Scorpio Technology NEWSLETTER

INSIDE THIS ISSUE



(Code: CDCLOCK)



(Code: LPCLOCK)

WELCOME

Welcome to our newest newsletter.

The first semester is almost finished and school holidays are around the corner. Please stay safe and enjoy your break.

TECHNOLOGY AT PRIMARY - TIME

Many teenagers struggle with reading an analogue clock due to the prevalance of digital time on mobile phones and other electronics.

Time is a part of the STE(A)M Primary curriculum at all year levels. Science – measuring time in natural surroundings, Technology – constructing time measuring devices, Art – how artists convey time; Mathematics – measuring and recording time. This is just a starting point.

"*Telling the time by a pattern of hands on a dial is part of the primary school curriculum. And rightly so, because of the computational gymnastics involved. Reading an analogue clock is a cognitive workout, requiring attribution of different values to the same 12 symbols, interpreted on three parallel planes — seconds, minutes, hours. Only with practice does this awesome mental feat come to feel easy*."
(www.theguardian.com/commentisfree/2018/apr/25/the-guardian-view-on-analogue-clocks-their-time-has-not-run-out)

During or at the end of a study of time upper Primary students can construct their own analogue clock. Scorpio has introduced two kits – one to make a CD clock, the other a LP clock. You just need to supply the CD or LP.

What skills are required? This depends student ability. Planning, measuring (numeral placement), following directions, etc.

WHAT'S NEW?

- ☆ Our online catalogues are updated frequently. There's always something new.
- ☆ New products in the Science and Physics area. Check out the online catalogue.
- ☆ Primary level projects, kits and resources continues to expand. Check out the online catalogue.
- ☆ All teaching units (80+) are undergoing revision. A huge task but we hope the changes will make your job easier and provide even more resources.

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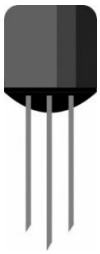
This Month's Q&A Technology Tips: Testing Transistors

Q: How can we check which transistors are faulty?

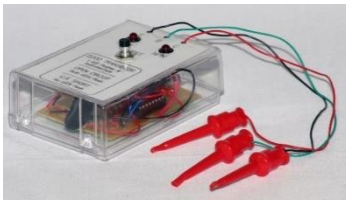


A: Transistors can be tested without removing them from their circuit. Unsoldering, testing and replacing the transistor in a circuit is tedious and time consuming. It might not even be faulty. Use an in-circuit transistor tester such as the one sold in kit form from Scorpio to overcome these problems.

The **In-circuit Transistor Tester** (Code: TRANT) is suitable for testing BiPolar Transistors. You cannot test MOSFET or other types of transistors. The tester will allow you to find out if there are shorts or open circuits between Base, Collector and Emitter and this can be done without unsoldering the transistor from the circuit.

Connect the leads to the appropriate legs of the transistor, push the test button and the transistor tester will indicate whether the transistor needs to be replaced. Every teacher should have one.

We advise all students to check their transistors using an In Circuit Transistor Tester before and batteries are connected. The tester cannot determine if a transistor is leaky.



Transistor tester (TRANT)

Mini LED Tester (LEDTEST)

TEACHER CONFERENCES & WORKSHOPS

Scorpio is attending or supporting these Design & Technology teacher activities:

DATTA VIC – 29th March, 2019; Workshop: Build your own Infrared, Remote-controlled STEaM Model
NSW EDUC STANDARDS AUTHORITY – 6-7 April, 2019 Killara High School, Sydney
DATTA VIC – 10th May, 2019: "Emerging Technologies"
DATTA QLD - 27-28 June, 2019
DATTA WA – 5th July, 2019
DATTA ACT – 21st September, 2019: TECHnow Conference
DATTA AUST - 14-20 October 2019: Design & Technologies Week 2019
ITE (was IIATE)- 27–29 November 2019

PLEASE HELP!

The team at Scorpio welcome your questions. No question is ever too simple to ask. The only silly question is the one "unasked". If we can't answer you then one of our knowledgeable consultants will assist.

Check out the reference section on our website. These are questions have been asked by teachers such as yourself.

Inspirational projects for teaching Design, Creativity & Technology

10 PRINCIPLES FOR GOOD DESIGN

It's usually easy to spot a bad design but what actually makes a good design?

"Less, but better".

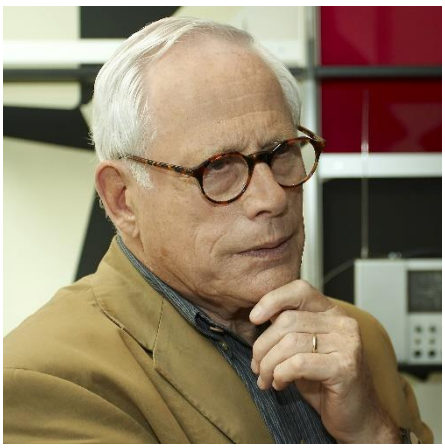
Back to purity,

back to simplicity.

Dieter Rams

Dieter Rams (b. 20 May 1932) was a German industrial designer who developed many products for Braun. While he was evaluating his own work he developed 10 principles that defined a good design.

1. **Is innovative**
2. **Makes a product useful**
3. **Is aesthetic**
4. **Makes a product understandable**
5. **Is unobtrusive**
6. **Is honest**
7. **Is long-lasting**
8. **Is thorough down to the last detail**
9. **Is environmentally friendly**
10. **Involves as little design as possible**



The explanation of each principle and Rams' products can be found at https://www.vitsoe.com/us/about/good-design:

Do these principles work for students?

Dieter Rams' principles apply to Design and Technology and also Digital Technology. When something is designed it must serve a purpose. Using a Mobile phone app that doesn't do what it should is just as annoying as an uncomfortable chair.

Teachers need to evaluate student work, but it is also helpful to the student to have guidelines to look at what they have achieved. With this knowledge they are able to improve their designs, manufacturing skills etc. Rams' principles gives them an insight into the exciting world of design.

REFERENCES USED:

- https://www.vitsoe.com/us/about/good-design
- https://www.interaction-design.org/literature/article/dieter-rams-10-timeless-commandments-for-good-design
- https://en.wikipedia.org/wiki/Dieter_Rams
- https://commons.wikimedia.org/wiki/File:Designer-Dieter_Rams.jpg