

overview



SOME TOOLS THAT WE USE EVERYDAY CANNOT BE USED IN SPACE. FOR EXAMPLE, BALL-POINT PENS WORK ON EARTH BECAUSE OF THE FORCE OF GRAVITY.

GRAVITY PULLS INK FROM THE INK CARTRIDGE ONTO A ROLLER BALL AT THE TIP. THE INK IS ROLLED FROM THE ROLLER BALL ONTO THE PAPER. WHEN YOU HOLD A BALL-POINT PEN UPSIDE DOWN, HOWEVER, THE INK CANNOT FLOW ONTO THE ROLLER BALL AND THE PEN WILL NOT WRITE. A PENCIL IS ACTUALLY GRAPHITE, A SOFT, BLACK FORM OF CARBON FOUND IN NATURE. WHEN THE PENCIL POINT IS RUBBED AGAINST THE PAPER, SOME OF THE GRAPHITE IS LEFT BEHIND. GRAVITY DOES NOT AFFECT HOW A PENCIL WORKS. THIS IS A SIMPLE ACTIVITY THAT GETS THE STUDENTS THINKING ABOUT THE EFFECT A WEIGHTLESS ENVIRONMENT HAS ON SIMPLE TOOLS.

materials

- *TWO SHEETS OF TYPING PAPER*
- *HARDCOVER BOOK*
- *BALL-POINT PEN*
- *PENCIL*
- *TWO RUBBER BANDS*

procedures

1. PUT ONE SHEET OF PAPER ON THE BOOK. USE THE PEN AND PENCIL TO WRITE DIFFERENT WORDS.
2. PUT THE OTHER SHEET OF PAPER ON THE BOOK. SECURE THE PAPER TO THE BOOK WITH THE RUBBER BANDS. LIE ON YOUR BACK. WITH YOUR ARMS OUT STRETCHED, HOLD THE BOOK IN FRONT OF YOU.
3. USE THE PEN AND PENCIL AGAIN TO WRITE DIFFERENT WORDS. HOW DO THE PEN AND PENCIL WORK WHEN WRITING UPSIDE DOWN?
4. CAN YOU THINK OF SOME OTHER SIMPLE TOOLS THAT WOULD NOT WORK IN SPACE?

