

Grade 7 Sleep Classroom Activity

The Classroom Activity introduces students to the context of a performance task, so they are not disadvantaged in demonstrating the skills the task intends to assess.

Contextual elements include:

- an understanding of the setting or situation in which the task is placed;
- potentially unfamiliar concepts that are associated with the scenario; and
- key terms or vocabulary students will need to understand in order to meaningfully engage with and complete the performance task.

The Classroom Activity is also intended to generate student interest in further exploration of the key idea(s). The Classroom Activity should be easy to implement with clear instructions.

Please read through the entire Classroom Activity before beginning the activity with students to ensure any classroom preparation can be completed in advance.

Throughout the activity it is permissible to pause and ask students if they have any questions.

Resources needed:

- Chart paper, whiteboard, or chalkboard
- Markers or chalk
- Two pieces of paper and pencil for each group of students
 - Students who need an accommodation may use their preferred tool for writing.

Learning Goal:

Students will understand the context of the key concepts related to the topic:

- You have an internal “biological clock” that controls when you naturally feel sleepy.
- Sleep plays a key role in keeping you healthy and functioning at your best.

Students will understand the key terms:

- **biological clock:** a natural system, or internal tool, that can affect a person’s sleep-wake cycles
- **melatonin:** a substance the body produces that helps control the body’s sleep-wake cycles

Note: Definitions are provided here for the convenience of the facilitator. Students are expected to understand these key terms in the context of the task, not memorize the definitions.

Sleep Classroom Activity

[Purpose: The facilitator's goal is to help students understand that sleep is one of the most important parts of a person's daily routine and that sleep plays a key role in keeping people healthy and functioning at their best. Everyone has a "biological clock" that controls sleep-wake cycles. This activity will allow students to be active participants as they explore the concept of sleep in the context of the performance assessment and its focus on the importance of sleep.]

Note: The following section can be modified to accommodate various teacher-student interaction types such as a teacher-led discussion with the entire class, teacher-student discussion for remote locations with a single student, or small groups.

[Place the students in small groups of two to four students. Give each group a piece of paper and a pencil. Then, write the following definitions and question on the board and read aloud.

- *biological clock: a natural system, or internal tool, that can affect a person's sleep-wake cycles*
- *melatonin: a substance the body produces that helps control the body's sleep-wake cycles*
- *Why do you have to sleep?]*

Facilitator says: "Today, we will get ready for the Sleep Performance Task. According to information on the National Heart, Lung, and Blood Institute's website, sleep is such an important activity that we should devote at least one-third of our day to sleeping. Take one minute to discuss this question with the people in your group: '*Why do you have to sleep?*' Write #1 at the top of your paper and list your ideas."

[After one minute, have students meet as a class to share their ideas. This discussion should last about two minutes.]

Possible class discussion answers (unscripted):

- to get energy for the next day
- to recharge your body
- to rest your body/muscles/mind

Facilitator says: "Did you know that each of us actually has an internal clock that follows the pattern of day and night, and that affects our sleep-wake cycle? That's right! We will refer to that as our 'biological clock.'"

[Point out and read the definition on the board.]

"According to the National Heart, Lung, and Blood Institute, this biological clock tells our bodies to produce melatonin, a substance the body produces that makes us feel sleepy."

[Point out and read the definition on the board.]

"Since your biological clock follows the pattern of day and night, your body is most ready to sleep when it is dark out and to be awake when it is daylight. Have another group member write #2 on your paper. Here is another question to discuss in your group."

[Write the question on the board and read aloud: "*Think about our society that is always on the go, 24 hours a day. Who are some people that would be in conflict with their biological clock and why?*"]

Facilitator says: "Take one minute to discuss this question in your group: '*Think about our society that is always on the go 24 hours a day. Who are some people that would be in conflict with their biological clock and why?*'"

[Walk around the room to make sure students understand the task and are addressing the question. After one minute, have students meet as a class to share their ideas.]

Facilitator says: "Now, one person from each group will provide one response to the question. I will write your ideas on the board. Let's begin with this group."

[Allow the discussion for two minutes. Write the list they provide on the board/chart paper.]

Possible class discussion answers (unscripted):

- People who work at night
- Police officers
- Emergency room workers
- Pilots
- People traveling across time zones
- Parents of babies

Note: Make sure students arrive at the common understanding that:

- People who have irregular schedules will likely be in conflict with their biological clocks.

Facilitator says: "From your ideas we can see that people who work unusual or irregular schedules will likely be in conflict with their biological clock. What about those of us who operate on a daytime schedule? Have you ever had trouble sleeping? Write #3 on your paper. Take one minute to list your answers to this question: '*What prevents people from sleeping?*'"

[Write the question on the board and read aloud: "*What prevents people from sleeping?*" Walk around the room to make sure students are addressing the question. After one minute, have students share their ideas. Write the list they provide on the board/chart paper. This discussion should last about two minutes.]

Possible class discussion answers (unscripted)

- Worry
- Don't feel well
- Not tired
- Uncomfortable bed
- Uncomfortable room
- Too noisy/not enough noise
- Biological clock is out of sync

Note: Make sure students arrive at the common understanding that:

- People can be prevented from sleeping for a number of reasons such as environmental, physical or emotional conditions, or work schedules.

Facilitator says: "As you can see, there are many reasons people suffer from insomnia, or lack of sleep. According to the National Heart, Lung, and Blood Institute, sleep is not just a time for your body to completely shut down. In fact, studies show that as you sleep, your brain is very busy creating pathways that help you learn, remember, and solve problems. So, as you can see, a good night's sleep is important for helping you be your best."

Note: For the following section, the facilitator may choose to prepare true/false signs before the start of the classroom activity.

[Give one person in each group a blank piece of paper, or a pre-made true/false sign.]

Facilitator says: "Now, you will do a true/false activity with two statements about sleep from the National Institute of Health's website. I handed a piece of paper to one person in each group. In large letters, on one side of the paper, write 'True.' In large letters, on the other side of the paper, write 'False.'"

Note: If the facilitator has chosen to prepare the true/false signs in advance, the facilitator will use the script below.

Facilitator says: "Now, you will do a true/false activity with two statements about sleep from the National Institute of Health's website. I gave each group a piece of paper with the words true and false written on it."

Facilitator says: "I will write a statement on the board, read it aloud, and give you 15 seconds to process your answer. If your group thinks the statement is true, hold up the side that says 'True.' If your group thinks the statement is false, hold up the side that says 'False.' Be prepared to justify your response to each statement."

[Write the statement on the board and read aloud: "*Sleep is a time when your body and brain shut down for rest and relaxation.*" After 15 seconds, repeat the statement and instruct groups to show their response by displaying either "True" or "False."]

Facilitator says: "I will repeat the statement. Your group will hold up 'True' if you believe the statement is true and 'False' if you believe the statement is false. *'Sleep is a time when your body and brain shut down for rest and relaxation.'*"

[After every group has shown its response, ask one person who is showing "True" why he or she thinks the statement is true. Then ask one student who is showing "False" why he or she thinks the statement is false. After both students have responded, provide the class with the correct answer and explanation.]

Facilitator says: "False is correct. While it is true that during sleep your body rests and restores its energy levels, your brain is actively working at building memory and creative thinking. Here is the second statement. You will have 15 seconds to think about your answer."

[Write the statement on the board and read aloud: *"The body has a natural ability to adjust to different sleep schedules such as working a night shift or traveling through multiple time zones quickly."*]

[After 15 seconds, repeat the statement and instruct groups to show their response by displaying either "True" or "False."]

Facilitator says: "I will repeat the statement. Show your group's response by holding up either True or False. *'The body has a natural ability to adjust to different sleep schedules such as working a night shift or traveling through multiple time zones quickly.'*"

[After everyone has shown his or her response, ask one person who is showing "True" why he or she thinks the statement is true. Then ask one student who is showing "False" why he or she thinks the statement is false. After both students have responded, provide the class with the correct answer and explanation.]

Facilitator says: "False is correct. The human body's biological clock programs each person to feel sleepy at nighttime and to be active during the day. People who work a night shift and try to sleep during the day are always fighting their biological clock. Also, people who travel across many time zones quickly, such as across an ocean or across the United States, might be extra tired or grumpy because their body can't keep a regular sleep-wake schedule."

"You will learn more about sleep and how it affects our lives in the performance task you will be completing. Remember that sleep plays an important role in keeping you healthy and functioning at your best. Your biological clock lets you know when you are sleepy. Pay attention to it. The work you did today should help prepare you for the research and writing you will be doing in the performance task. Please leave your recorded notes and pencils behind to be collected."