

# Brwydr y Robots!

## Mae'r gêm hon yn ffordd hwyliog o ddatblygu ac ymarfer:

- mesur
- gweithio gyda chyfartaleddau
- gweithio gyda degolion
- cofnodi data.

Gallech drefnu brwydr y robots yn yr ystafell ddosbarth neu gystadleuaeth i'r ysgol gyfan.

## Sut i godi arian

Caiff y disgyblion eu noddi am wneud eu robot ac am y pellter y bydd eu pelen yn ei deithio, e.e. **10c y sgwâr x 50 sgwâr = £5.00.**

Fel arall, gall y rhieni a'r gofaluwr wneud cyfraniad.

## Beth sydd ei angen arnoch:

- tiwbiau a bocsys cardbord, potiau, cwpanau a photeli plastig heb eu defnyddio
- darnau ar gyfer dyfais lansio pelenni'r robot, e.e. pren mesur sy'n plygu, ffyn lolipop, bandiau elastig
- papur wedi'i rollo i fyny ar gyfer y pelenni
- eitemau ar gyfer addurno'r robot, e.e. pennau, paent, gliter a sticeri
- glud neu dâp gludiog
- tîp mesur
- taflen casglu data Brwydr y Robots, un yr un (cofrestrwch ar-lein i gael y daflen hon).

## Sut i chwarae:

1. Adeiladwch eich robot. Defnyddiwch rywbeth cadarn, fel bocsys cardbord cryf fel sylfaen. Rhowch yr holl ddarnau at ei gilydd yn dynn gan ddefnyddio naill ai glud neu dâp gludiog.
2. Dyluniwch ddyfais lansio pelenni eich robot. Arbrofwch gyda dyluniadau gwahanol hyd nes i chi ddod o hyd i'r ddyfais a'r pelenni cywir. Byddwch yn ofalus at ble y byddwch yn anelu eich pelenni a gwnewch yn siŵr nad ydynt yn rhy drwm. Mae peli bach o bapur yn dda.
3. Byddwch yn greadigol ac addurnwch eich robot gan ddefnyddio paent, sticeri neu gliter.

4. Nawr rhowch eich robot ar waith. Dewch o hyd i le agored, fel coridor neu ystafell hir.
5. Marciwch linell ddechrau gan ddefnyddio sialc neu wrthrych. Gan roi eich robot ar y llinell ddechrau, taniwch belen a marcio ble bydd yn glanio.
6. Defnyddiwch eich tîp mesur i fesur pa mor bell y mae'r belen wedi teithio.
7. Cofnodwch y pellter ar eich taflen casglu data. Nodwch y pellter mewn metrau, centimetrau a milimetrau mewn un blwch ac mewn centimetrau a milimetrau yn y blwch arall.
8. Gwnewch hyn ddwywaith yn rhagor a chofnodwch y pellterau.
9. Gweithiwch allan beth yw'r pellterau gorau, y canolrifau a'r cymedrau a'u cofnodi. A oes gennych chi bellter teithio moddol? Beth yw amrediad y pellterau?

Cofrestrwch eich ysgol nawr yn [nspcc.org.uk/numberday](http://nspcc.org.uk/numberday) i weld yr holl adnoddau ac i helpu i godi arian ar gyfer yr NSPCC.



# Battle of the robots!

**This game is an exhilarating way to develop and practise:**

- measuring
- working with averages
- working with decimals
- recording data.

You could have a robot battle in the classroom or make it a whole school competition.

## How to raise money

Pupils are sponsored for making their robot and for the distance their pellet travels, eg **10p per square x 50 squares = £5.00**.

Alternatively, parents and carers can make a donation.

## What you need:

- Unused cardboard boxes and tubes, plastic bottles, pots and cups.
- Parts for the robot's pellet launcher, eg a bendy ruler, lollipop sticks, elastic bands.
- Rolled up paper for the pellets
- Items for decorating the robot, eg pens, paints, glitter and stickers.
- Sticky tape or glue.
- A tape measure.
- Battle of the Robots data collection sheet, one per person (register online to access).

## How to play:

1. Build your robot. Use something sturdy, such as a strong cardboard box as the base. Fix all the pieces together firmly with either sticky tape or glue.
2. Design your robot's pellet launcher. Experiment with different designs until you find the right launcher and pellets. Be careful where you direct your pellets and make sure they're not too heavy. Small balls of paper are good.
3. Get creative and decorate your robot with paints, pens, stickers or glitter.

4. Now put your robot to the test. Find an open space, like a corridor or a long room.
5. Mark a starting line with chalk or an object. With your robot on the starting line, fire a pellet and mark where it lands.
6. Use your tape measure to measure how far the pellet has travelled.
7. Record the distance on your data collection sheet. Write it in metres, centimetres and millimetres in one box and in centimetres and millimetres in the other box.
8. Repeat twice and record the distances.
9. Work out and record the best, median and mean flights. Do you have a mode flight distance? What is the range of the distances?

Register your school now at [nspcc.org.uk/numberday](http://nspcc.org.uk/numberday) to access the full resources and help fundraise for the NSPCC.

