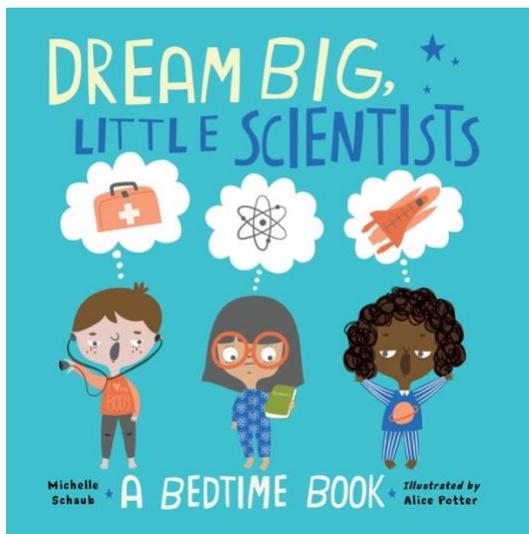


Educators' Guide to  
**DREAM BIG,  
LITTLE SCIENTISTS**  
A BEDTIME BOOK

\*Prepared by Michelle Schaub with consultation from Valerie Bresnahan, Ed.D, CDP.



**About the Book:** Spark curiosity and exploration with this innovative bedtime story for budding scientists. Each of the kids in this book loves a different STEM field, and their bedroom is decorated to show it. The rhyming text cleverly weaves in context clues about each branch of science with fun read-aloud language.

**Twelve kids.  
A dozen bedtimes.  
A lot of ways to love science!**

*"Children and adults alike will discover something new with each reading. A clever and inclusive bedtime book about science and possibility."* -Kirkus Reviews

**About the Author:** Michelle Schaub is an award-winning children's author and teacher. Her book *Fresh-Picked Poetry: A Day at the Farmers' Market* won the 2018 Growing Good Kids Award and 2019 Northern Lights Book Award. She is also the author of *Finding Treasure: A Collection of Collections*. Michelle lives in Illinois with her husband, three children, and lazy dog. She likes to dream big about future writing projects. Follow her at @Schaubwrites  
[www.michelleschaub.com](http://www.michelleschaub.com)



## *Dream Big, Little Scientists*

is packed with details to expand readers' understanding of different branches of science. In addition to science, the lyrical text can be used to enrich language and vocabulary. While the book is a natural fit for younger readers, the concepts presented provide an opportunity for higher-level investigation and discussion with older students. Consider using *Dream Big, Little Scientists* as an introduction to an upper-elementary/middle school science class, or as a study of grammar and literary devices.

***Dream Big, Little Scientist* invites readers to “ask, observe, explore.” Here are some ways to explore this book with your students.**

### QUESTIONS:



Scientists are curious. They ask a lot of questions. To prime curious readers for *Dream Big, Little Scientists*, ask the following questions.

Show students the cover of the book. Read the title. Ask...

✿ ***What do you think this book will be about? What makes you think that?***

Show the first double page spread: Ask...

✿ ***What do you notice about this page?*** (Kids getting ready for bed.)

✿ ***How do you know that?*** (Pajamas, sleepy eyes, words such as yawn, etc.)

Explain that each of the kids in this book loves a different type of science. Their bedroom is decorated to match their interests. Ask...

✿ ***What is your favorite type of science? What do you like to learn about?***

✿ ***How is your room decorated? What does this say about your interests?***

✿ ***What would you add to your room to show your interest in science?***

### RICH LANGUAGE:

After reading the book one time in its entirety, tell students you are going to read the book another time, but this time you want them to pay attention to the words.



**VERBS:** As you read each couplet, ask students to select the verbs (action words). Ask younger students to act out each verb to enhance their understanding.

**PERSONIFICATION:** Explain that personification is when you give human qualities or abilities to animals or objects. Encourage students to notice the following examples of personification in the book. Discuss other objects that could be personified.

✿ **Sun “tucked itself in bed.”**

✿ **Earth “snuggled tight.”**

✿ **Ocean “rocks the world to sleep.”**

✿ **Waves “whisper ‘Good Night.’”**

✿ **Rain, snow, and wind “hum a lullaby.”**

✿ **Tree limbs “yawn up high.”**

**IDIOMS:** Explain that an idiom is a group of words that has special meaning beyond the specific words used. Call attention to the following idioms. After defining each idiom, ask students for other examples of idioms they know. Write the idioms on a chart. Display this in your classroom and add more idioms throughout the year.

✿ **Dream Big:** Set high goals.

✿ **On the Rise:** Moving up.

✿ **Bed Down:** To lie down for sleep.

✿ **Settle Down:** Become calm or quiet.

**VOCABULARY:** Ask students to notice new or unusual words. Provide a student friendly definition of each word. Ask students for examples of that word in their own lives. Here are some words students may notice:

✿ **heartbeat:** the noise a heart makes when it pumps blood

✿ **prehistoric:** long ago before people started recording history

✿ **rumpled:** messy or wrinkled

✿ **settle:** to become quiet or calm

✿ **slumber:** sleep

✿ **venture:** to start a journey

## POSTERS OF FAMOUS SCIENTISTS

Posters of scientists are displayed in each bedroom. Learn more about these scientists with the **Scientist Trading Cards** included with this guide.



For younger students:

✿ Cut out and distribute a **Scientist Trading Card** to each child.

✿ Tell students you will be reading the biographies of scientists shown in the book. Explain that when you read the bio of the scientist shown on a student's trading card, that student needs to pay special attention. They will need to remember two key details about the scientist to repeat to the class.

✿ Go to <https://www.michelleschaub.com/scientists> and read each biography. Ask students to repeat key details.



For older students:

✿ Cut out **Scientist Trading Cards**

✿ Write the following words on index cards: *astronomy, geology, oceanography, meteorology(2x), botany(2x), ecology, physics(2x), paleontology, anthropology(2x), physiology, chemistry(2x).*

✿ Pass out the scientist cards to half of the class and the words to the other half. (Adapt number of scientists and words to coincide with the number of students in your class.)

✿ Have students match scientists to their branch of science to form pairs.

✿ Direct pairs to visit <https://www.michelleschaub.com/scientists> to learn more about the scientists and report their findings to the class.

## SCIENTIFIC TOOLS

Scientists use tools to help them observe and understand the world. Go on a tool scavenger hunt through the book using the “**Tools Scientists Use**” handout included with this guide.



More information and activities to share about scientific tools:

**BAROMETER:** A barometer measures the amount of pressure in the air. Meteorologists use barometers to predict the weather. Low air pressure usually means rainy weather. High air pressure usually means cool, mild weather. Guide students to make a barometer and predict the weather at <https://easyscienceforkids.com/make-your-own-barometer/>

**CALCULATOR:** A calculator is a machine that helps scientists solve math problems more quickly and easily. Ask students “What can a calculator help you figure out?”

**MICROSCOPE:** A microscope makes tiny objects look bigger. Microscopes help scientists examine things that are too small to see with their own eyes. Discover the power of microscopes by examining common objects under them. Find a list of objects at <http://magicalchildhood.com/homeschool/2016/07/05/50-things-to-look-at-under-a-microscope/>

**ROCK HAMMER AND SHOVEL:** A rock hammer is used to split and break rocks. A shovel is used to dig and remove soil from the ground. Both geologists and paleontologists use rock hammers and shovels in their jobs. Look more closely at a paleontologist’s field kit at <https://nhmu.utah.edu/blog/2016/06/02/inside-paleontologists-field-kit>

**ROCK TUMBLER:** A rock tumbler is a machine used by geologists to make rough rocks smooth and shiny. Watch a rock tumbler in action and discover how one works at <https://www.youtube.com/watch?v=KOT375x8t4E>

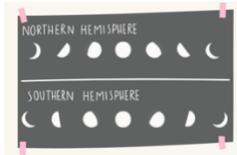
**STETHOSCOPE:** A stethoscope helps physiologists and other medical scientists listen to sounds inside the body, especially those made by the heart and lungs. Have students build a stethoscope and listen to their own heartbeat at <https://www.science-sparks.com/make-a-stethoscope/>

**TELESCOPE:** A telescope lets people see objects that are far away. Astronomers use telescopes to study planets and stars. Guide students to build their own telescopes at <https://kids.nationalgeographic.com/explore/nature/make-a-telescope/>

**TEST TUBES:** A test tube is a thin glass or plastic container. Chemists and other scientists use test tubes to hold, mix, and heat chemicals when they are doing experiments. Discover simple test tube experiments at <https://sciencing.com/test-tube-science-experiments-kids-12051606.html>

# SCIENTIFIC CHARTS AND DIAGRAMS

Scientists create charts and diagrams to make the information they discover more understandable. Each bedroom scene includes charts and diagrams related to that branch of science. Point out and explain the following charts/diagrams to young readers. Challenge older readers to do research to learn more about each one.



moon phases



globe



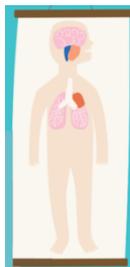
weather chart



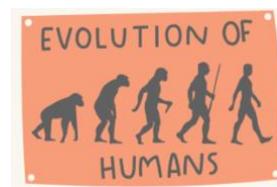
flower parts



animals of the Jurassic period



human anatomy map



stages of human evolution



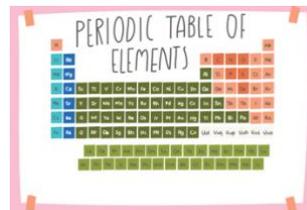
ocean layers



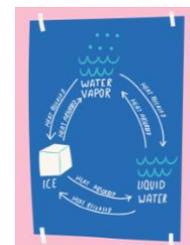
biomes



constellation map



periodic table of elements



water cycle

Art © 2020 Alice Potter

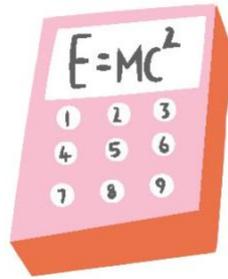
## ADDITIONAL ACTIVITIES

- ✿ After exploring each branch of science shown in the book, survey the class to see which science each student likes best. Record the results on the **"Favorite Sciences Bar Graph"** included with this guide.
- ✿ Invite students to design their own dream bedroom with the **"Dream Big"** bedroom design handout included with this guide.

# TOOLS SCIENTISTS USE



**BAROMETER**



**CALCULATOR**



**GLOBE**



**MICROSCOPE**



**ROCK HAMMER  
AND SHOVEL**



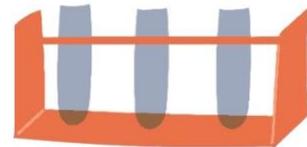
**ROCK TUMBLER**



**STETHOSCOPE**

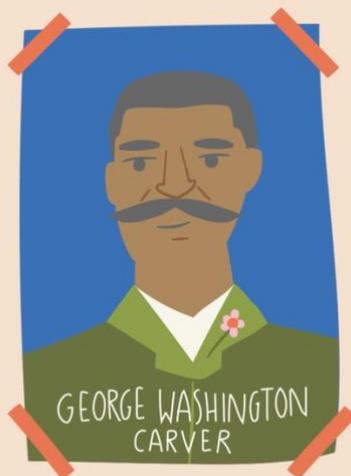


**TELESCOPE**



**TEST TUBES**

# SCIENTIST TRADING CARDS (PAGE 1)

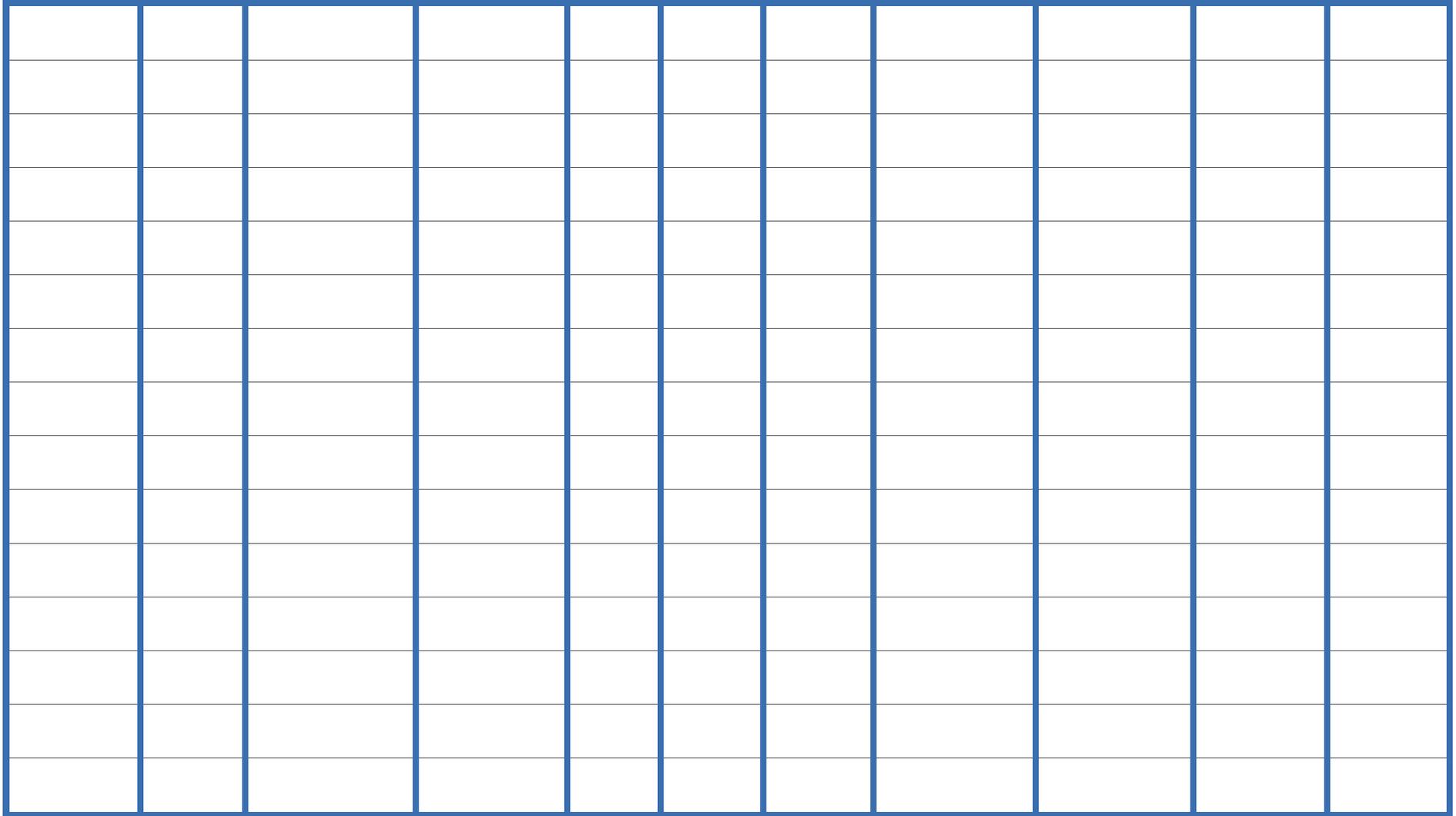


## SCIENTIST TRADING CARDS (PAGE 2)



# FAVORITE SCIENCES BAR GRAPH

Number of students who like this science best



astronomy

geology

oceanography

meteorology

botany

ecology

physics

paleontology

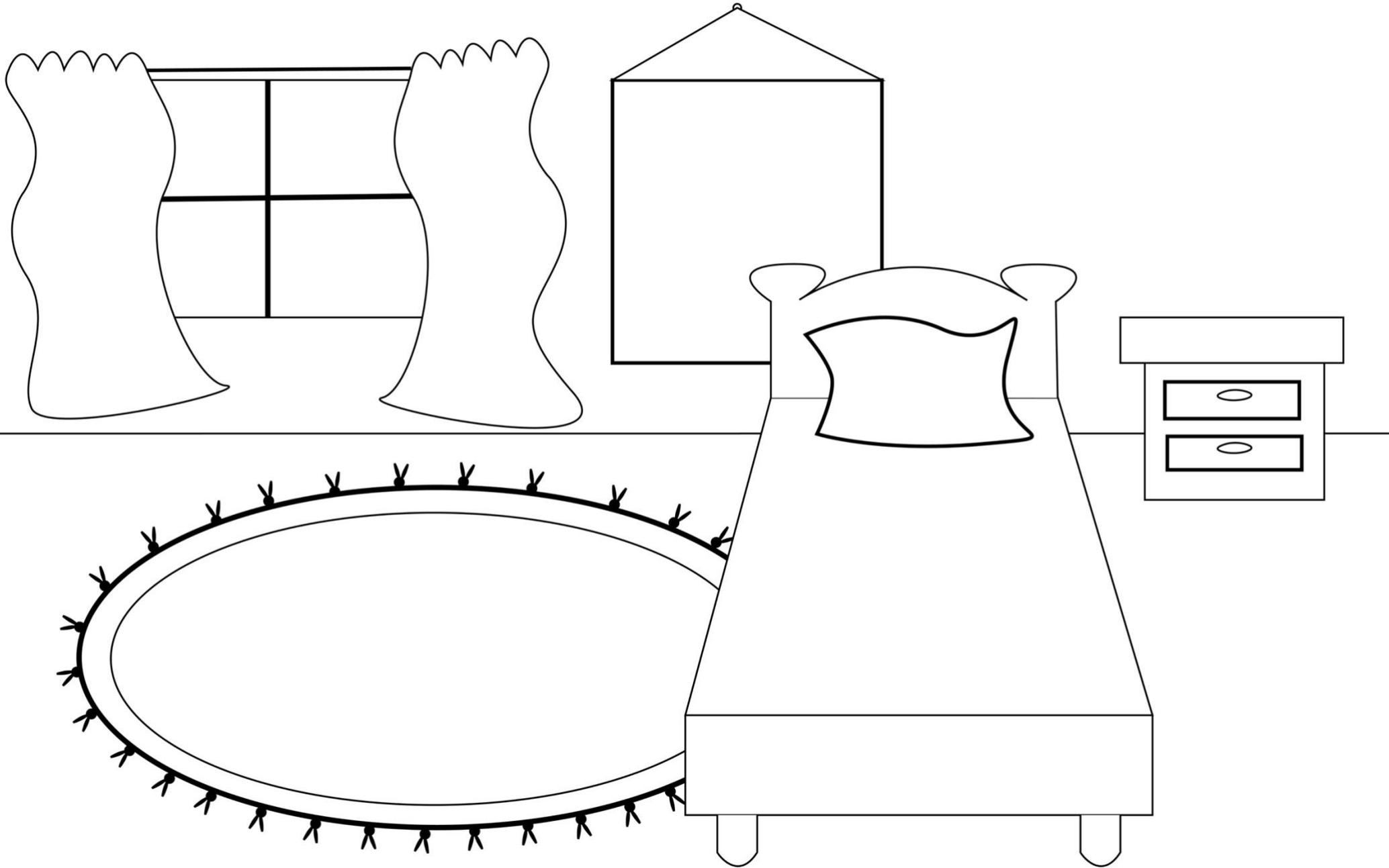
anthropology

physiology

chemistry



# DREAM BIG and design your own room!



\*This activity is intended to be used with *Dream Big, Little Scientists* by Michelle Schaub, illustrated by Alice Potter.  
Room design by Margaret Schaub