EXPERIMENT MANUAL

REMOTE-CONTROL MACHINES

ANIMALS

THAMES & KOSMOS

Franckh-Kosmos Verlags-GmbH & Co. KG, Pfizerstr. 5-7, 70184 Stuttgart, Germany | +49 (0) 711 2191-0 | www.kosmos.de
Thames & Kosmos, 301 Friendship St., Providence, RI, 02903, USA | 1-800-587-2872 | www.thamesandkosmos.com
Thames & Kosmos UK Ltd, Goudhurst, Kent, TN17 2QZ, United Kingdom | 01580 212000 | www.thamesandkosmos.co.uk

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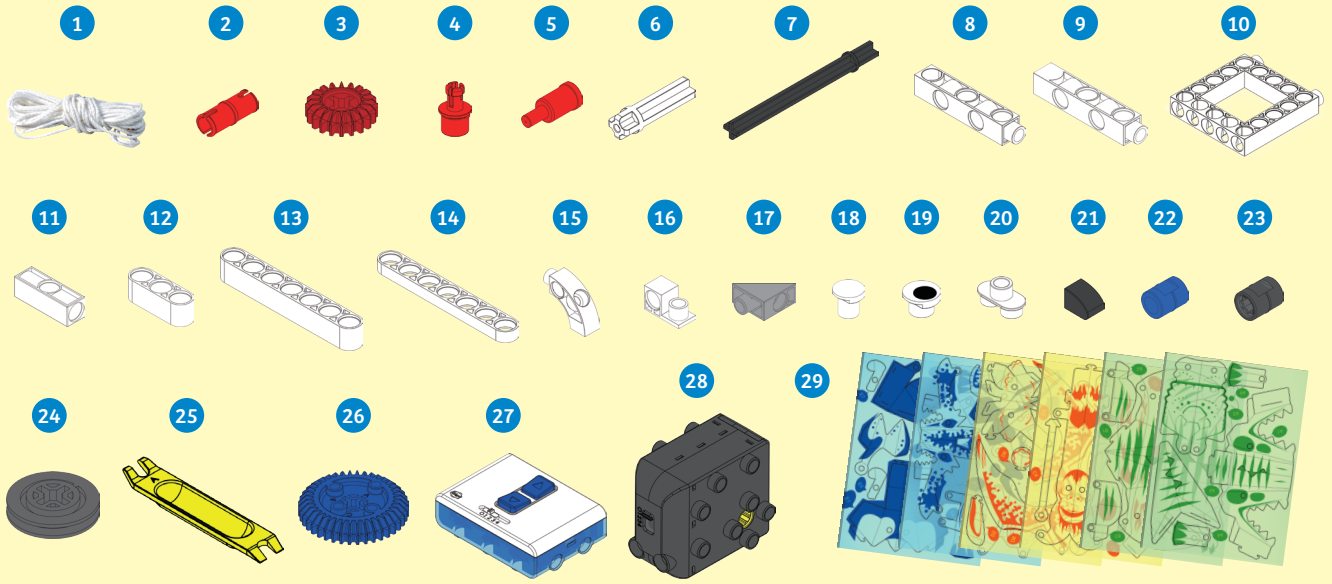
GOOD TO KNOW !
If you are missing any parts, please contact Thames & Kosmos customer service.

What's inside your experiment kit:



Checklist: Find – Inspect – Check off

✔	No.	Description	Qty.	Item No.
◯	1	String, cotton (200 cm)	1	R39-W85-200
◯	2	Joint pin	8	1156-W10-A1R
◯	3	Small gear	2	7026-W10-D2R
◯	4	Shaft plug	4	7026-W10-H1R
◯	5	Shaft pin	4	7026-W10-J3R
◯	6	Motor axle	2	7026-W10-L1W
◯	7	Axle, 7 cm	1	7061-W10-Q1D
◯	8	5-hole dual rod B	2	7026-W10-S2W
◯	9	5-hole dual rod C	2	7026-W10-S3W
◯	10	Square frame	2	7026-W10-V1W
◯	11	3-hole cross rod	3	7026-W10-X1W
◯	12	3-hole wide rounded rod	4	7404-W10-C1W
◯	13	7-hole wide rounded rod	4	7404-W10-C2W
◯	14	7-hole flat rounded rod	4	7404-W10-C3W
◯	15	Curved rod	4	7061-W10-V1W
◯	16	90-degree converter - X	4	7061-W10-J1W
◯	17	Flat triangle	4	7128-W10-A2S
◯	18	Button pin	6	7061-W10-E2W
◯	19	Eye pin	4	7128-W22-2
◯	20	Two-to-one converter	4	7061-W10-G1W
◯	21	Nose piece	2	7402-W10-C2D
◯	22	Short anchor pin	1	880-W10-M1B
◯	23	Anchor pin	8	7402-W10-C1D
◯	24	Small pulley	1	7344-W10-N3S
◯	25	Anchor pin lever	1	7061-W10-B1Y
◯	26	Medium gear with 4 holes	4	7346-W10-C1B
◯	27	IR remote control unit	1	7336-W85-A1
◯	28	IR motor unit	1	7336-W85-B1
◯	29	Plastic die-cut sheets (6)	1	7336-PP

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TIP!
You will find additional information in the "Check it out" sections on pages 6, 11, 16, 20, 24, 28, 32, and 36.

You will also need:
6 x AAA batteries (1.5-volt, type AAA/LR03)

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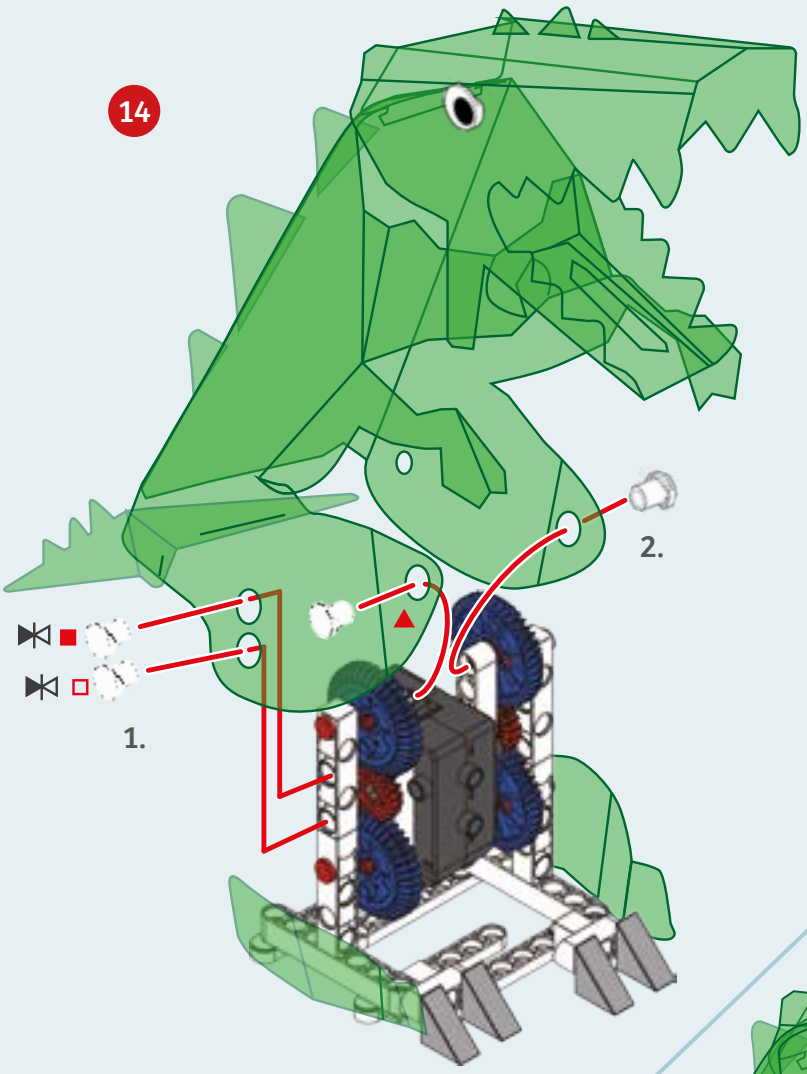
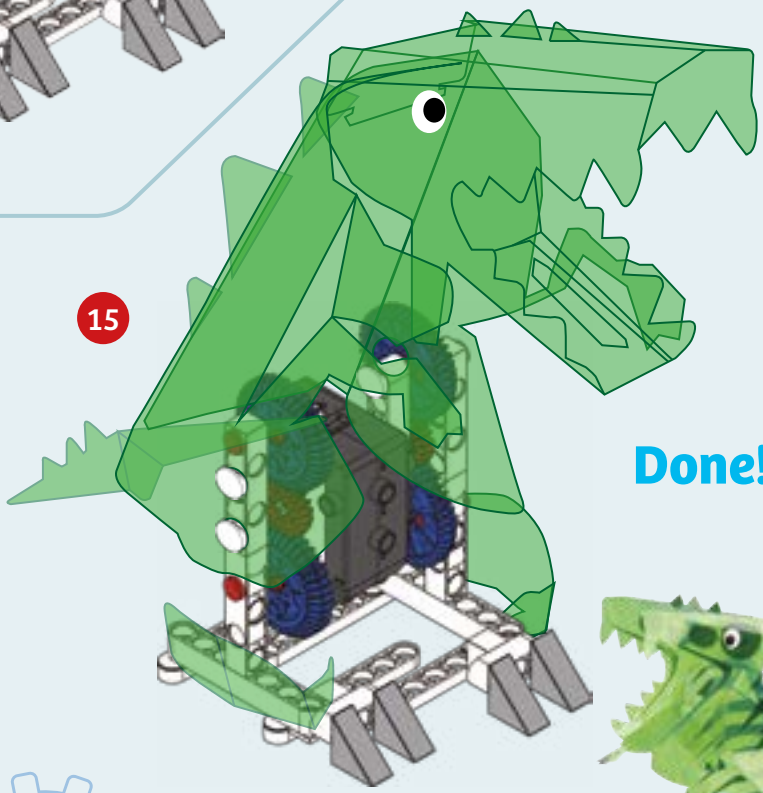


KEYWORD: BIOMECHANICS

Biomechanics is the study of living things and biological systems according to the methods of mechanics, which is the area of physics concerned with objects, forces, and movement. The models in this kit are mechanical. They certainly do not function exactly the same way as the bones and muscles of the animals they represent. Rather, they are designed to use mechanical elements to mimic signature movements of the animals.



WHAT'S HAPPENING?

The T. rex walks forward or backward on two legs, balancing on one foot at a time. Notice how it shifts its weight from foot to foot. The large foot pads give it enough surface area to balance on, so it does not topple over.

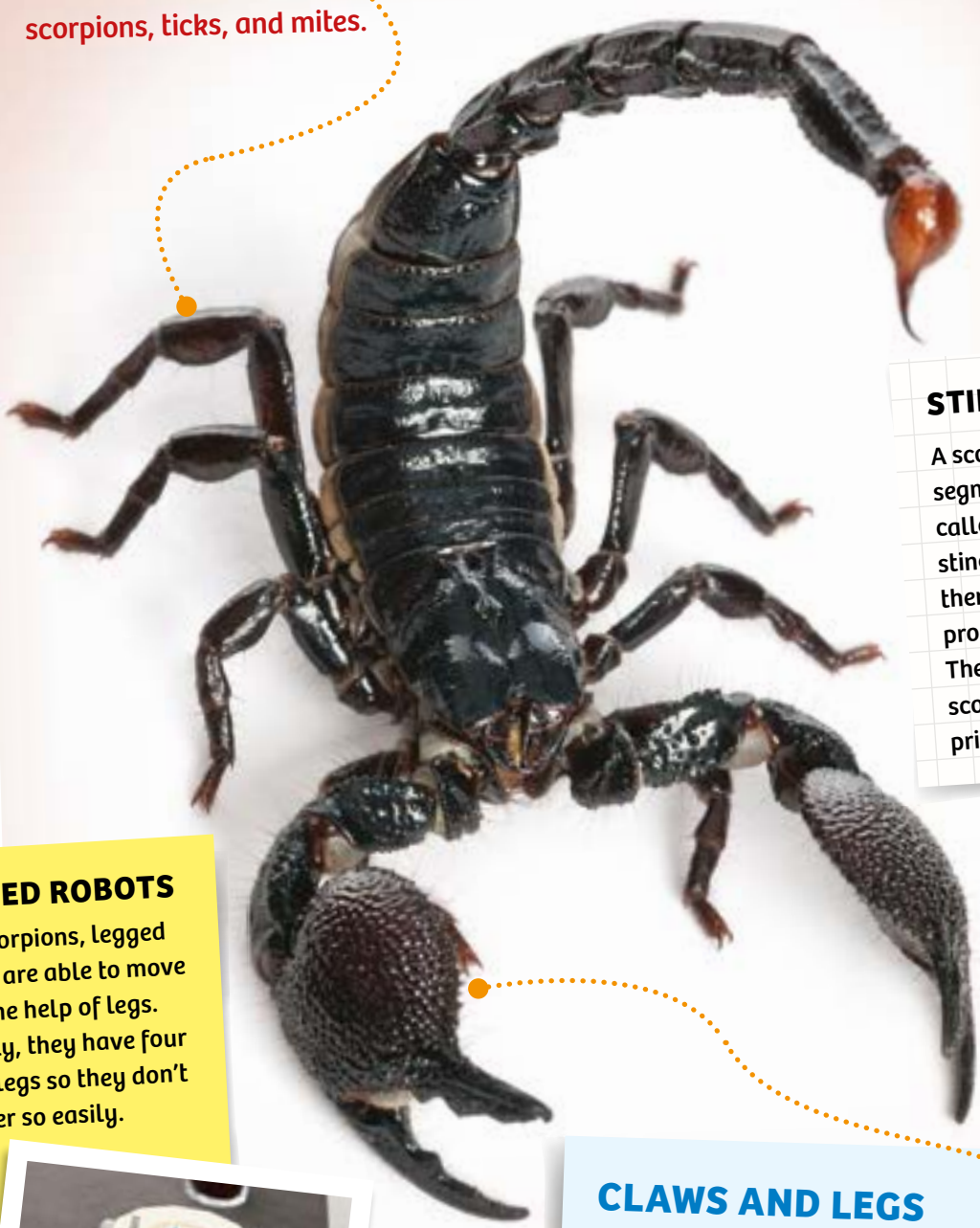
The leg rods are mounted to the gears via holes that are off-center on the gears. When the gears rotate, their rotary motion is transformed into a linear, up-and-down motion of the legs.

Done!

Now try the experiments on the back cover!

Deadly Arachnids

Scorpions are arachnids, a huge class of joint-legged invertebrates called arthropods. All arachnids have eight legs. There are over 100,000 species of arachnids including spiders, scorpions, ticks, and mites.



STINGER

A scorpion's tail has six segments. The last segment, called the telson, has a stinging barb on it. Inside, there are glands that produce poisonous venom. The venom paralyzes the scorpion's prey which primarily consists of insects.

LEGGED ROBOTS

Like scorpions, legged robots are able to move with the help of legs. Usually, they have four or six legs so they don't tip over so easily.

CLAWS AND LEGS

Like crabs, scorpions have chelae, or claws, on their foremost appendages. They have four pairs of symmetrical legs and a carapace — a large upper exoskeletal shell. Like crabs, they have an exoskeleton on the outside and muscles, nerves and tissue on the inside. Scropions can move very quickly to surprise, attack, and paralyze their prey.