into adolescence?

2. We have a “biological clock” or “master gland” because the hormones it releases start the puberty process and controls the rate of development.
  - What is the name of the “master gland”?
  - Where is the “master gland” located? How big is it?
  - Based on what you know, can you explain how the “master gland” works?
  
3. Hormones are special chemicals made by the body that cause changes.
  - Which hormones are specific to males?
  - Which hormones are specific to females?
  - Do males have any estrogen in their bodies?
  - Do females have any testosterone in their bodies?

**CLOSURE:**

Review key points of the lesson to help students form a coherent understanding of the lesson objectives. Ask students to tell or show you what they have learned, using questions similar to those found in **Check for Understanding**.

