



environmental affairs

Department:
Environmental Affairs
REPUBLIC OF SOUTH AFRICA

SCIENCE SPAZA

www.sciencespaza.org



REDUCE, REUSE, RECYCLE



ACTIVITY: INNOVATION WITH LITTER

YOU WILL NEED:

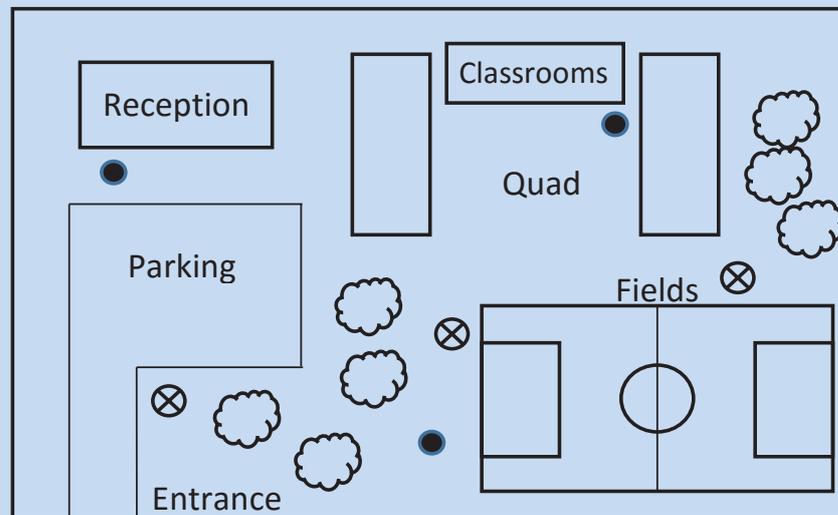
- PAPER AND PEN
- LARGE CONTAINER OR BAG
- CLEAN PLASTIC SHOPPING BAGS

3

SORT THE LITTER INTO ORGANIC (TO MAKE COMPOST) AND INORGANIC. THEN SORT THE INORGANIC INTO PAPER, PLASTIC, GLASS, METAL, AND NON-RECYCLABLE. DRAW A GRAPH TO SHOW THE AMOUNTS OF THE DIFFERENT TYPES OF LITTER.

1

ON YOUR PIECE OF PAPER, DRAW A **MAP** OF YOUR SCHOOL OR AN AREA NEAR YOUR HOME.



2

GO OUT INTO THE AREA THAT YOU HAVE MAPPED AND COLLECT ANY LITTER. ON YOUR MAP, MARK WHERE THE DUSTBINS ARE AND WHERE THE BAD LITTER AREAS ARE. USE CLEAN PLASTIC SHOPPING BAGS TO PROTECT YOUR HANDS.

Knowledge is Ncah!



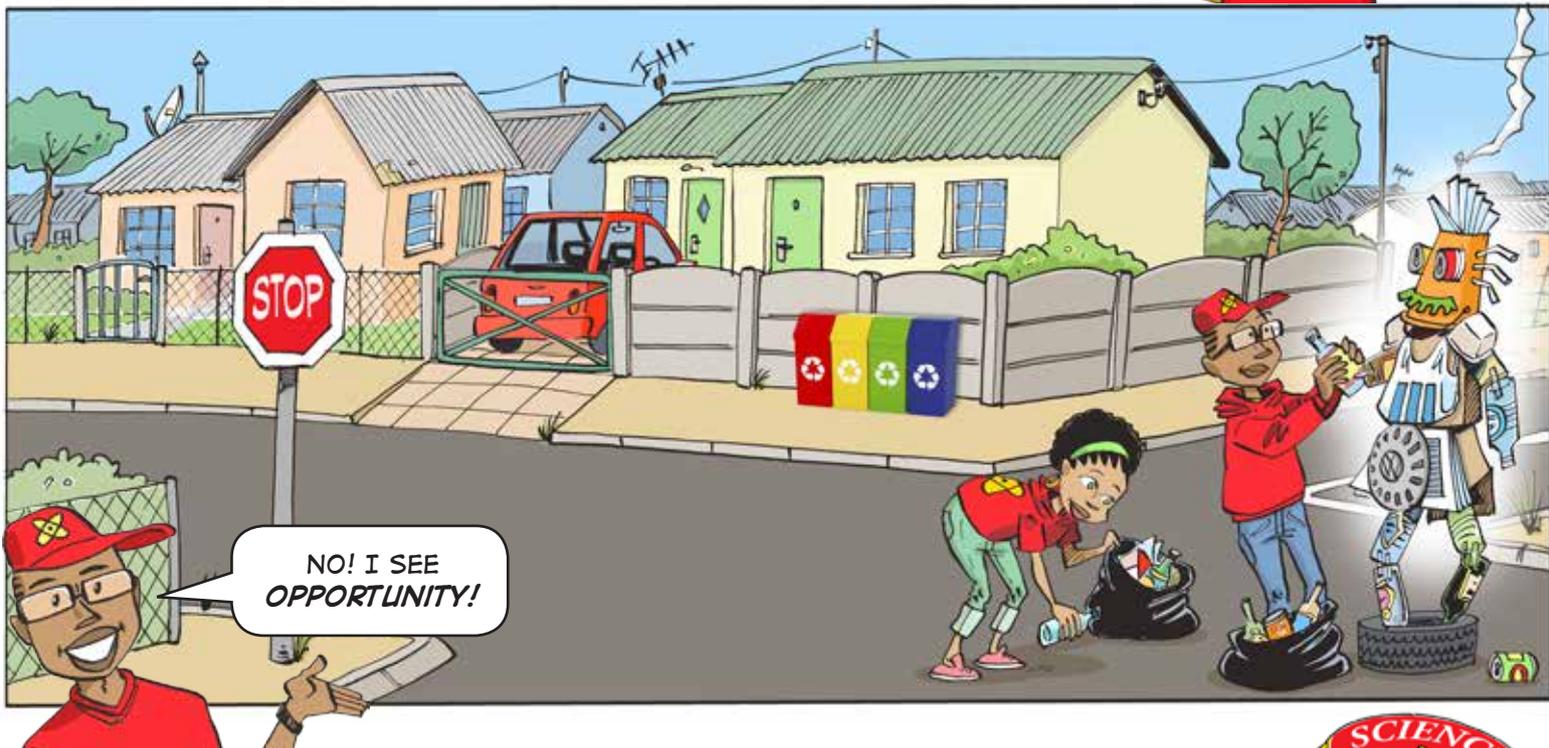
4

PICK OUT SOME OF THE LITTER AND TRY TO MAKE SOMETHING **USEFUL** OR **CREATIVE** FOR YOURSELF, YOUR CLASSROOM OR YOUR COMMUNITY. IT CAN BE ANYTHING THAT WILL **ADD VALUE** TO YOUR LIFE OR **MAKE PEOPLE AWARE** OF THE PROBLEM OF LITTER.

5

TAKE A **PHOTOGRAPH** OF YOUR CREATION AND SEND IT TO **SCIENCE SPAZA** WITH A SHORT DESCRIPTION. FIND OUR DETAILS ON THE BACK OF THIS WORKSHEET.

ONE PERSON'S WASTE IS ANOTHER'S OPPORTUNITY



WHAT'S HAPPENING HERE?

LITTER - PROBLEMS AND SOLUTIONS

YOU PROBABLY SAW THAT THERE IS A WIDE VARIETY OF LITTER IN OUR COMMUNITIES. IT IS NOT ONLY UGLY TO LOOK AT - IT IS HARMFUL FOR THE ENVIRONMENT, BECAUSE:

- IT CAN GET WASHED INTO STREAMS AND CAUSE WATER POLLUTION, MAKING IT UNSAFE TO DRINK.
- IT CAN BE EATEN BY ANIMALS, WHICH CAN MAKE THEM SICK AND EVEN KILL THEM.
- IT CAN BE WASHED INTO THE SEA, WHERE IT KILLS FISH AND OTHER MARINE ANIMALS.



DUMPING OUR LITTER IN LANDFILL SITES IS NOT A SOLUTION: IT TAKES UP MORE AND MORE OF OUR LAND AND POLLUTES THE SOIL AND WATER. **BURNING** OUR LITTER IS ALSO NOT A GOOD SOLUTION: IT GIVES OFF POISONOUS GASES WHICH POLLUTE THE ATMOSPHERE AND INCREASE GLOBAL WARMING.

WE NEED TO FIND BETTER WAYS TO MANAGE OUR LITTER. THE **3 RS** CAN HELP US! THIS IS A THREE-STEP PROCESS TO REDUCE THE AMOUNT OF LITTER IN OUR COMMUNITIES:

- **REDUCE** - THE FIRST STEP IS TO CUT DOWN THE AMOUNT OF LITTER WE PRODUCE (E.G. USE CANVAS BAGS INSTEAD OF PLASTIC PACKETS FOR SHOPPING).
- **REUSE** - THE SECOND STEP IS TO FIND WAYS TO USE THINGS AGAIN THAT WE WOULD NORMALLY THROW AWAY, RATHER THAN BUYING NEW THINGS (E.G. REUSE PLASTIC OR GLASS BOTTLES INSTEAD OF NEW ONES WHICH USE UP MORE RAW MATERIALS).
- **RECYCLE** - THE FINAL STEP IS TO RECYCLE THE RUBBISH THAT CANNOT BE REUSED. COLLECT ALL YOUR RUBBISH, SORT IT INTO ITS DIFFERENT CATEGORIES (PAPER, GLASS, METAL, PLASTIC, OTHER), AND THEN PUT IT IN THE CORRECT RECYCLE BINS OR TAKE IT TO A BUY BACK CENTRE. IT IS THEN USED TO MAKE NEW PRODUCTS (E.G. ALUMINIUM FROM USED COLD-DRINK CANS CAN BE RECYCLED TO MAKE OTHER ALUMINIUM PRODUCTS).

FIND OUT MORE ABOUT RECYCLING AT: WWW.RECYCLING.CO.ZA, WWW.WWF.ORG.ZA OR WWW.TREEVOLUTION.CO.ZA

PUZZLE YOUR MIND!!!



WHICH RECYCLE BIN SHOULD EACH PIECE OF LITTER GO INTO? WRITE EACH LETTER IN THE SPACE BELOW THE CORRECT BIN.



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UNSCRAMBLE THE LETTERS TO FORM FOUR WORDS:

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Knowledge is NCAW!



CAREERS:

THERE ARE GREAT JOB OPPORTUNITIES, SUCH AS:

- ENVIRONMENTAL SCIENTIST
- PLASTICS ENGINEER
- WASTE MANAGER
- ENVIRONMENTAL ENGINEER
- WASTE MANAGEMENT COOPERATIVE

ART FROM LITTER

JOHNSON ZUZE USES LITTER TO PRODUCE ART:

WHERE I STAY PEOPLE LITTER EVERYWHERE. THE PLACE HAD BECOME AN EYESORE AND I THOUGHT I COULD HELP ADDRESS THE PROBLEM BY USING SOME OF THE LITTER TO MAKE ART PIECES, AND THAT IS HOW I BECAME AN ARTIST.



The Prize Bull
by Johnson Zuze



CURRICULUM LINKS

- GRADE 7 **MATTER & MATERIALS** (SORTING AND RECYCLING MATERIALS)
- GRADE 8 **LIFE & LIVING** (INTERACTIONS AND INTERDEPENDENCE WITHIN THE ENVIRONMENT)
- GRADE 12 **MATTER & MATERIALS** (PLASTICS AND POLYMERS)

MAKING A DIFFERENCE

LOOK WHAT CAN BE MADE FROM RECYCLING YOUR WASTE, AND HOW MUCH IT HELPS THE ENVIRONMENT!



EVERY TON OF GLASS THAT IS RECYCLED SAVES 315 KG CO² FROM BEING RELEASED INTO THE ATMOSPHERE, WHICH WOULD HAVE BEEN TO PRODUCE NEW GLASS.



RECYCLING ONE TON OF PLASTIC SAVES MORE THAN 1000 LITRES OF OIL.



RECYCLED ALUMINIUM USES ONLY 5% OF THE ENERGY USED TO PRODUCE NEW ALUMINIUM.



RECYCLING 1 TON OF PAPER CAN SAVE 17 TREES, 7000 GALLONS OF OIL AND 4000 KILOWATTS OF ENERGY.

GIVE US YOUR FEEDBACK

SEND US A **PHOTOGRAPH** OF WHAT YOU MADE IN THE ACTIVITY AND TELL US ABOUT YOUR CREATION. WE'LL PRINT SOME OF YOUR RESPONSES IN THE NEXT **SPAZA SPACE**.

Send your feedback and the name of your club to our Whatsapp or SMS number **076 173 7130**; email us at info@sciencespaza.org; Facebook us at [f ScienceSpaza](https://www.facebook.com/ScienceSpaza) or contact us through our website www.sciencespaza.org

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Department:
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REPUBLIC OF SOUTH AFRICA

This Science Spaza resource was produced in conjunction with the Working on Waste programme, an initiative of the Department of Environmental Affairs (DEA). Working on Waste supports the use of environmentally friendly waste disposal technologies in rural communities and creation of employment through recycling of waste.