When certain materials drop below a critical temperature, they enter a superconducting phase characterized by zero electrical resistance. A readily visualized signature of the superconducting state is the ability to expel magnetic fields. In this photo, a magnet placed on top of the ceramic yttrium barium copper oxide levitates as the temperature drops below 123 kelvin and the material becomes superconducting. See the special section beginning on page 189.

Photo: Takeshi Takahara/Photo Researchers, Inc.
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RESEARCH ARTICLES

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240 Association of TALS Developmental Disorder with Defect in Minor Splicing Component U4atac snRNA
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Mutation in a small nuclear RNA hinders splicing of pre-messenger RNAs and causes the severe malformations of Taybi-Linder syndrome.

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Science 332 (6026), 145-257.