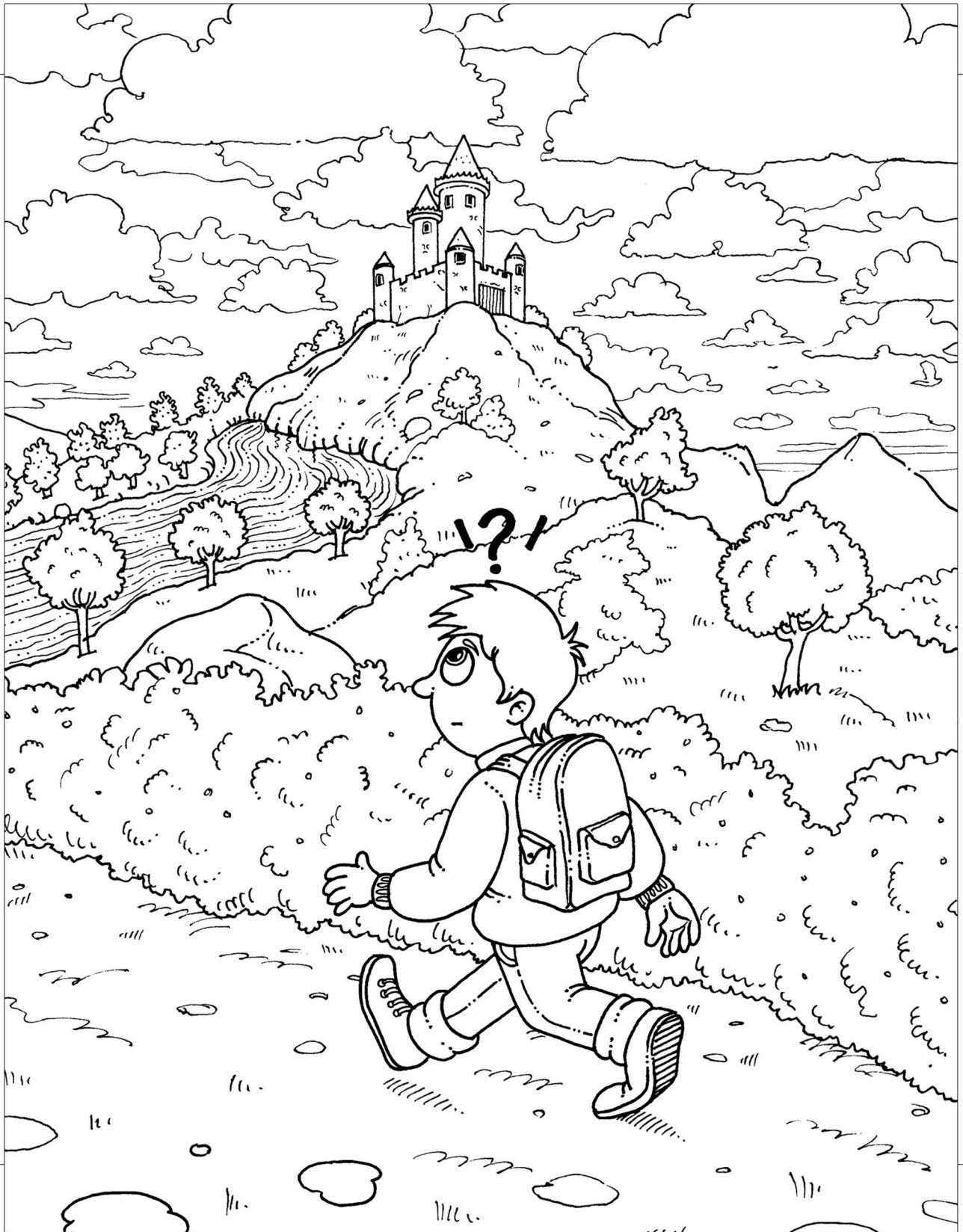


Starting reactions  
that last a lifetime®

# An Introduction to the Blood

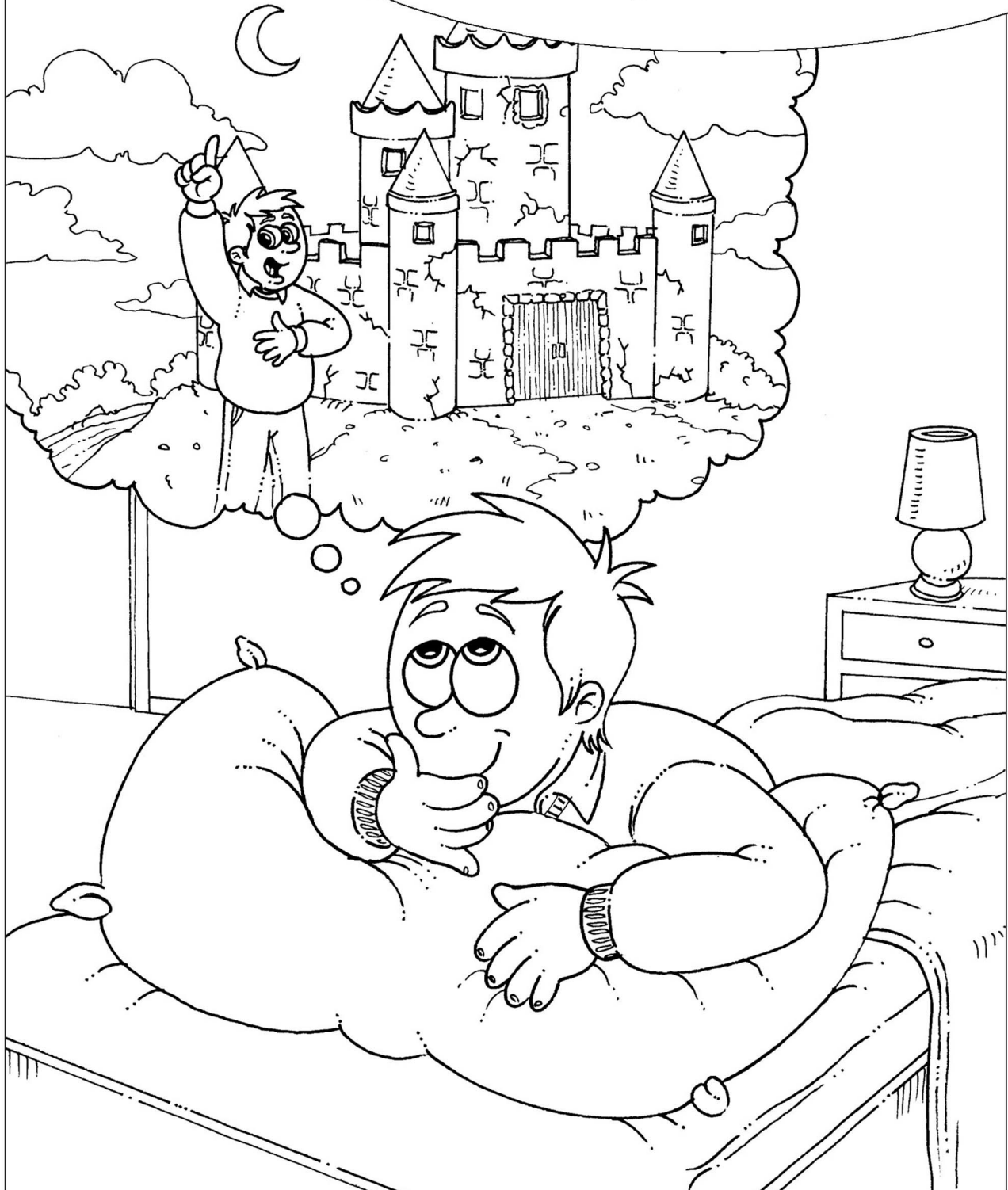


## Coloring Book



In a castle on a hilltop  
In a land far, far away  
A river red was found to flow  
When a boy passed by one day.

The boy had heard some rumors  
That the castle was accursed  
And so he thought he'd dare to go  
"T'would be grand, to be the first!"





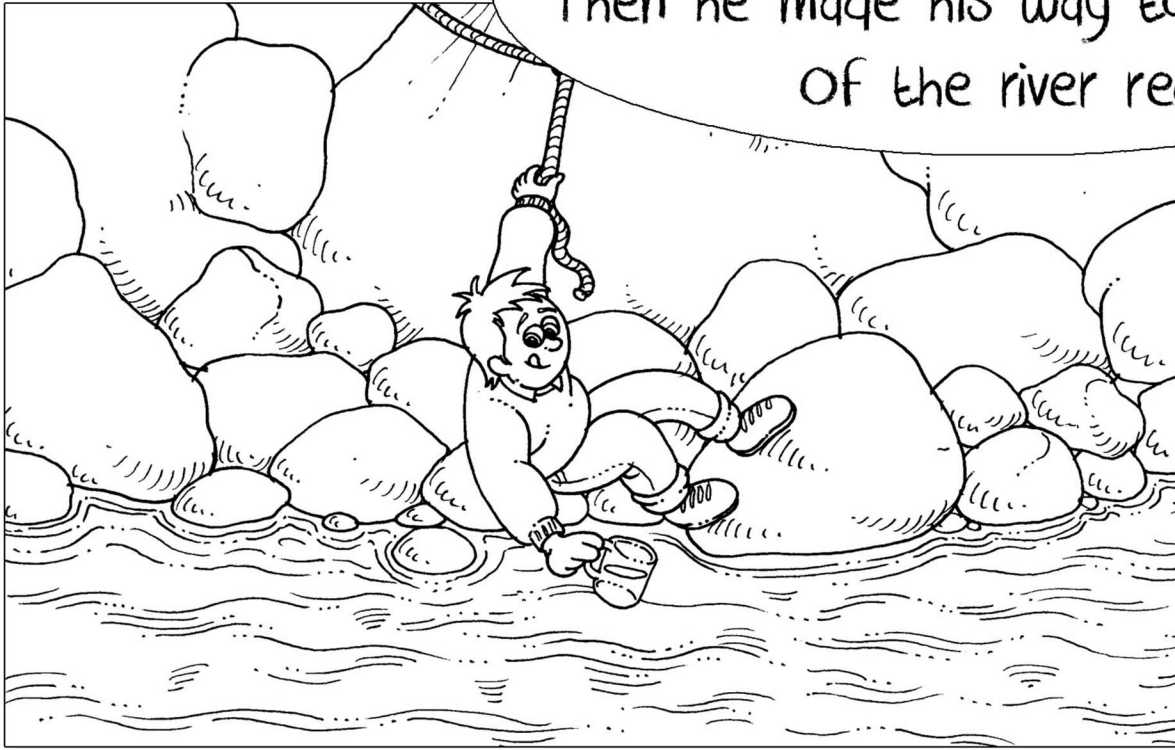


As, now, he reached the hilltop  
And saw this river red  
He stopped, dead short, his eyes were wide  
"Is it blood?" he said.

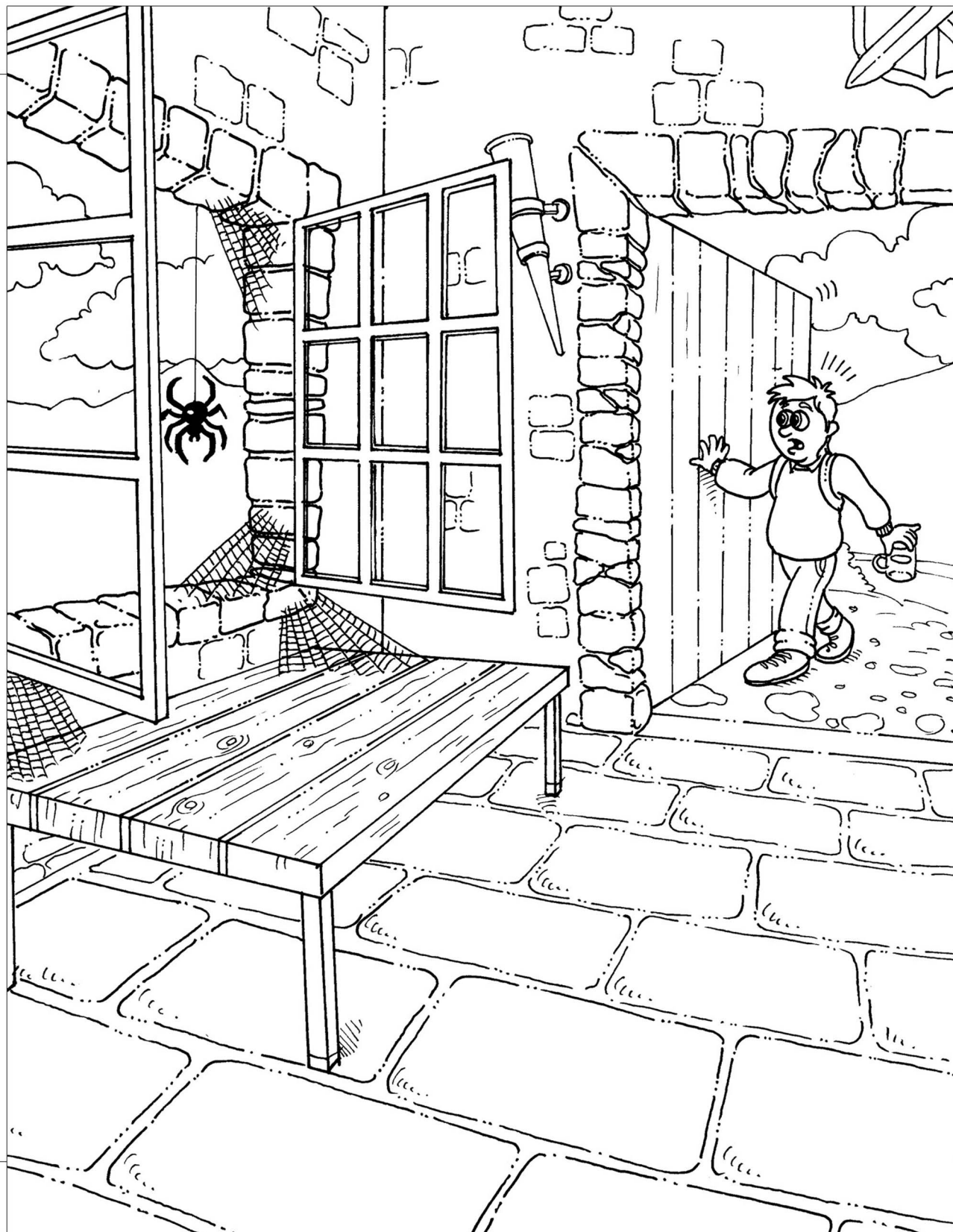
He reached into his backpack  
Pulled out a cup and rope  
He'd also brought, in case of need  
His science microscope.



He tied the rope to a boulder  
Then he made his way to the shore  
of the river red;



When he'd filled the cup  
He headed for the castle door.



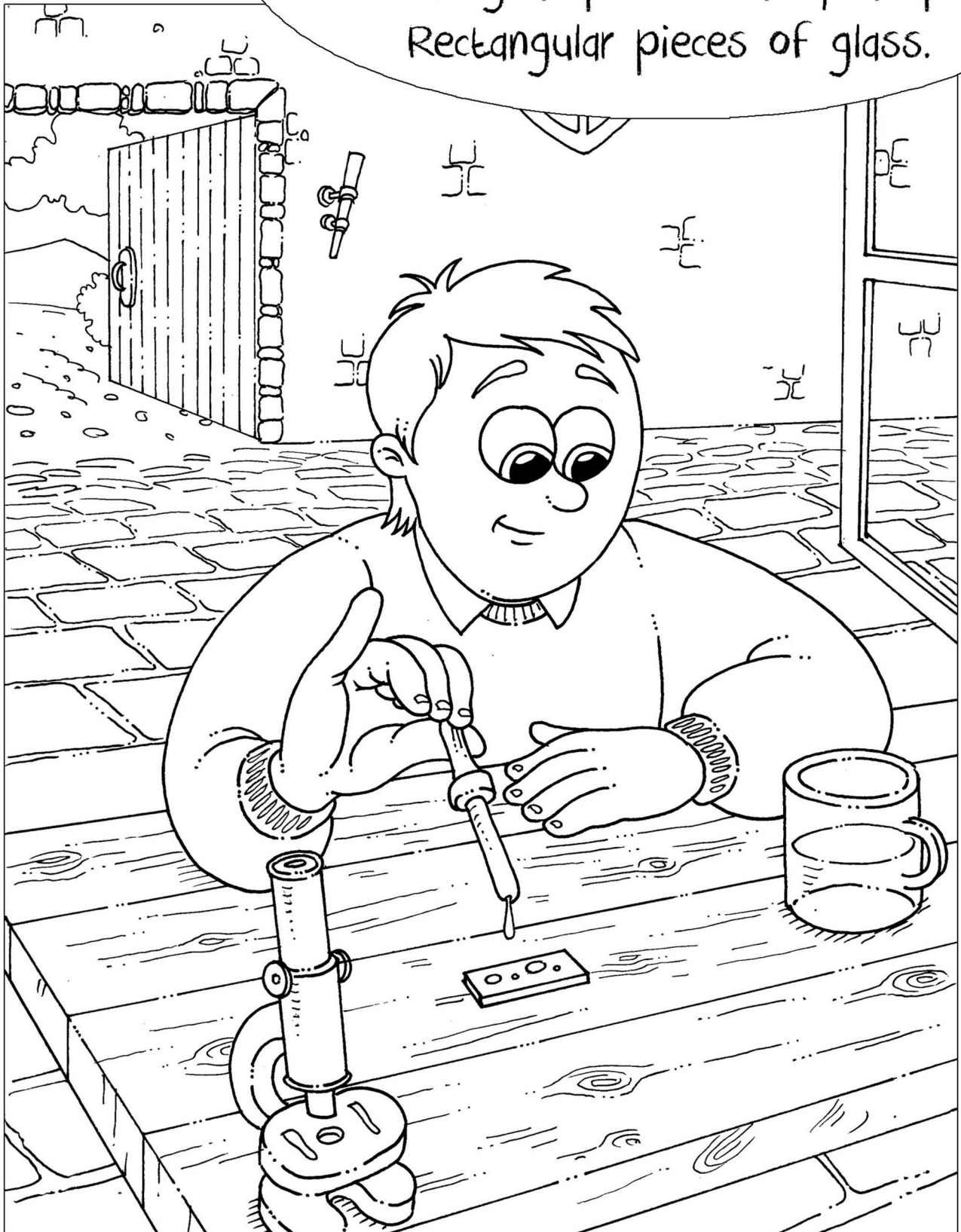
The great door creaked a warning!  
But the boy went on inside  
He found a table beneath cobwebs  
By a window opened wide.

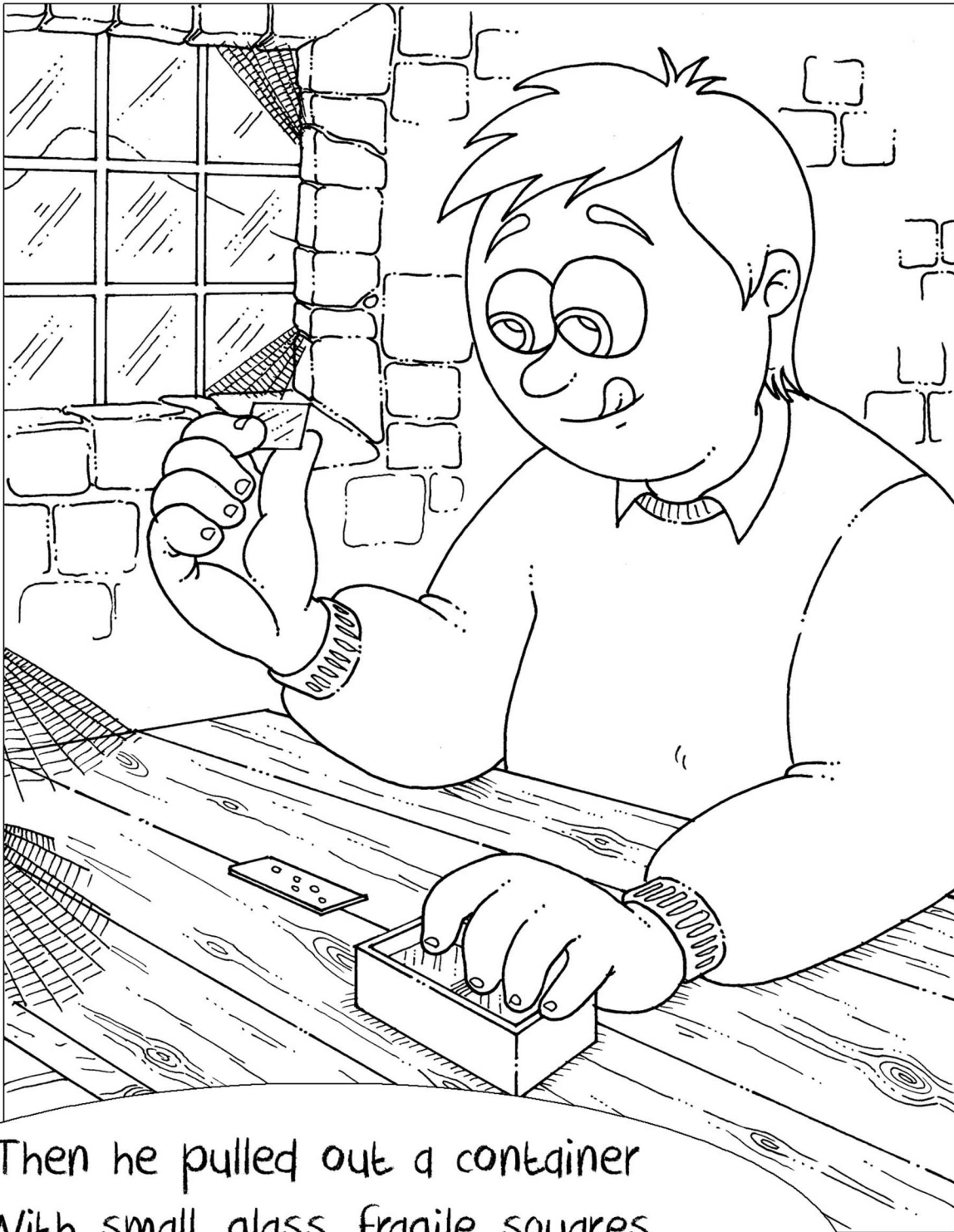




As he emptied out his backpack  
Took out microscope and cup  
He looked around the room and thought  
"Who opened this window up?"

The window was soon forgotten  
Making slides was such a blast  
Smearing drops of red liquid upon  
Rectangular pieces of glass.





Then he pulled out a container  
With small, glass, fragile squares  
These were the cover slips to place  
O'er the red smear he'd prepared.



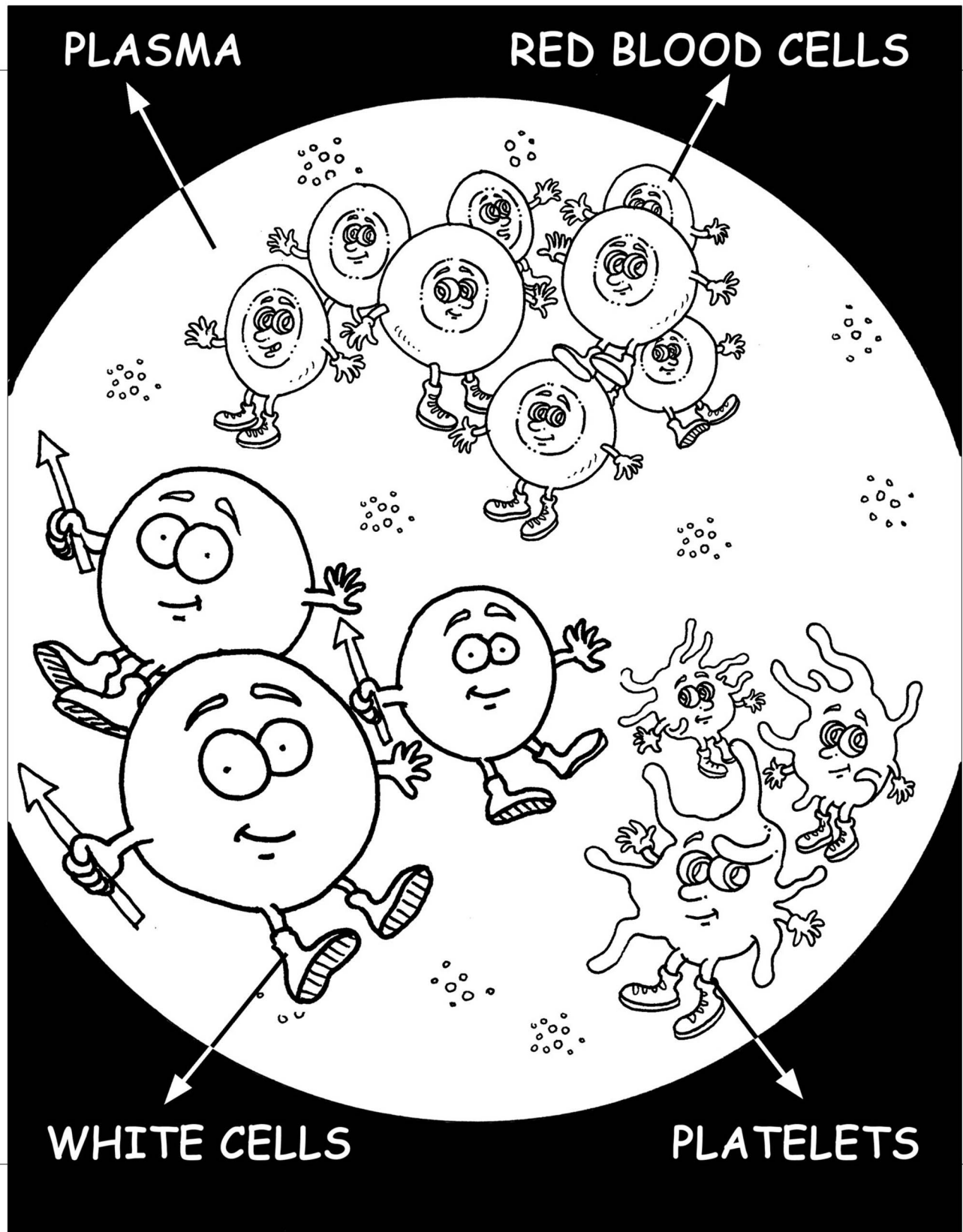
The slide, he carefully mounted  
Underneath the microscope  
He looked through the eyepiece  
What did he see?  
It WAS blood, as he had hoped!







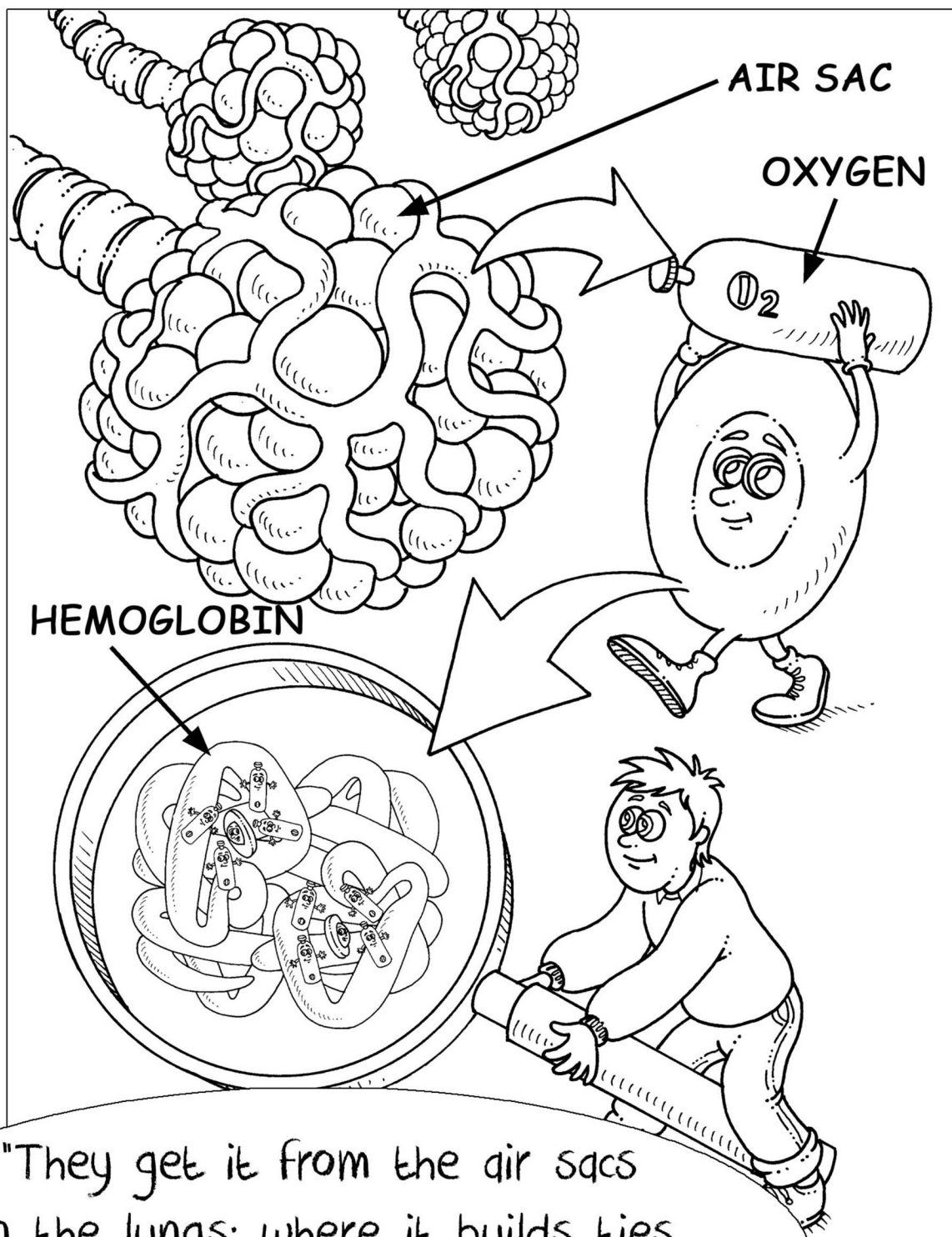
He analyzed the specimen  
And he wrote down each thing he found  
The blood contains four parts in all  
As it circulates around.



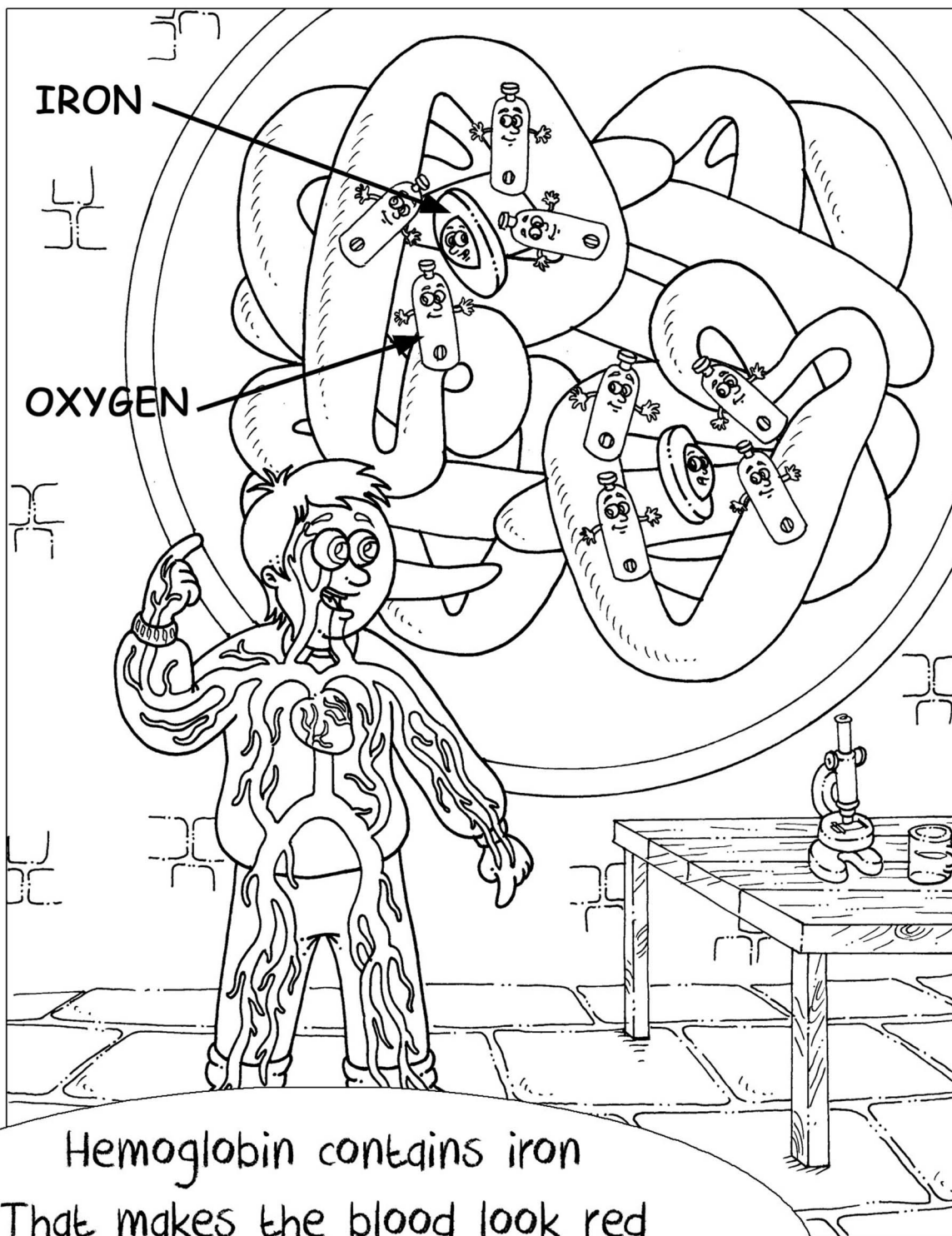
Three types of cells were present  
Red, white and platelets, too  
And all these cells,  
they floated 'round  
In plasma, a straw liquid goo.

By far, the highest number  
of cells in the blood were red  
"These erythrocytes, with their  
doughnut shape  
carry oxygen," he said.



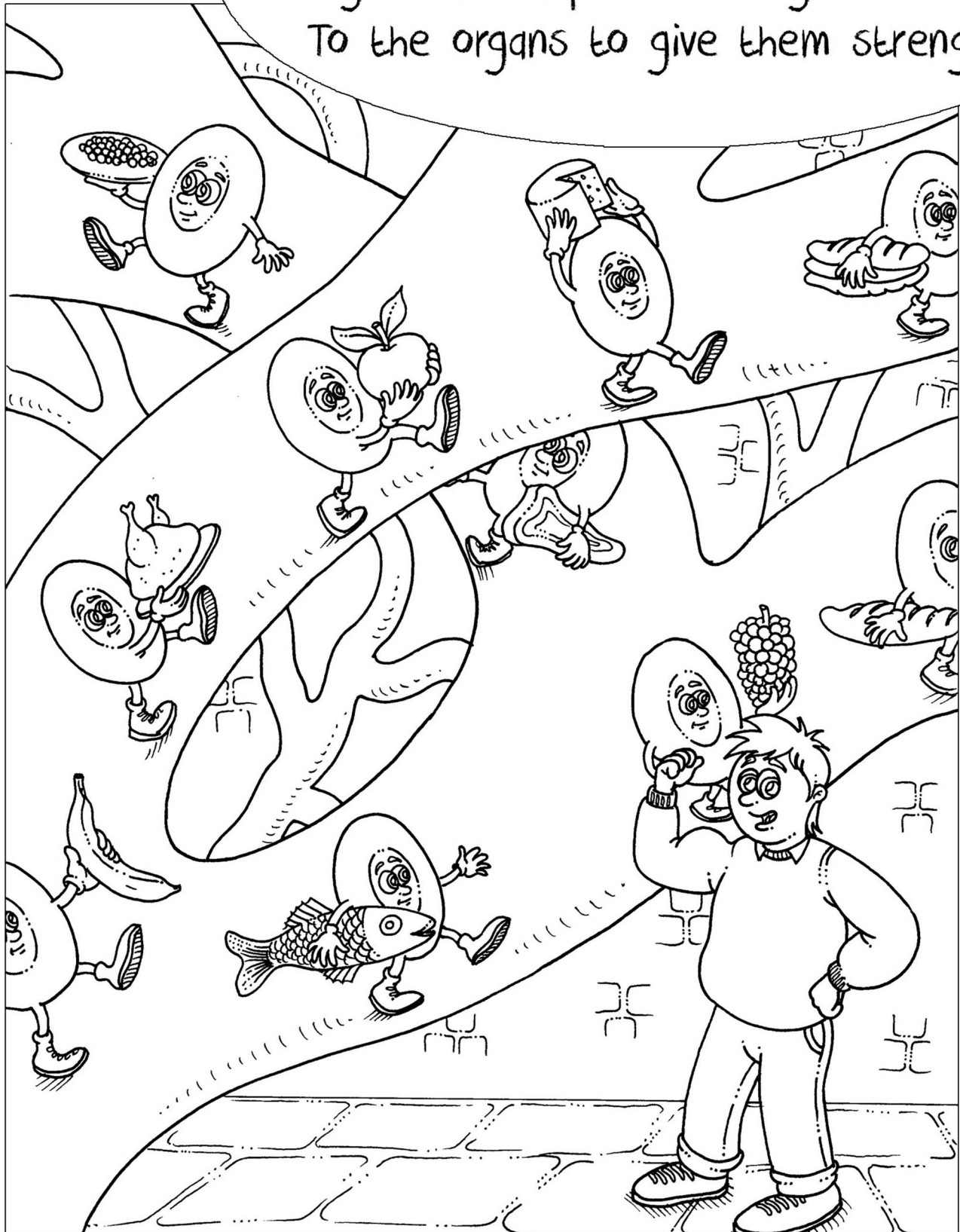






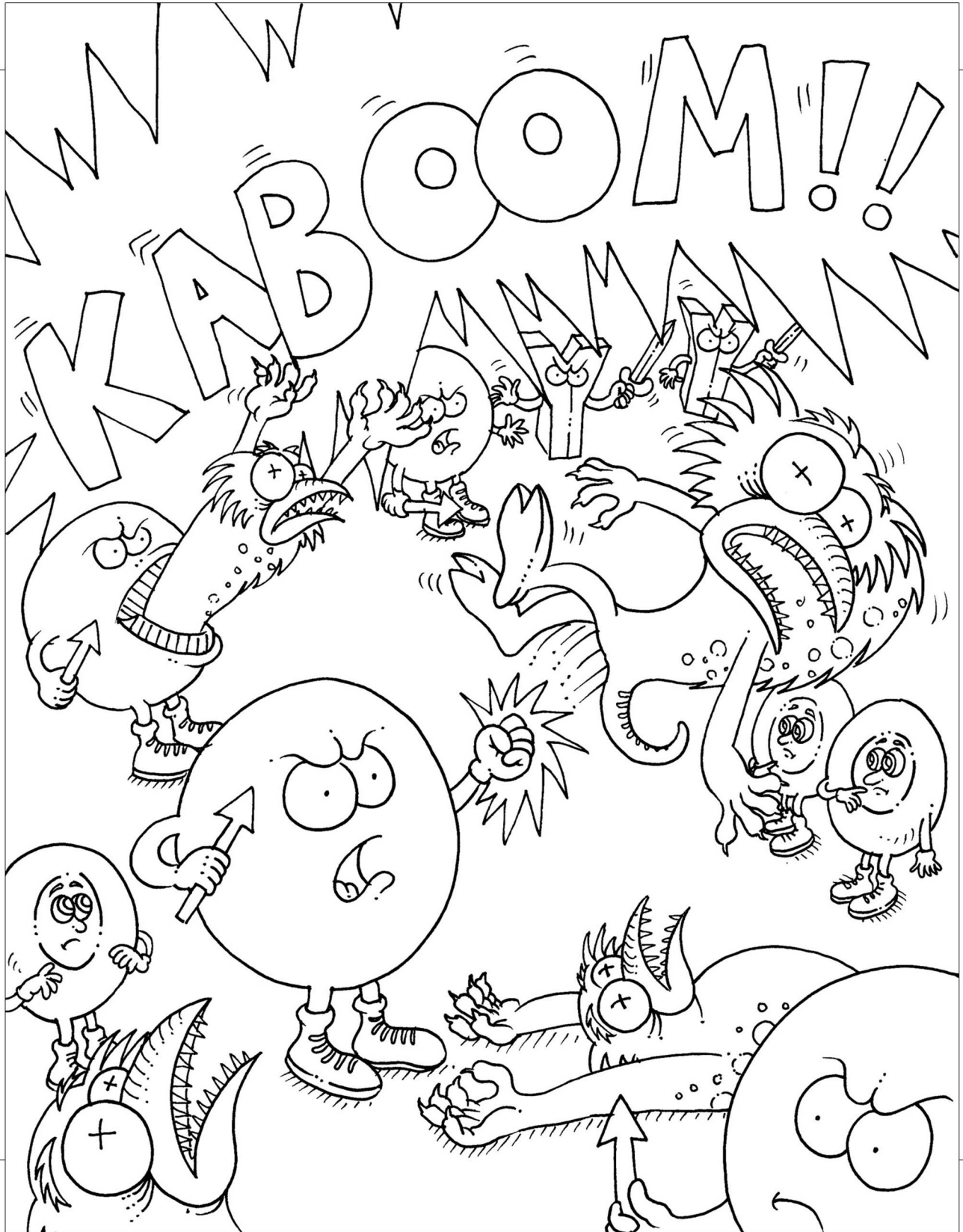
Hemoglobin contains iron  
That makes the blood look red  
This iron binds to oxygen  
To bring it from feet to head.

Besides this vital function  
Food enters the blood at length  
Digested and passed along its stream  
To the organs to give them strength."



Another thing the boy saw  
As he looked through the microscope  
Were white blood cells; called leukocytes  
"They fight off microbes," he wrote.





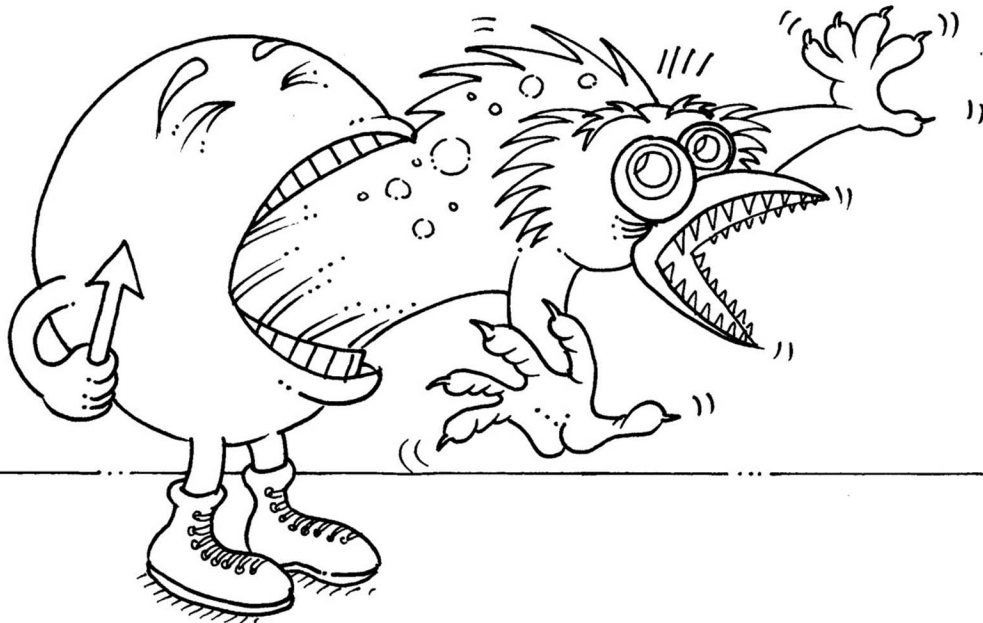
"The white blood cells," he noticed  
"Were larger than the red  
Though fewer than erythrocytes  
They killed the microbes dead!"



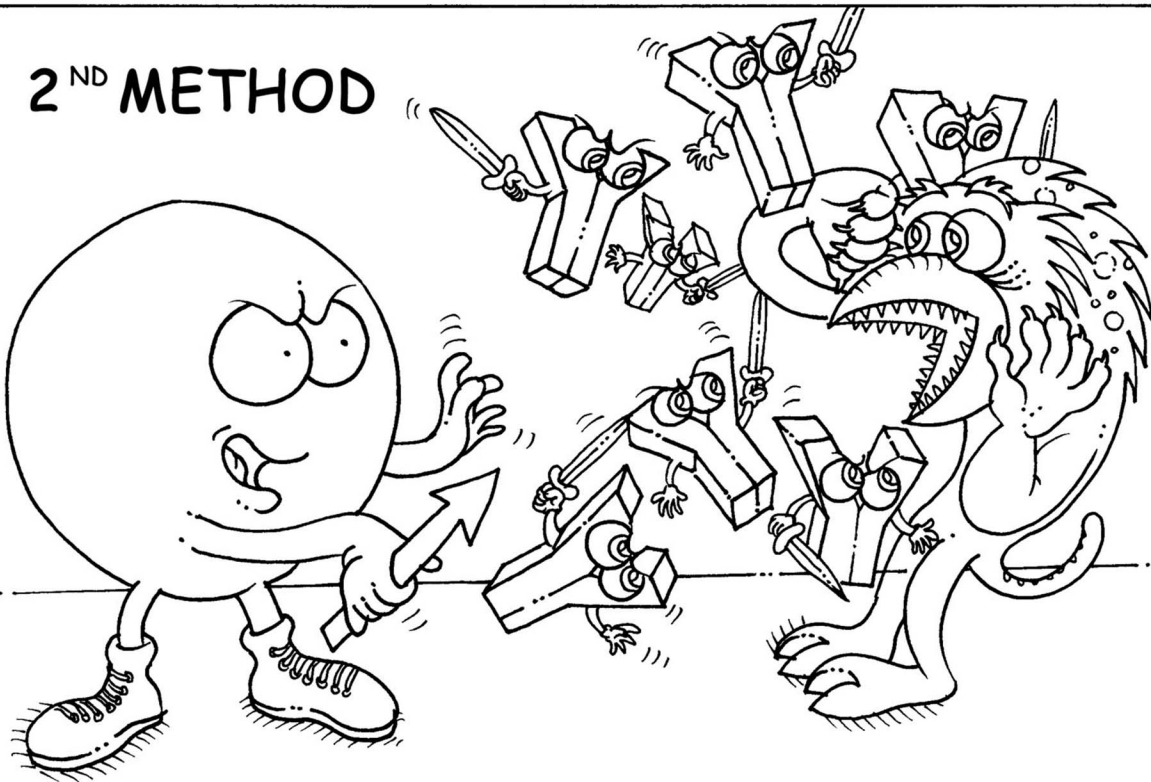


"Microbes," he remembered  
"Were germs that could make you sick  
They enter through the skin or lungs  
And they have to be fought down quick!"

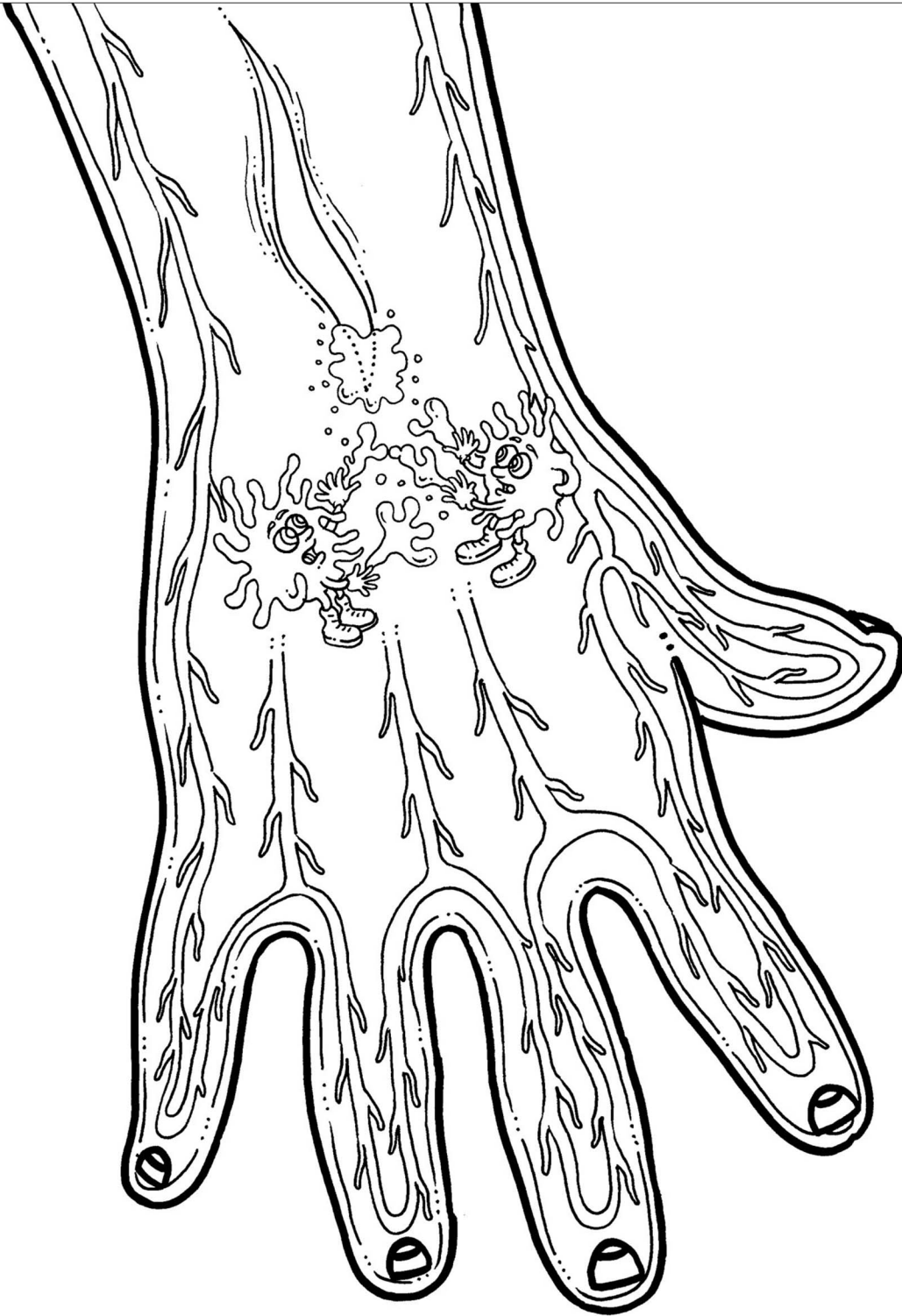
## 1<sup>ST</sup> METHOD



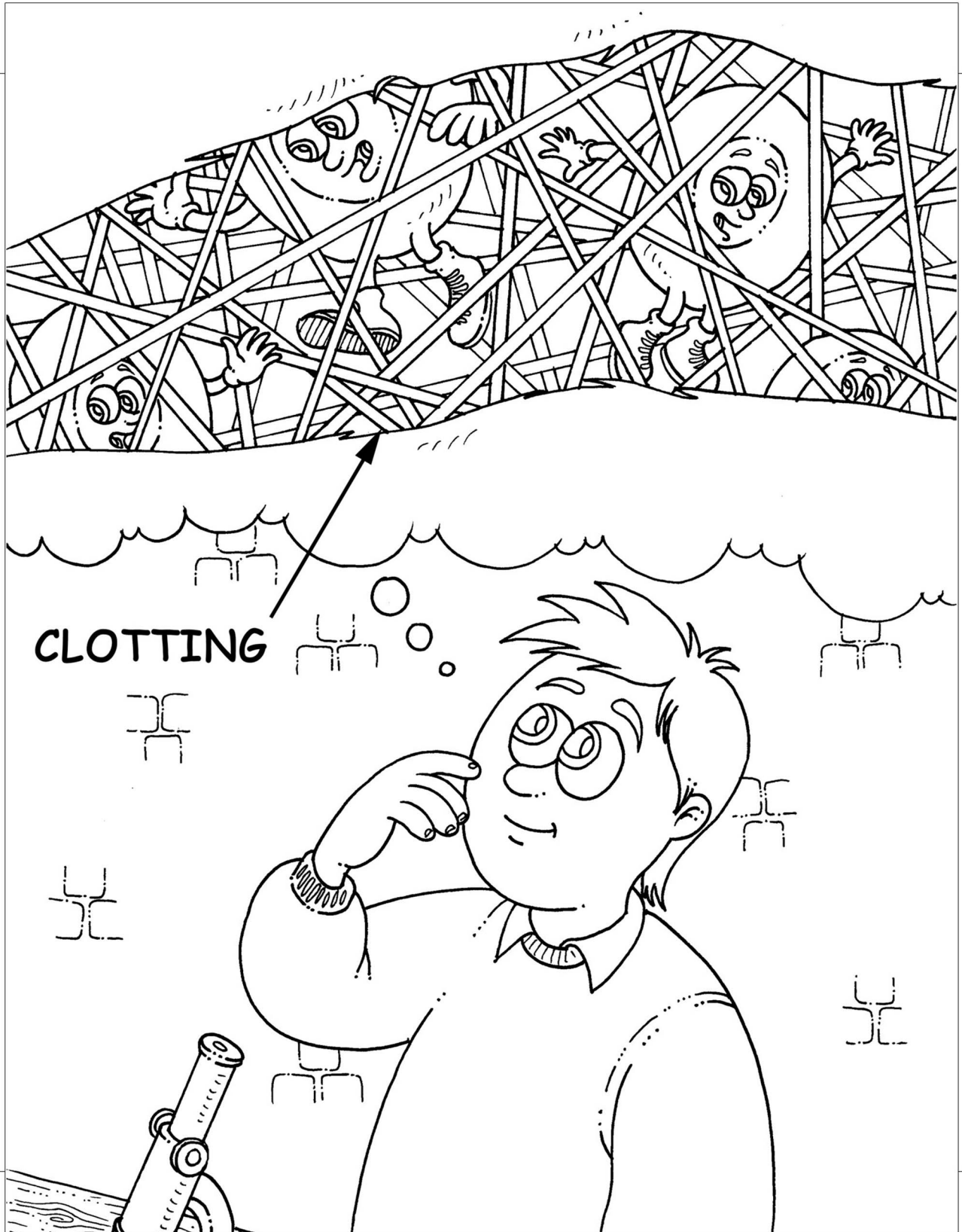
## 2<sup>ND</sup> METHOD



The white cells have two methods  
To beat those bad microbes  
One is to swallow them,  
the other to attack  
With antibodies that take their toll."

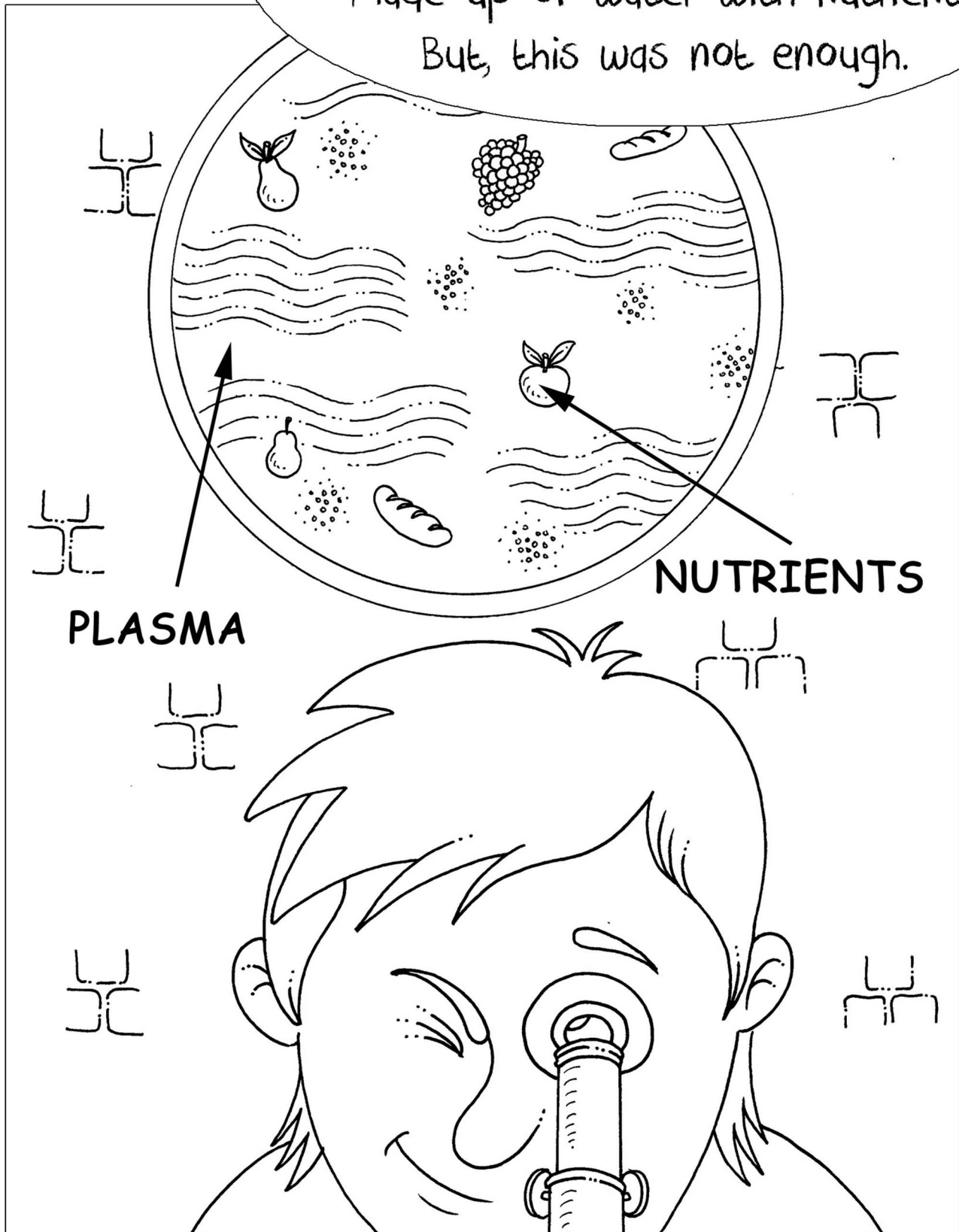


The boy then noticed platelets  
That released a grizzly goo  
To thicken blood when skin is cut  
And keep that blood in you!



"This action is called clotting,"  
The boy remembered fast  
"A clot's made of a million fine threads  
Through which blood's not  
able to pass."

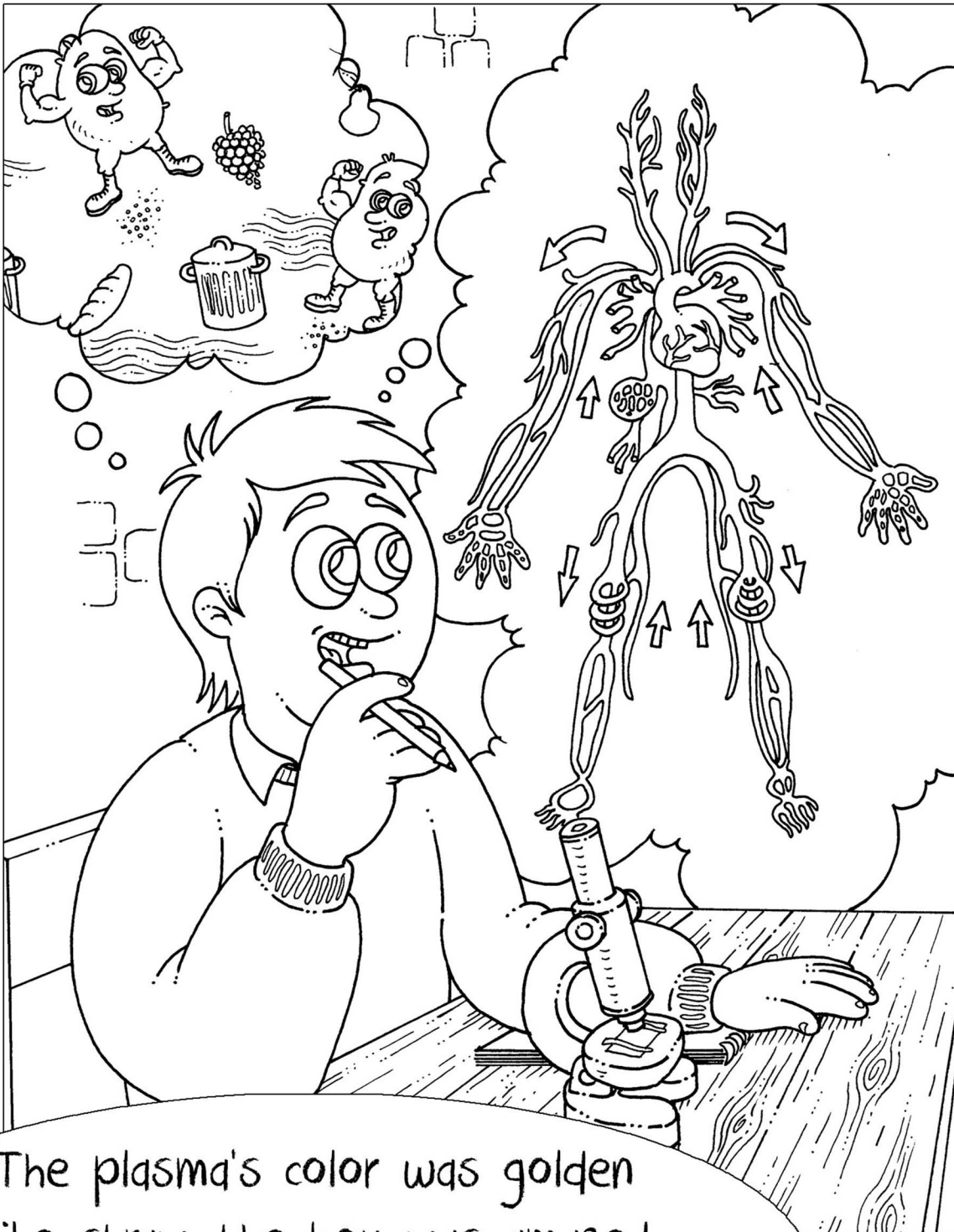
And, last of all, the boy saw  
Plasma, the liquid stuff  
Made up of water with nutrients  
But, this was not enough.







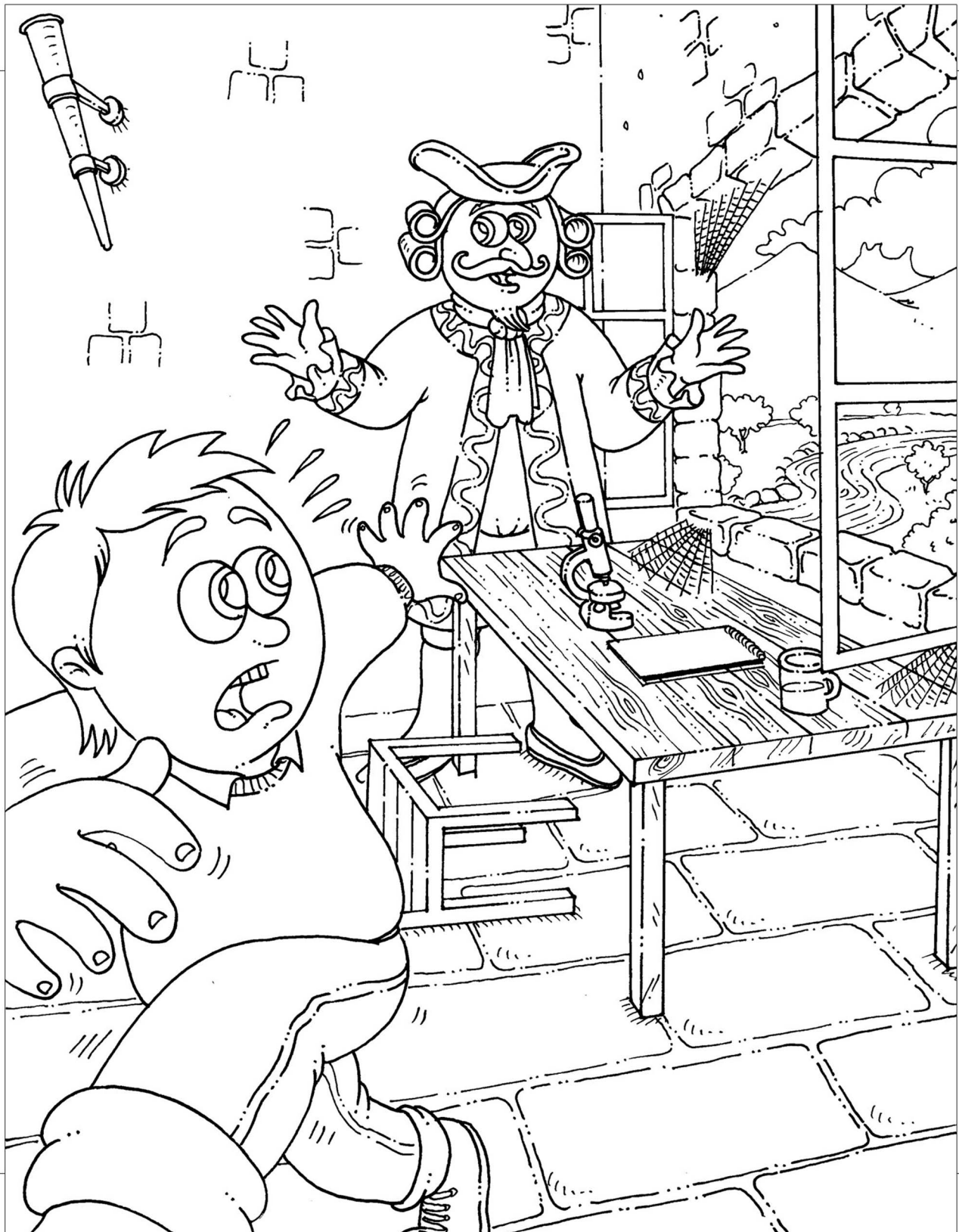
The boy, a scientist so thorough  
Wrote down the plasma's make  
Included waste and hormones too  
Throughout the body to take.



The plasma's color was golden  
Like straw, the boy was amazed  
To learn it carried its contents around  
The circulatory maze.

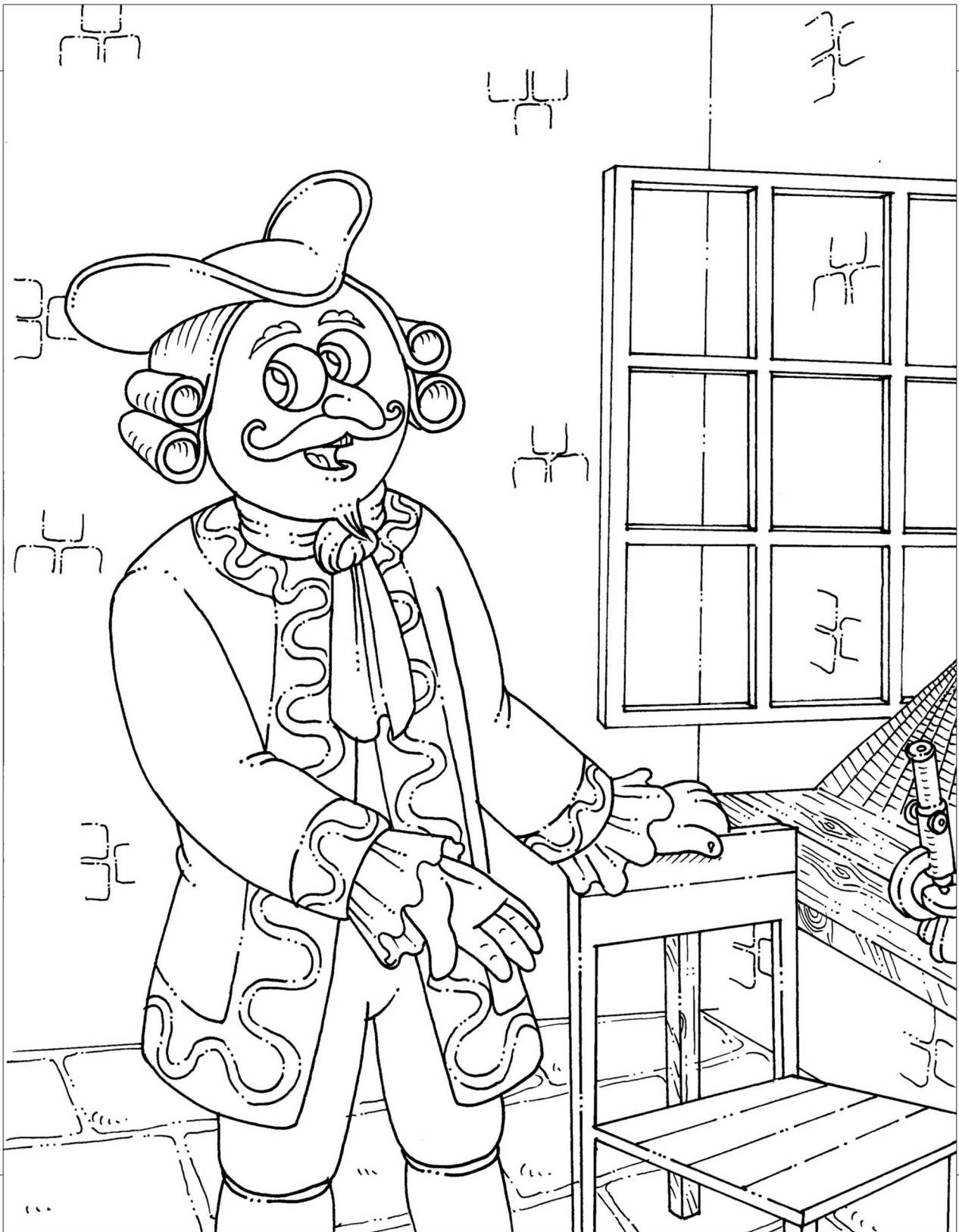
But as the boy was learning  
About the blood so red  
The castle's ghost,  
Who'd opened the window  
Approached; here's what it said...





"Now, boy, you see components  
Of blood, but there is more!"

The boy was afraid and  
did not take heed  
But ran, full speed, for the door!



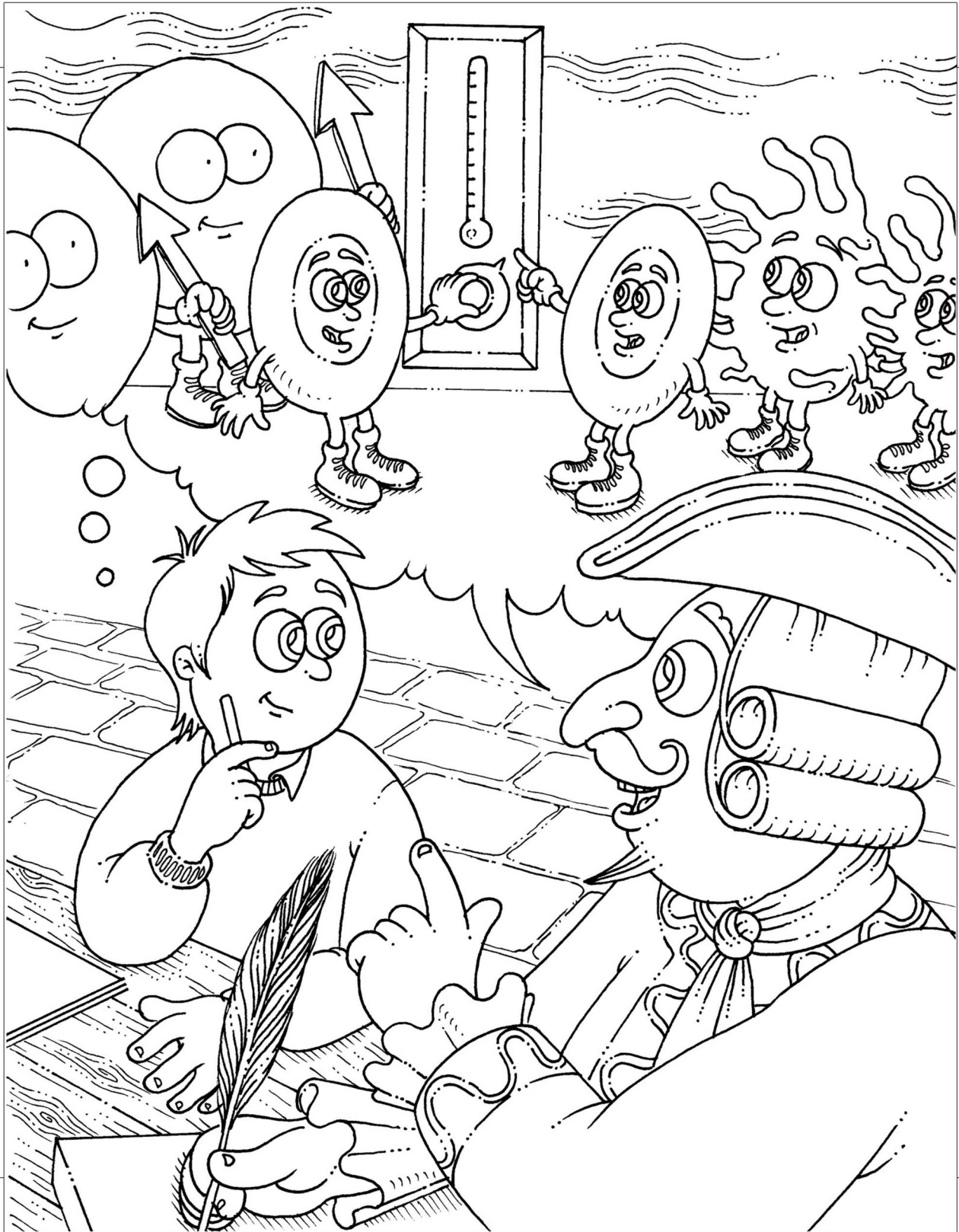
"Now, wait! You needn't fear me!"  
The ghost turned 'round with a smile  
"I only want to teach you of blood  
Come back and sit awhile."



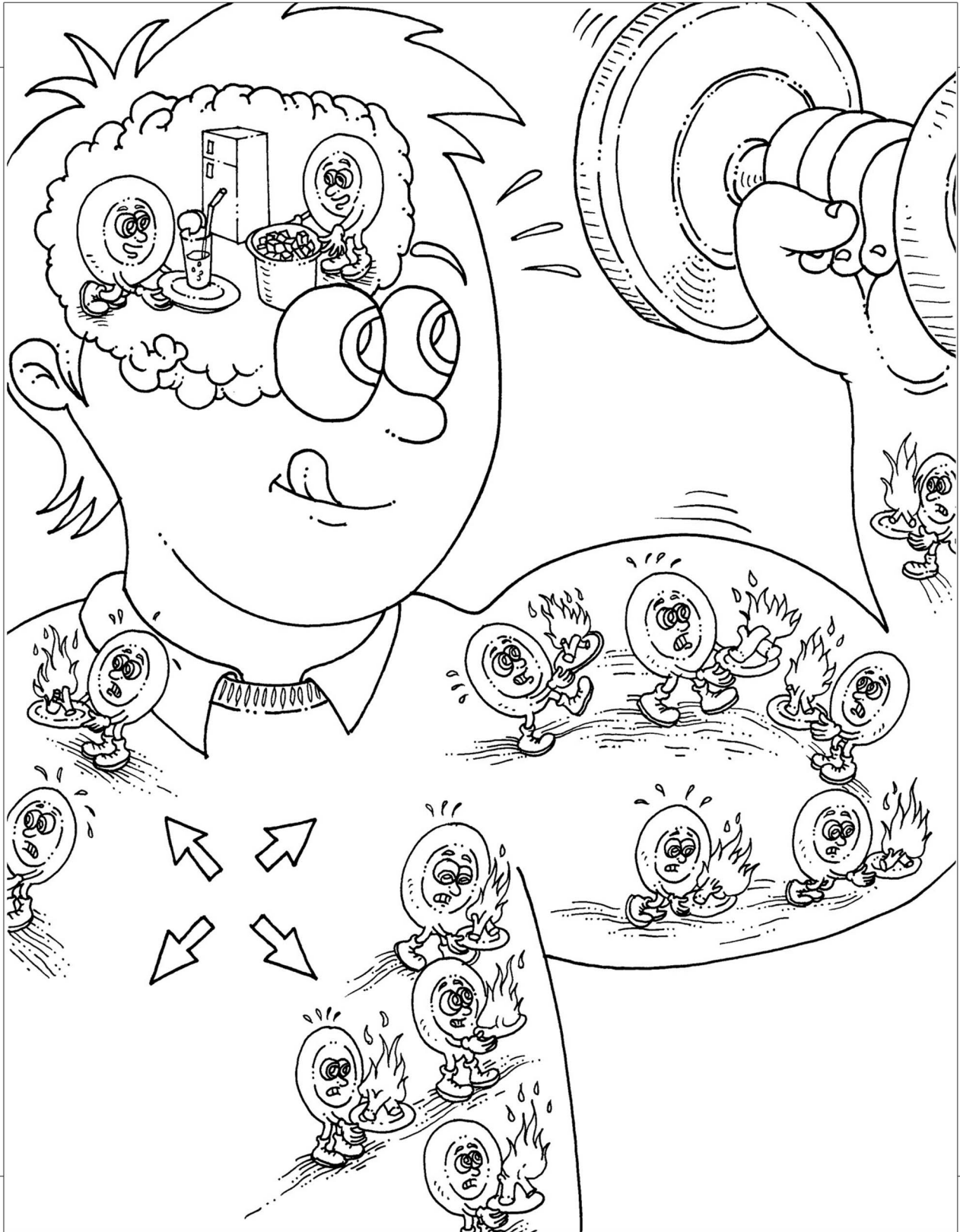




The boy crept back with caution  
The ghost, he thought, seemed kind  
And, so, he took his tablet and wrote  
The lessons from that ghostly mind.

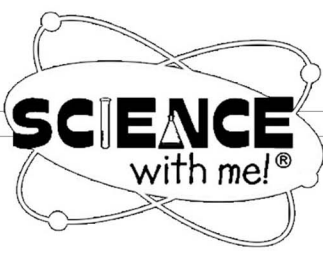


"Another thing that blood does"  
The ghost began to teach  
"Is to regulate your temperature  
So that you don't overheat."



For, muscles, when you're working  
Heat up so much with strain!  
The blood will take  
the heat to your skin  
Blood also cools off your brain.





At your skin, the blood cools down  
By conducting heat outside  
This is how you maintain  
your body's warmth  
Ninety-eight point six Fahrenheit. (98.6°F)

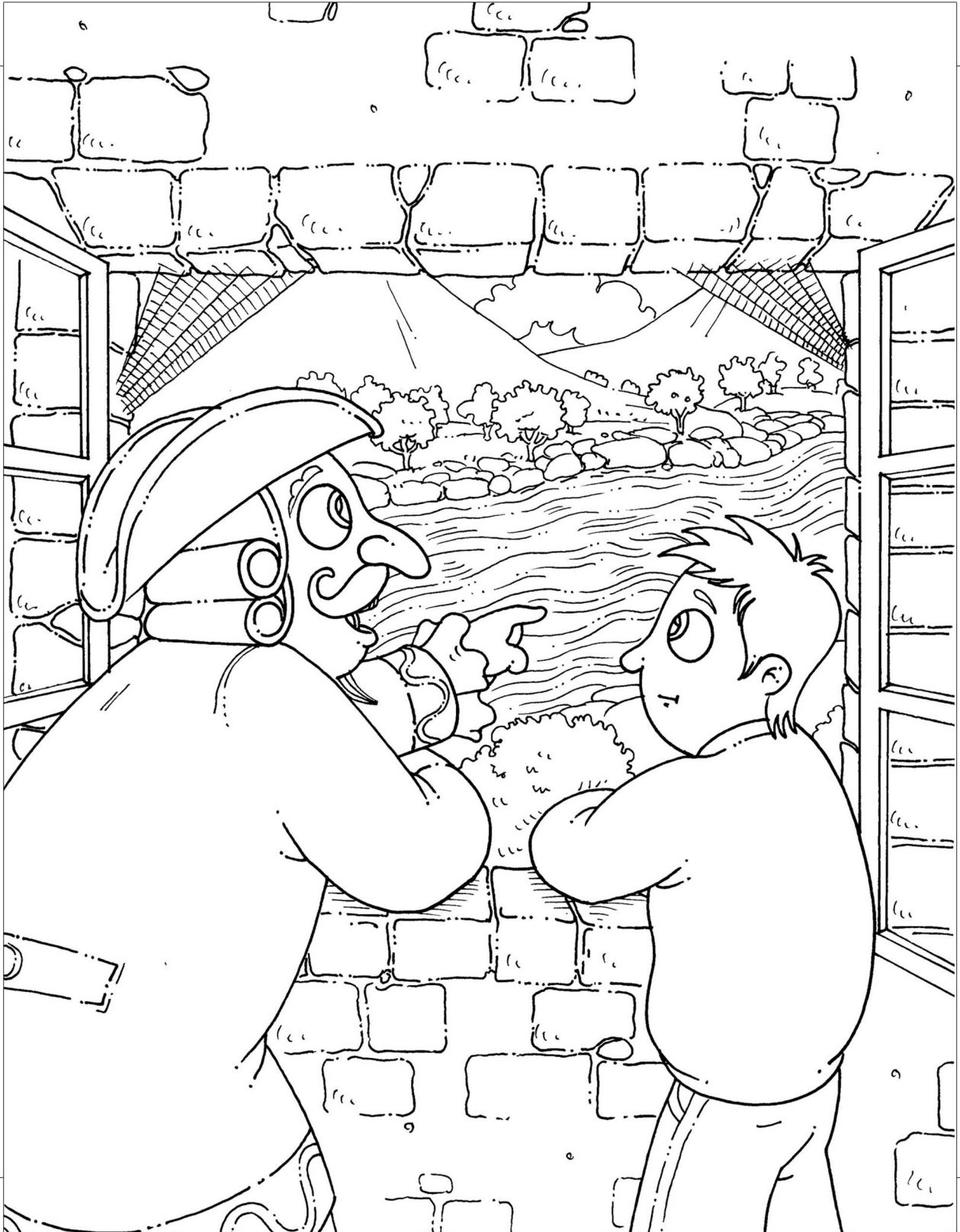




In Celsius, it's different  
Thirty-seven, is the way, it's read  
But, either way, it means you're warm  
From your feet up to your head!



And if you get an infection  
That your blood must fight and beat  
Your temperature gets higher still  
And a fever will, in you, peak!



So, now, you know our river  
Is the 'curse' that all folks fear  
It's the reason the castle  
and I are alone -  
And no one ever comes near!"



"My boy, you've been the brave one!"  
The ghost stood up and grinned  
"Remember if you return some day  
No danger will you be in."



The boy picked up his science journal  
And then shook hands with the spook  
He'd learned so much about blood  
Its make-up and its route.





These days, he visits often  
A friend, the ghost is still  
It's like having a classroom all  
to himself  
In the castle up on the hill.