

## New transistor shows promise for wearable tech

Washable and bendy, the component marks a watershed in a highly competitive area. This article shows an application of future technology that has been made possible thanks to STEM knowledge. This activity would be suitable for Chemical, Physical and Earth and Space Sciences for years 4, 5, 6, 7, 8, and 10 as well as senior secondary sciences.

**Interactive activity included.**

Word Count: 280

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LINKED TO SCIENCE UNDERSTANDING		
	TOPIC	CONCEPTS
<b>Biological Sciences</b>		
<b>Chemical Sciences</b>	Atoms Solids/Liquids/Gases Particle Models	Properties of Matter Change of Matter
<b>Earth and Space Sciences</b>	Renewable/non-renewable resources	The Earth's Surface
<b>Physical Sciences</b>	Energy	Energy
<b>Additional</b>	Careers, Technology, Engineering.	

YEAR	BIOLOGICAL SCIENCES	CHEMICAL SCIENCES	EARTH AND SPACE SCIENCES	PHYSICAL SCIENCES
R				
1				
2				
3				
4		<a href="#">ACSSU074</a>		
5		<a href="#">ACSSU077</a>		
6		<a href="#">ACSSU095</a>		<a href="#">ACSSU097</a>
7			<a href="#">ACSSU116</a>	
8		<a href="#">ACSSU151</a>		<a href="#">ACSSU155</a>
9				
10				<a href="#">ACSSU190</a>

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LINKED TO SCIENCE INQUIRY SKILLS	YEAR
<b>Questioning and predicting</b>	
1. How might this technology change the way people live in the future?	<b>6, 7, 8, 10</b>
2. What science (knowledge) advancements might be able due to this technology?	<b>10</b>
3. What future careers might be impacted by this technology?	<b>10</b>
<b>Planning and conducting</b>	
1. What would you use this technology for, and why?	<b>4, 5, 6, 7, 8, 10</b>
<b>Evaluating</b>	
1. Who might use or benefit from this technology and how?	<b>4, 5, 6, 7, 8, 10</b>
2. What problems, do you think, scientists are trying to solve with the development of this technology?	<b>5, 6, 7, 8, 10</b>
3. In what way(s) has this technology changed or refined peoples' understanding?	<b>7, 8, 10</b>
4. What STEM careers and disciplines might have collaborated on the research and development of this technology?	<b>7, 8, 10</b>
5. What are the ethical implications with technology such as this? [consider use and access to data]	<b>7, 8, 10</b>
6. What science skills do you think might have been used in the research and development of this technology?	<b>7, 8, 10</b>
7. Who might have funded this research and for what reason?	<b>10</b>
<b>Communicating</b>	
1. What is new and special about this transistor? (What properties does this transistor have?)	<b>4, 5, 6, 7, 8, 10</b>

### Further reading / activity suggestion:

Allow students to read through the articles in the link below and possibly have a debate on the ethics of A.I. This could be focused around whether it should be used in law courts, who should be allowed access to data received from wearables or anything else that your class seem opinionated about after exploring the content below.

<https://australiascience.tv/theme/artificial-intelligence-and-machine-learning/>

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YEAR	LINKED TO SCIENCE AS A HUMAN ENDEAVOUR	CURRICULUM CODE
Yr 4	<b>Nature and development of science</b>	
	1. Science involves making predictions and describing patterns and relationships.	<a href="#">ACSHE061</a>
	<b>Use and influence of science</b>	
	1. Science knowledge helps people to understand the effect of their actions. a. <i>investigating how a range of people, such as clothing designers, builders or engineers use science to select appropriate materials for their work</i>	<a href="#">ACSHE062</a>
Yr 5	<b>Nature and development of science</b>	
	1. Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions.	<a href="#">ACSHE081</a>
	<b>Use and influence of science</b>	
	1. Scientific knowledge is used to solve problems and inform personal and community decisions. a. <i>investigating how the development of materials such as plastics and synthetic fabrics have led to the production of useful products</i> b. <i>describing how technologies developed to aid space exploration have changed the way people live, work and communicate</i>	<a href="#">ACSHE083</a>
Yr 6	<b>Nature and development of science</b>	
	1. Science involves testing predictions by gathering data and using evidence to develop explanations of events and phenomena and reflects historical and cultural contributions.	<a href="#">ACSHE098</a>
	<b>Use and influence of science</b>	
	1. Scientific knowledge is used to solve problems and inform personal and community decisions. a. <i>considering how electricity and electrical appliances have changed the way some people live</i>	<a href="#">ACSHE100</a>

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YEAR	LINKED TO SCIENCE AS A HUMAN ENDEAVOUR	CURRICULUM CODE
Yr 7	<b>Nature and development of science</b>	
	1. Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available.	<a href="#">ACSHE119</a>
	1. Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures.	<a href="#">ACSHE223</a>
	<b>Use and influence of science</b>	
	1. Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations.	<a href="#">ACSHE120</a>
	2. People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity.	<a href="#">ACSHE121</a>
Yr 8	<b>Nature and development of science</b>	
	1. Scientific knowledge has changed peoples' understanding of the world and is refined as new evidence becomes available. <i>a. considering how the idea of elements has developed over time as knowledge of the nature of matter has improved</i>	<a href="#">ACSHE134</a>
	2. Science knowledge can develop through collaboration across the disciplines of science and the contributions of people from a range of cultures. <i>a. investigating how Aboriginal and Torres Strait Islander Peoples connect knowledge from the disciplines of physics, chemistry, biology and geology in the development of material culture</i>	<a href="#">ACSHE226</a>
	<b>Use and influence of science</b>	
	1. Solutions to contemporary issues that are found using science and technology, may impact on other areas of society and may involve ethical considerations.	<a href="#">ACSHE135</a>
	2. People use science understanding and skills in their occupations and these have influenced the development of practices in areas of human activity. <i>a. considering how engineers improve energy efficiency of a range of processes</i> <i>b. investigating how scientists have created new materials such as synthetic fibres, heat-resistant plastics and pharmaceuticals</i>	<a href="#">ACSHE136</a>

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Yr 10	<b>Nature and development of science</b>	
	1. Scientific understanding, including models and theories, is contestable and is refined over time through a process of review by the scientific community.	<a href="#">ACSHE191</a>
	2. Advances in scientific understanding often rely on technological advances and are often linked to scientific discoveries.	<a href="#">ACSHE192</a>
	<b>Use and influence of science</b>	
	1. People use scientific knowledge to evaluate whether they accept claims, explanations or predictions, and advances in science can affect people's lives, including generating new career opportunities. <ul style="list-style-type: none"> <li>a. <i>predicting future applications of aspects of nanotechnology on people's lives</i></li> <li>b. <i>considering how the computing requirements in many areas of modern science depend on people working in the area of information technology</i></li> </ul>	<a href="#">ACSHE194</a>
2. Values and needs of contemporary society can influence the focus of scientific research. <ul style="list-style-type: none"> <li>a. <i>recognising that financial backing from governments or commercial organisations is required for scientific developments and that this can determine what research is carried out</i></li> </ul>	<a href="#">ACSHE230</a>	