

SCIENCE, TECHNOLOGY, ENGINEERING AND MATHS

WATER WORLD

THESE ACTIVITIES FOLLOW ON FROM THE WATER WORLD WORKSHOP THAT YOU HAVE TAKEN PART IN AT DUMFRIES HOUSE STEM CENTRE. USING WHAT YOU LEARNED ABOUT THE WATER CYCLE CAN YOU CARRY OUT A WATER SURVEY AT SCHOOL?

ACTIVITY 1:

CARRY OUT A WATER SURVEY

You'll need some nets or sieves, some trays, a jug for water and a pond. (Be careful around water, make sure you have somewhere safe to access the pond. If you have any recent cuts cover them up with a waterproof plaster.)

Do some pond dipping and see what invertebrates you can catch. Compare what you find with the Water Invertebrate ID guide.

1. Pour some water from the pond into your tray so that anything you catch will have some water to swim in.
2. Sweep your net or sieve in a slow figure of eight through the water, knocking gently against any plants or side will dislodge any invertebrates.
3. Empty your net or sieve into your tray rinsing it off in the water.
4. Animals in green boxes can only survive in very clean ponds, if you find any of these you get 10 points.
5. Animals in blue boxes can only survive in quite clean ponds, if you find any of these you get 5 points.
6. Animals in red boxes can survive in dirty ponds, if you find any of these you get 1 points.
7. Tot-up the number of points your pond has, if your pond has more than 30 points then it is nice and healthy.
8. Remember to return all of the invertebrates back to where you found them. And wash your equipment before using it in another pond.

BIOINDICATORS: SOME ANIMALS CAN ONLY SURVIVE IN CLEAN ENVIRONMENTS, THAT MEANS IF YOU FIND THEM YOU KNOW THE ENVIRONMENT IS CLEAN. THESE ANIMALS ARE CALLED BIO-INDICATORS BECAUSE THEY INDICATE A CLEAN ENVIRONMENT. THE DRAGONFLY LARVAE IS A BIO-INDICATOR OF CLEAN WATER.

POINTS: YOU CAN ONLY SCORE EACH INVERTEBRATE ONCE, E.G. IF YOU FIND 3 DRAGONFLY LARVAE YOU GET 10 POINTS, NOT 30.

Dragonfly larvae

POND HEALTH
SCORE
10



- Fat body
- Angular head
- No tails but 5 short spines at the end of the body

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USEFUL RESOURCES

PH PAPER:

www.science-sparks.com/make-a-red-cabbage-indicator/

MAKE YOUR OWN PH PAPER TO MEASURE THE WATER'S ACIDITY OR ALKALINITY

RISK ASSESSING POND DIPPING:

www.rospa.com/leisure-water-safety/water/advice/pond-dipping

ROSPA HAVE SOME GREAT ADVICE TO KEEP YOU SAFE WHILE POND DIPPING

MAKE A CLOUD IN A BOTTLE:

www.youtube.com/watch?v=G70y90BVes4

THE MET OFFICE HAS A STEP BY STEP GUIDE TO MAKING A CLOUD IN A BOTTLE TO OBSERVE CONDENSATION IN ACTION.

