

Lesson Plan: Sleep Hygiene & Science

Grade band: 10-12
Subject: Biology
Duration: 100 minutes

Montana Health Content Standard:

- **HS-LS1-3** Plan and conduct an investigation to provide evidence that feedback mechanisms maintain homeostasis.

Learning Objectives:

By the end of the lesson, students will be able to:

- Identify at least two personal sleep habits that represent a strength and at least one that represents a risk to their health.
- Develop a 7-day sleep improvement plan with a specific, measurable goal that accounts for their individual schedule.

Materials:

- Podcast
- Sleep hygiene handouts
- Whiteboard
- Three Good Things journal

Lesson Outline:

1. Initial Engagement: (10 minutes)

- As students settle in, ask them to close their eyes and picture a completely free day. Ask them: "Imagine tomorrow you have no alarm clock, no schedule, and nowhere to be. How long would you sleep?"
- Ask students to share their ideal sleep number and ask them to write it down on sticky notes.

2. Explicit Instruction: (25 minutes)

- Have students quickly fill out the first part of the worksheet that helps them determine how much sleep they get on average (times and basic math). It will also ask them how they feel in the morning, how they feel at night before they fall asleep, and if they feel like they get enough sleep each night.

- Play the podcast about sleep hygiene and techniques and how the lack of sleep can impair you (cut out the drinking component or skip through). Have students take active notes on the podcast. <https://gimletmedia.com/shows/science-vs/o2hx57>.
- Discuss the podcast as a class, work through a PowerPoint or whiteboard. The basics will include:
 - *Routines*
 - *Daily exercise*
 - *Caffeine curfew*
 - *Light and dark, sound and comfort*
 - *Beds are for sleeping and nothing else (no gaming, homework, crafting, etc.)*
 - *Limit naps (30 min or less)*
 - *Avoid certain foods*
 - *Screen and light exposure limits*
 - *Have a plan for dealing with negative thoughts before bed. Explain some strategies such as deep breathing, progressive muscle relaxation, visual imagery, self-talk, counting breaths, and Three Good Things journal.*

3. Guided Practice: (15 minutes)

- Briefly explain the concept of homeostasis and that a big part of it is the communication between body systems, and how the body signals a need for something to change or happen in the body so that the body can maintain stability.

4. Collaborative Activity (25 minutes)

- Use a scenario to help students connect homeostasis and circadian rhythm as well as sleep hygiene to maintain body's internal system:

Joe is 16. Finals are in one week. Here's what Joe's week looks like:

- *Sleeping at 1 AM, waking at 6 AM for school*
- *Phone in bed, scrolling until they fall asleep*
- *Two energy drinks a day — one at lunch, one at 8pm*
- *Skipping breakfast, eating a big meal late at night*
- *Feeling anxious, foggy, and irritable by Wednesday*
- *Gets a cold by Thursday*

Invite students to discuss in their groups: *Which homeostatic systems are under stress here? What would Joe need to change, and why does each change actually work biologically?*

- Introduce Three Good Things as a tool to help both physical and psychological wellbeing. In their groups, students will share the three good things that happened in the past 24 hours and why those good things happened.

5. Independent Application: (15 minutes)

Have students come up with a plan to improve their sleep hygiene on their handout. Remind them that this is supposed to be positive, within their control and should not cause them stress. It should be something that they want to add or take away from their current routine and should be manageable and small to start. Remind students to be graceful if they forget, and to give themselves an immediate reward if they remember (yay! Or woo-hoo!). Also, remind them that they need to write down 3 good things each night before bed, so they need to keep a piece of

paper (no phone) from the hand out next to their bed - somewhere obvious - but that they should not turn it in (for privacy).

6. Closing: (10 minutes)

Ask students to individually write one thing from Joe's week that looked like their own life. Then one thing they could realistically change this week, and what would happen biologically if they did.

7. Plan for Continued Integration:

Have students complete the remaining section of their handout at home, then put their plan into practice for one full school week. To build accountability and invite support, students will share their plan with a parent, guardian, sibling, or someone else they live with and ask that person to sign off on it. It opens a door for the people at home to notice, encourage, and even join in.