


Electrical Pursuit


Go round the board. Answer questions. Collect components for a circuit. Watch out for electric shocks!



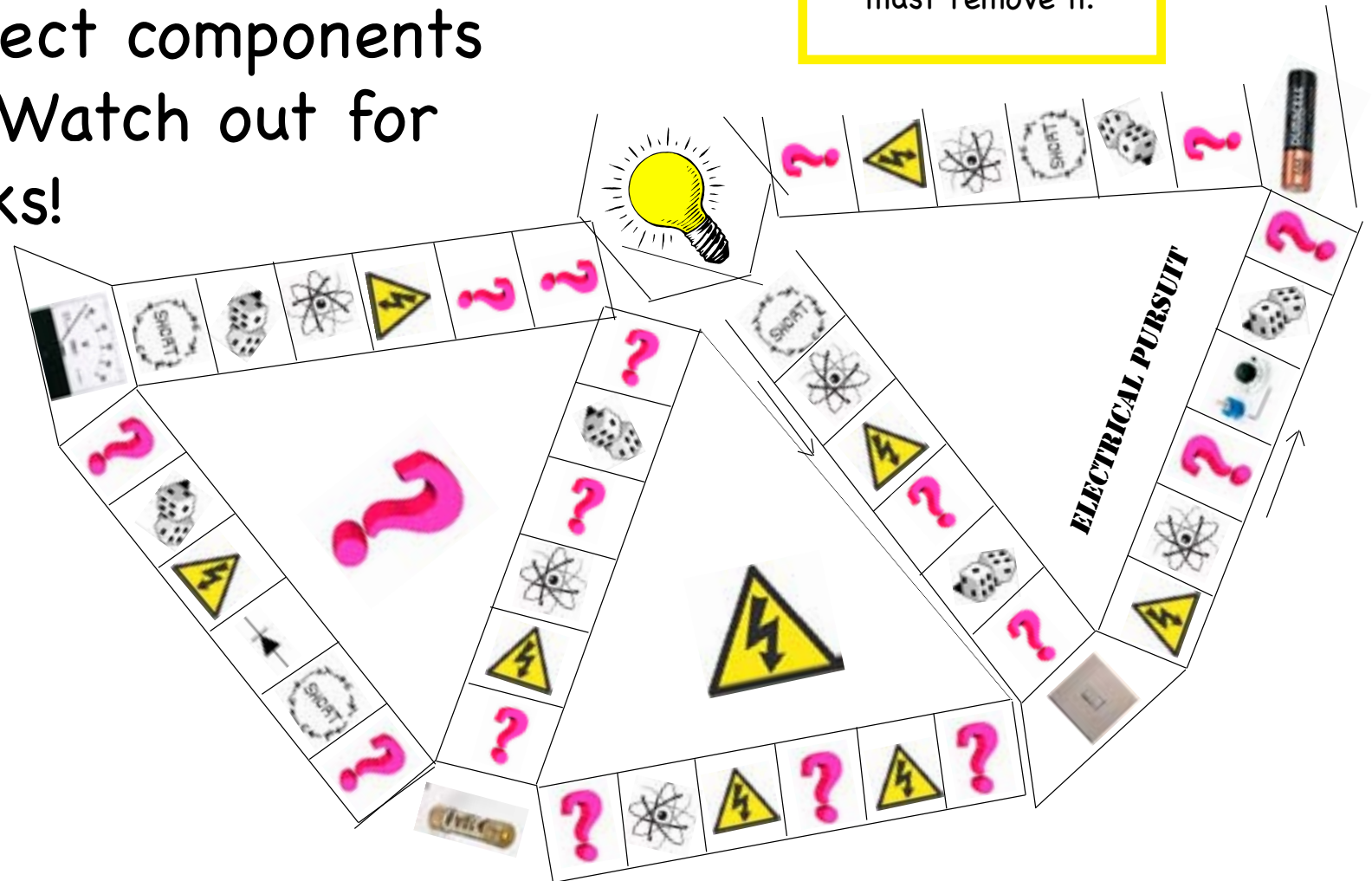
Danger
Electric
Shock Risk

You have overheated your resistor. If there is a resistor on your circuit board you must remove it.

Question card



What value is the voltage in a neutral wire?



Electrical Pursuit

Developed in 1997 by Peter Smales at Dorothy Stringer school in Brighton. Through the eighties and nineties we developed a whole series of activities based on popular board games. A lot of effort went into them: everything had to be cut and pasted and handcoloured. They were difficult to produce in bulk, but once made they proved popular with pupils. A lot of the games were open ended so that pupils could work on them and add and refine them for others to try out. We are digging them out of the archive and giving them an airing. This one, based on Trivial Pursuit, will require you to produce some of your own question cards to add to those here - you can of course make them as easy or difficult as you want. You may not want to use it in class, since making up several sets is time consuming even though we have done some of the work for you, but it will be a good activity for an after school club or for a group doing revision.

If you produce something similar please share it with us. If you would like templates for developing a similar game around a different topic please email us.

Webaddress: <http://www.collaborativelearning.org/electricalpursuit.pdf>

Last updated 10th February 2011

COLLABORATIVE LEARNING PROJECT

Project Director: Stuart Scott

We support a network of teaching professionals to develop and disseminate accessible talk-for-learning activities in all subject areas and for all ages.

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BRIEF SUMMARY OF BASIC PRINCIPLES BEHIND OUR TEACHING ACTIVITIES:

The project is a teacher network, and a non-profit making educational trust. Our main aim is to develop and disseminate classroom tested examples of effective group strategies that promote talk across all phases and subjects. We hope they will inspire you to develop and use similar strategies in other topics and curriculum areas. We want to encourage you to change them and adapt them to your classroom and students. We run teacher workshops, swapshops and conferences throughout the European Union. The project posts online many activities in all subject areas. An online newsletter is also updated regularly.

*These activities are influenced by current thinking about the role of language in learning. They are designed to help children learn through talk and active learning in small groups. They work best in non selective classes where children in need of language or learning support are integrated. They are well suited for the development of oracy. They provide teachers opportunities for assessment of talk.

*They support differentiation by placing a high value on what children can offer to each other on a particular topic, and also give children the chance to respect each other's views and formulate shared opinions which they can disseminate to peers. By helping them to take ideas and abstract concepts, discuss, paraphrase and move them about physically, they help to develop thinking skills.

*They give children the opportunity to participate in their own words and language in their own time without pressure. Many activities can be tried out in pupils' first languages and afterwards in English. A growing number of activities are available in more than one language, not translated, but mixed, so that you may need more than one language to complete the activity.

*They encourage study skills in context, and should therefore be used with a range of appropriate information books which are preferably within reach in the classroom.

*They are generally adaptable over a wide age range because children can bring their own knowledge to an activity and refer to books at an appropriate level. The activities work like catalysts.

*All project activities were planned and developed by teachers working together, and the main reason they are disseminated is to encourage teachers to work more effectively with each other inside and outside the classroom. They have made it possible for mainstream and language and learning support teachers to share an equal role in curriculum delivery. They should be adapted to local conditions. In order to help us keep pace with curriculum changes, please send any new or revised activities back to the project, so that we can add them to our lists of materials.

Electrical Pursuit

Teacher Notes

Aim: The Game is designed for the consolidation of classwork completed for a module on Electricity at Key Stage 4. In this case it was used before a GCSE modular exam. It can be used as a memory game or students may be allowed to research information as they play.

Making up the Game. We have provided six triangles for the circuit board which need to be carefully cut out and pasted onto a larger sheet to make a hexagon. The bulb goes in the middle. You can of course produce your own freehand version of this. You need to print off and cut out the different cards. Printing them in different colours helps. Important to mention that it is the pupils who keep the game in order and can probably help you in production.

Equipment: A hexagonal game board (six pieces here to join and mount), a die, a counter for the team, 6 component symbols, a circuit board, a set of danger cards, a set of electron energy cards, a set of short circuit cards and a set of question and answer cards.

Class organisation: Divide the class into teams of three or four. Each team is given one circuit board. The teacher can become, or elect, a Question reader in each team, who asks/answers the questions and holds and gives out the component discs. In this case the teams compete OR when one game is played then the players can compete against each other – each player in this case will need a set of components to collect and their own circuit board.

Game objective: When a player lands on one of the 6 points of the hexagon and answers the question correctly, the team receive the component disc for that point. When they have collected the the 6 components discs and returned to the bulb in the centre of the board, they win the game.

How to Play

- Arrange the Game board with Electron Energy, Short Circuit and Danger cards, shuffled and laid face down and team counters on the bulb in the centre of the board.
- Throw the die - the highest number starts.
- move counters in any direction to get to the component point needed. WARNING!!! Be careful of the DIODE squares You can only move in the direction of the arrows, not against them.
- When you get a question right, throw again and move.
- If you land on the die square, throw again and move.
- If you land on Electron Energy, Short Circuit or Danger, you must pick up the relevant card. Sometimes you may keep this card to use later.
- When you have all 6 components, move to the bulb. The first team to reach it, wins.

ELECTRICAL PURSUIT

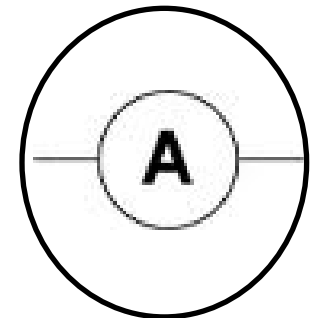
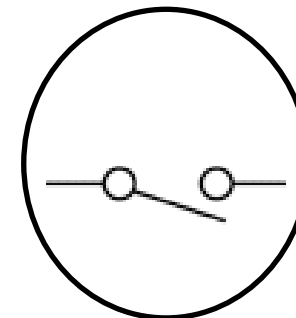
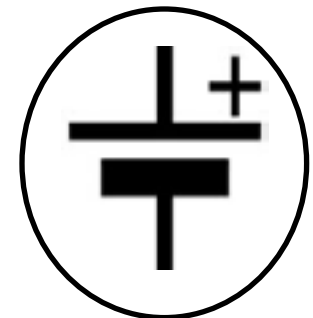
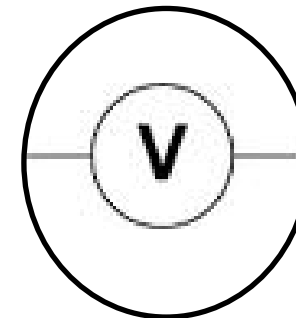
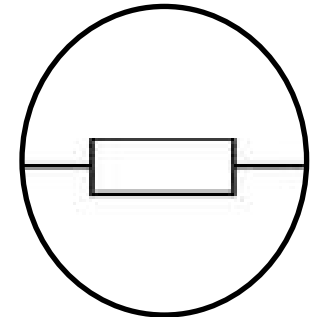
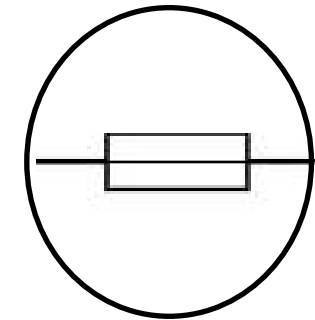
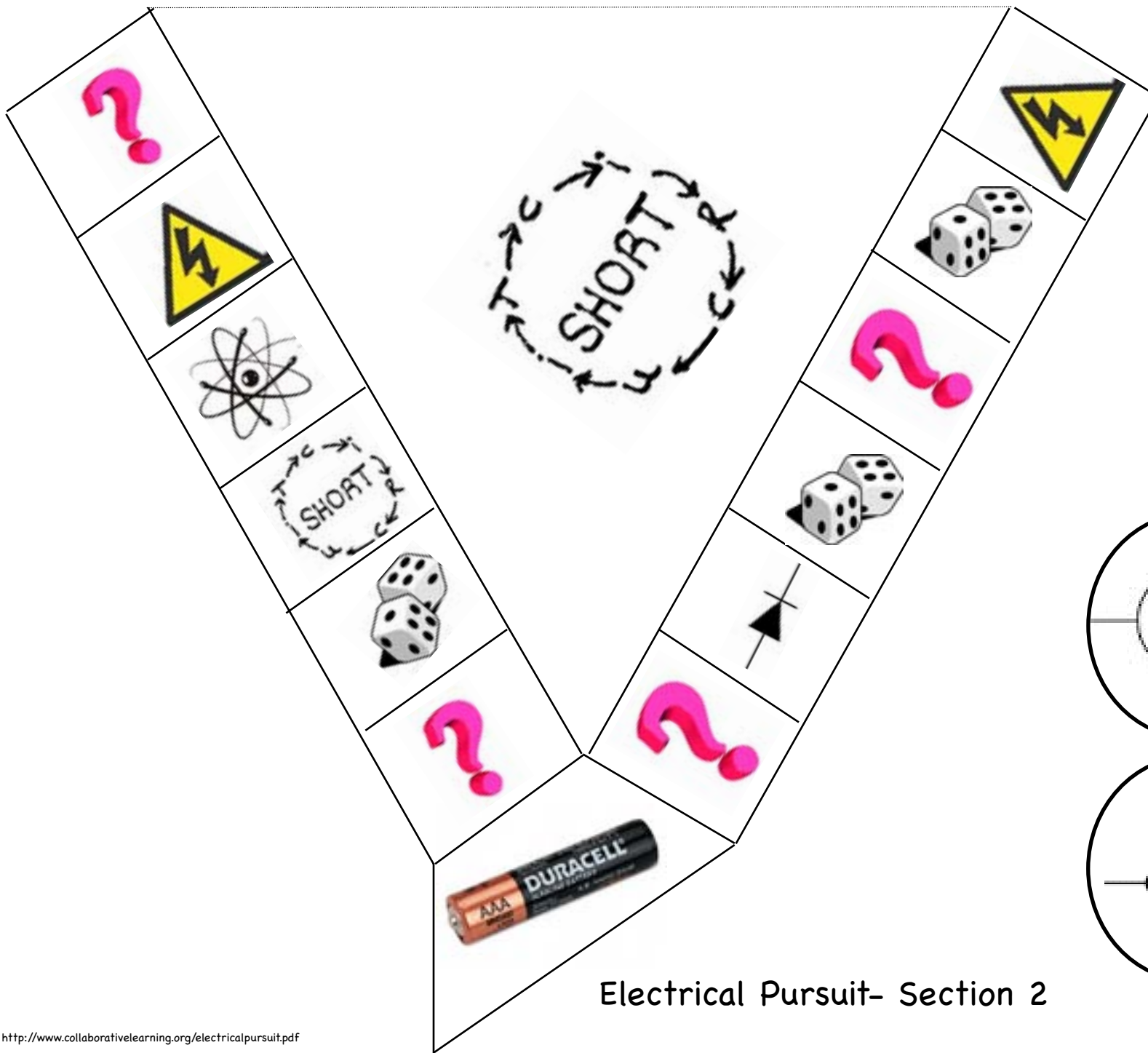
Cut out the triangle following the arrows

Cut out this bulb hexagon and place it in the middle of the board

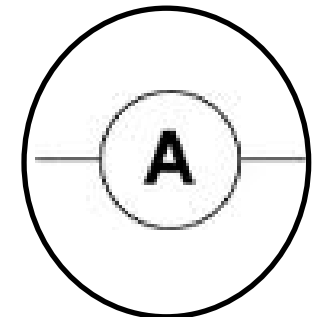
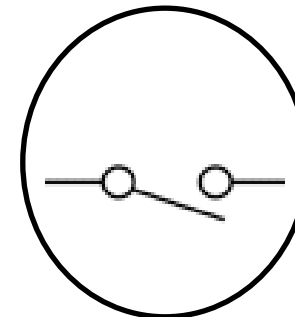
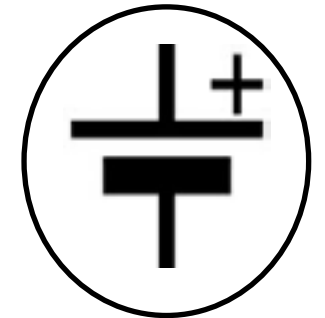
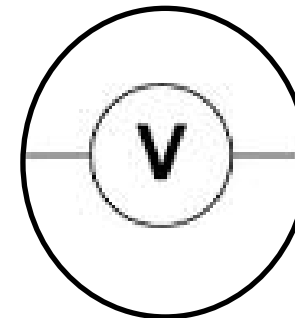
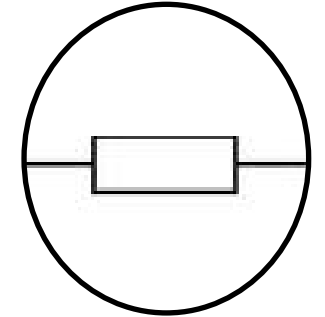
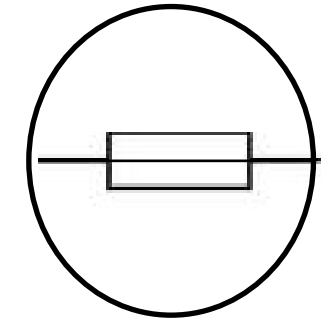
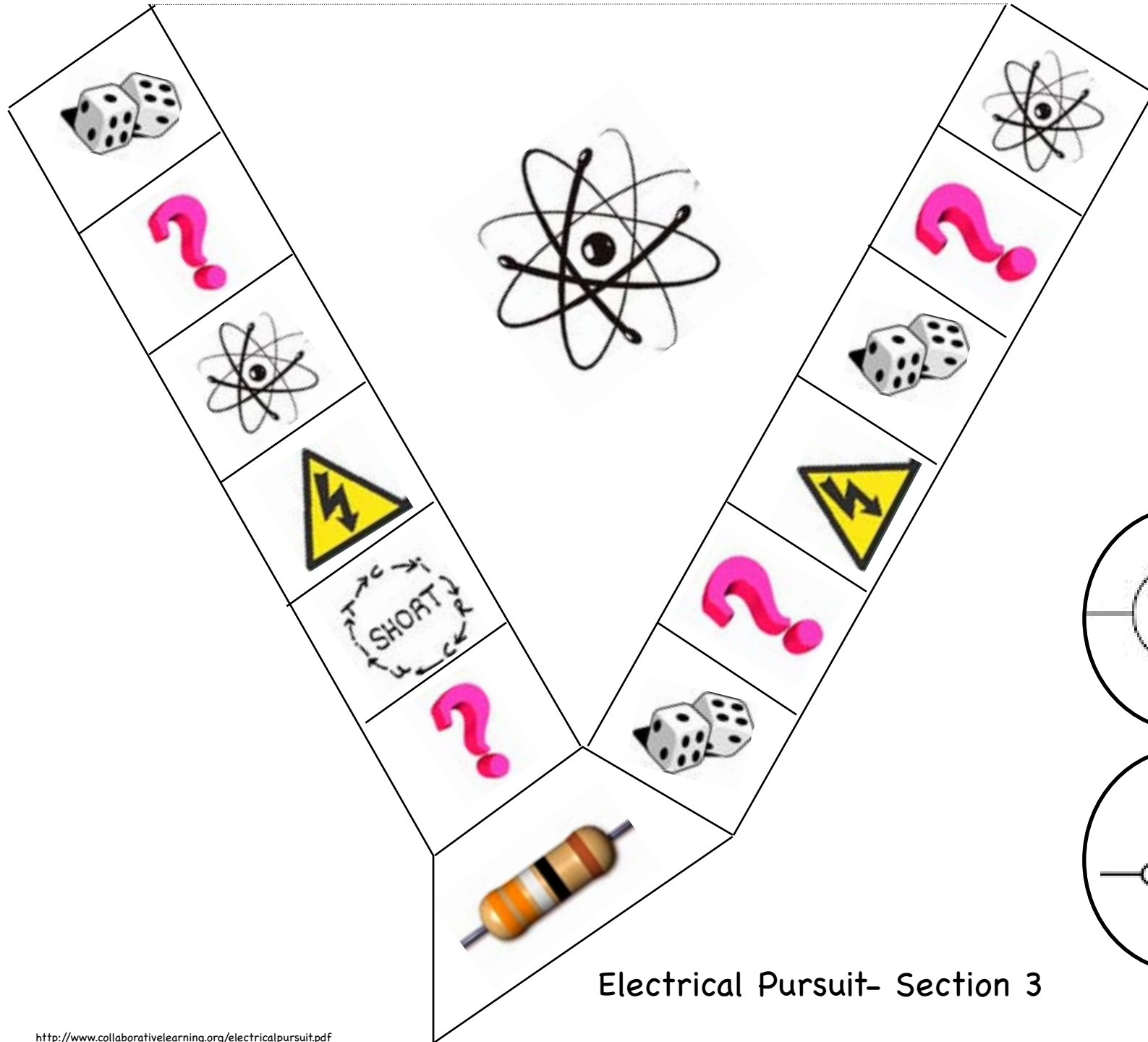
Cut out the triangle following the arrows

Cut out the components and laminate them.

Electrical Pursuit- Section 1

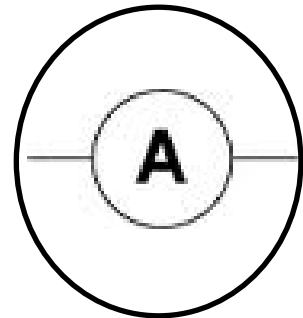
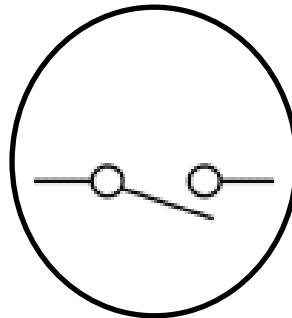
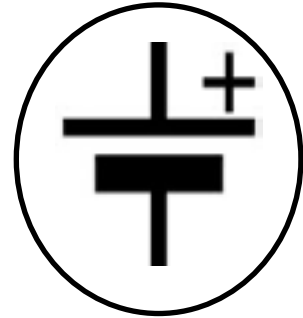
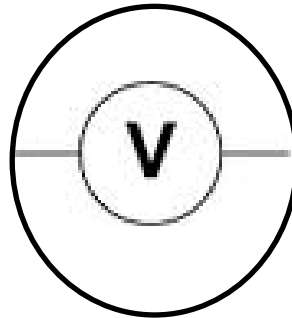
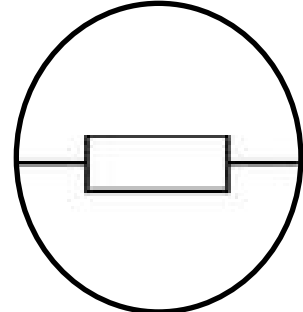
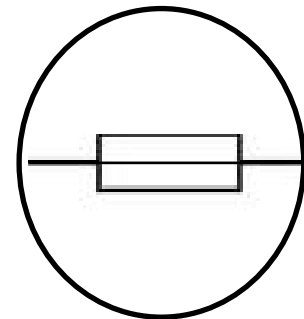


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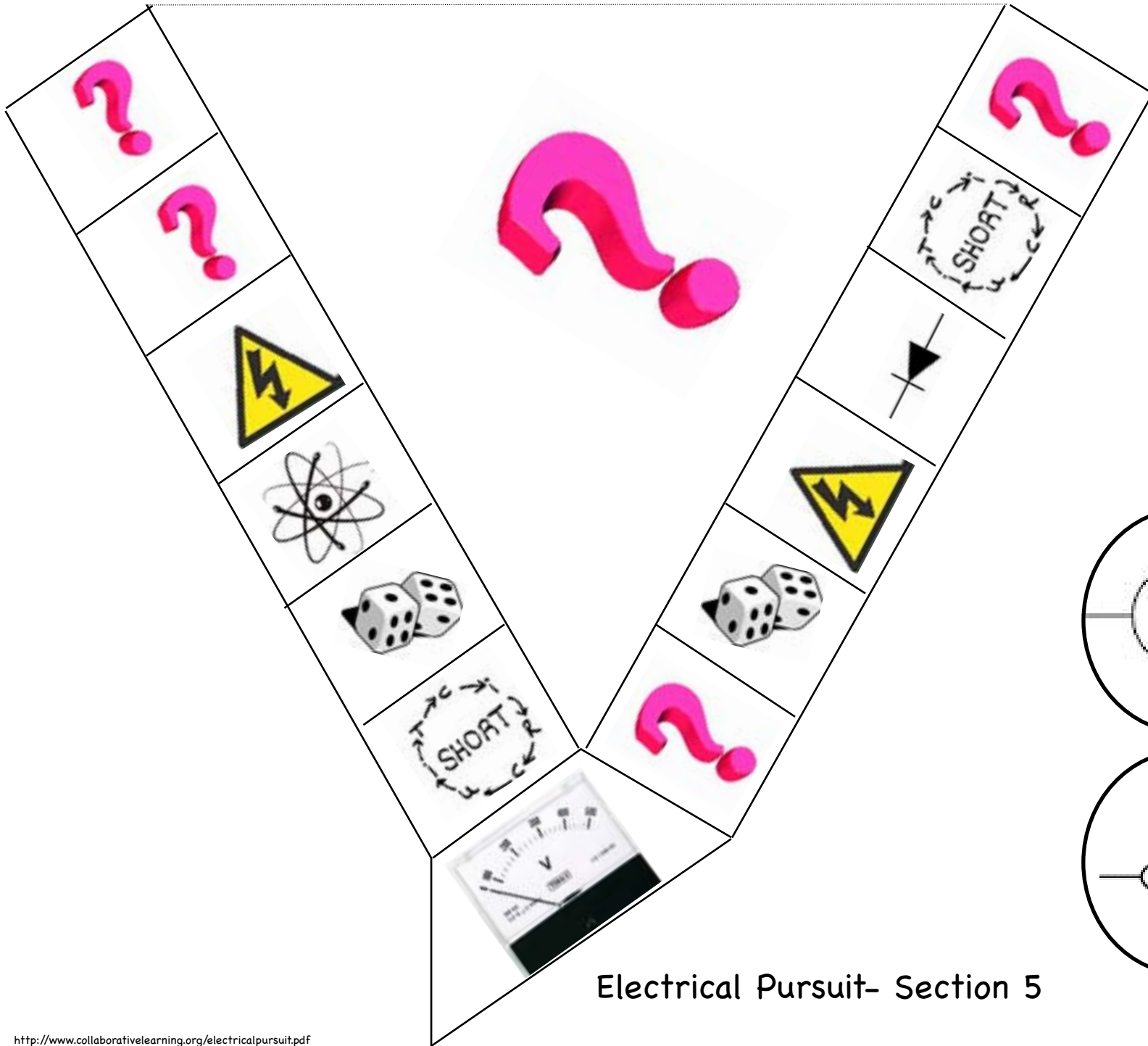


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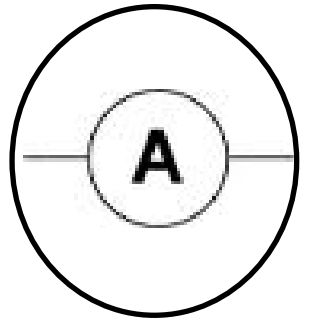
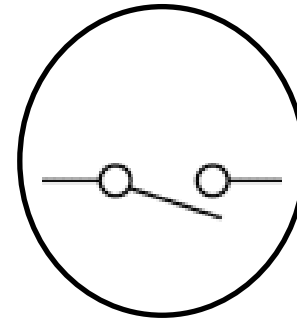
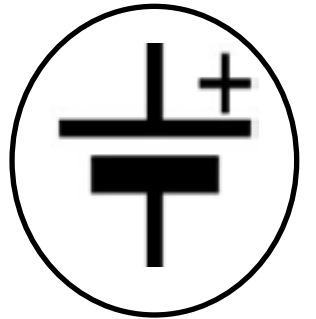
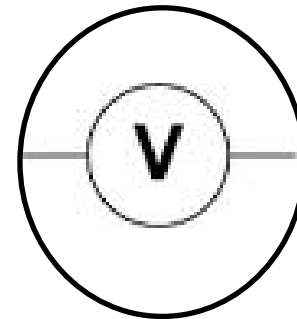
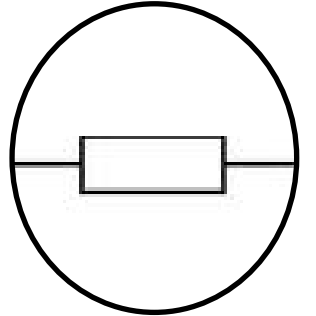
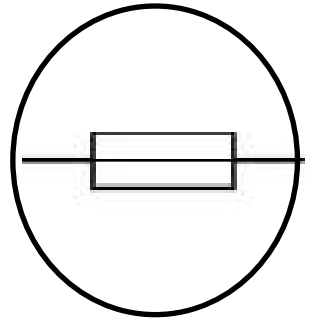
ELECTRICAL PURSUIT

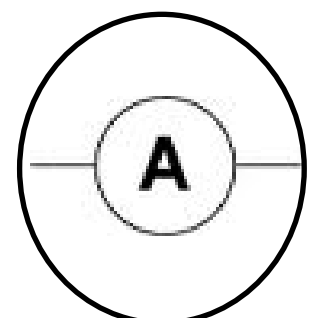
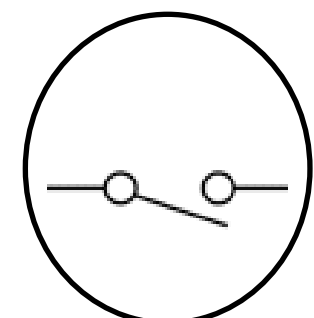
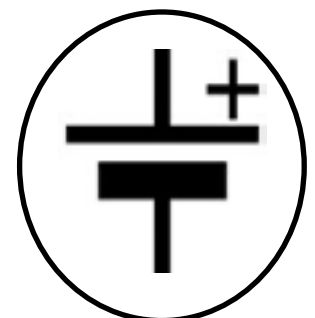
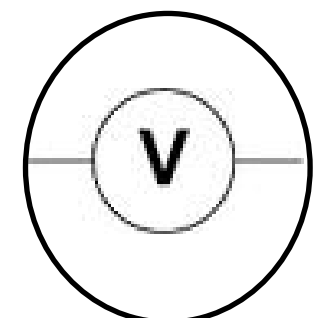
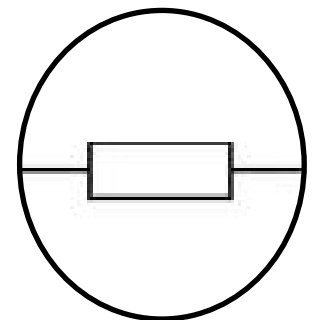
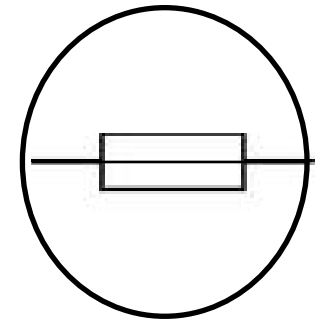
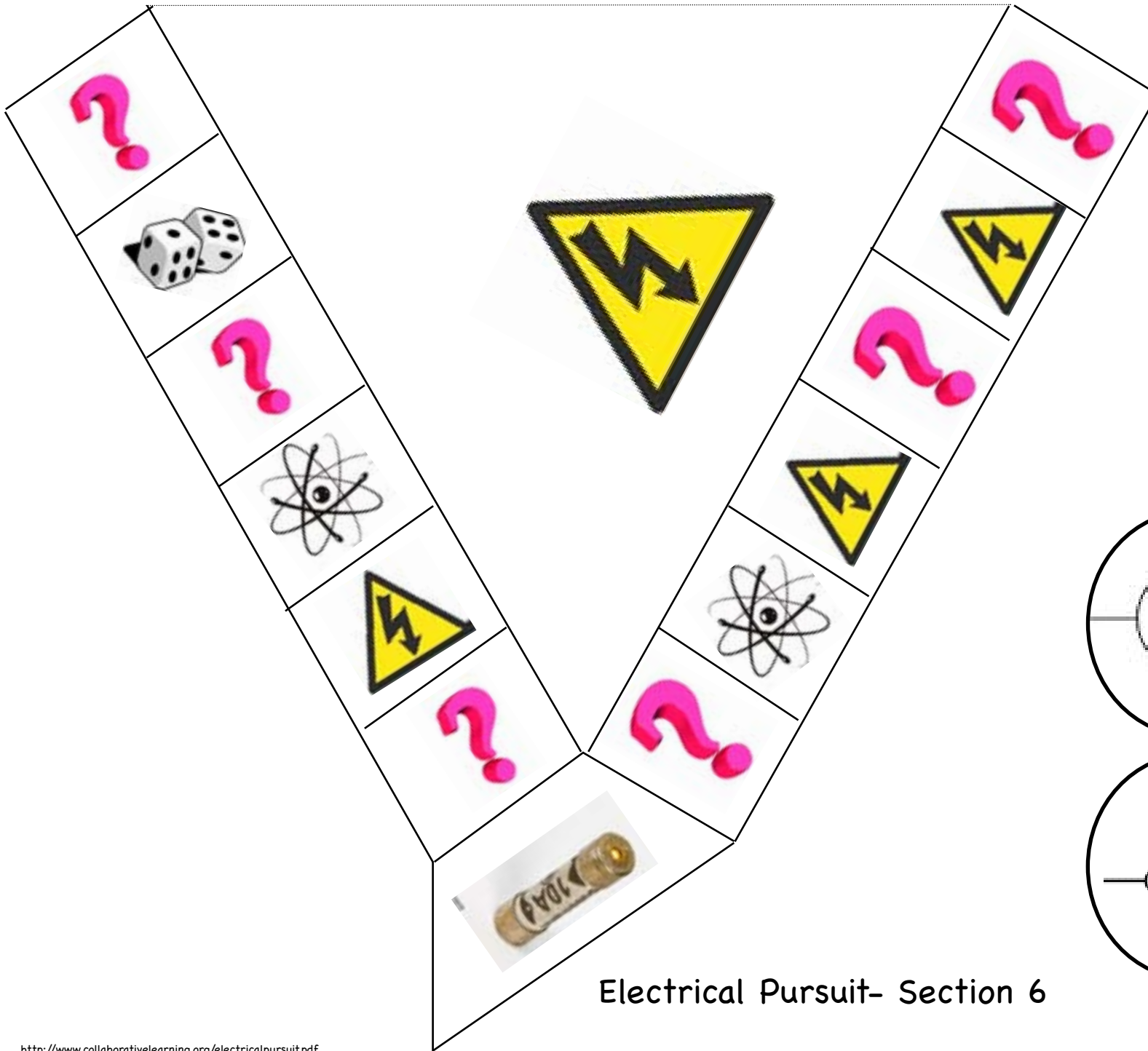


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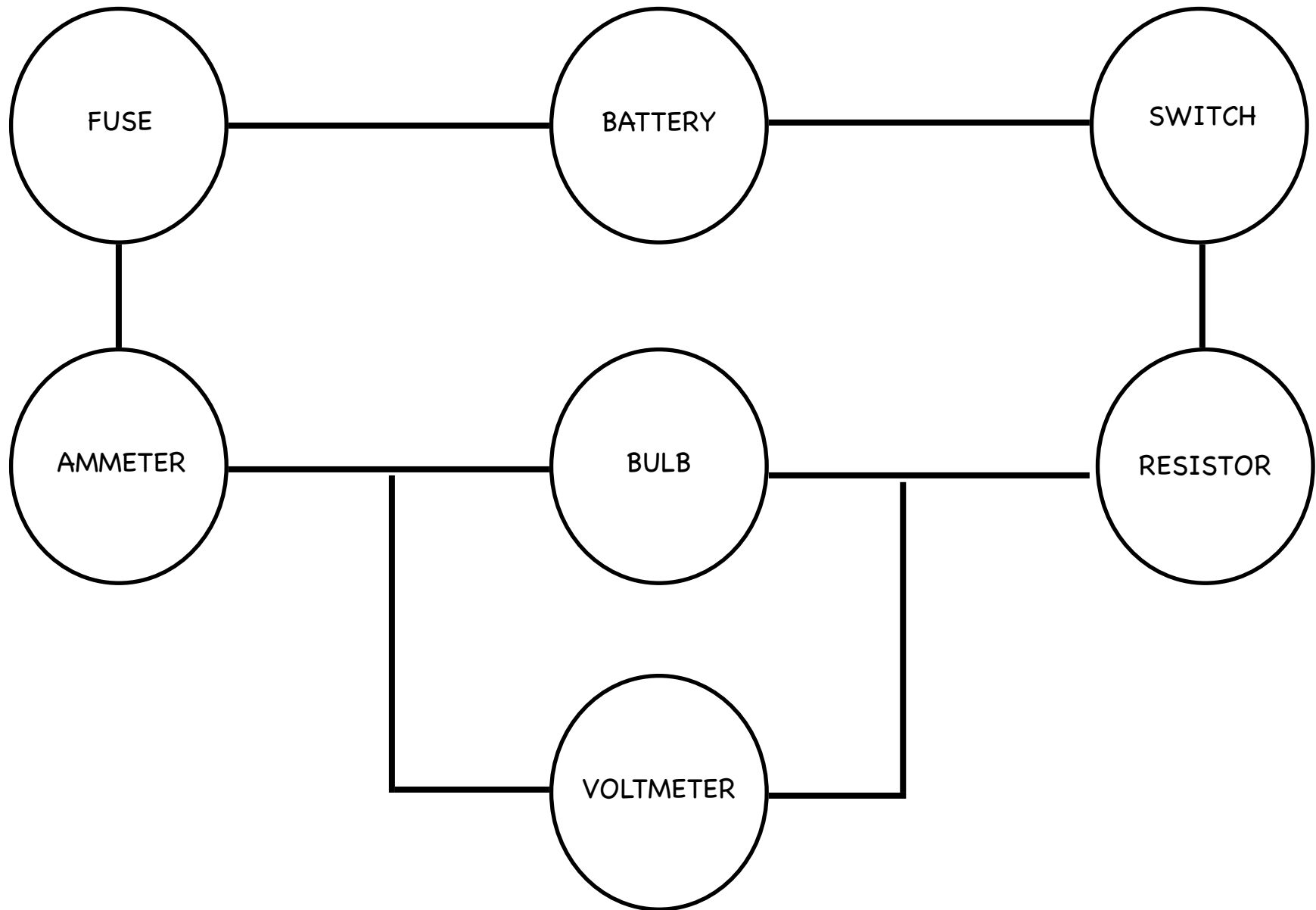
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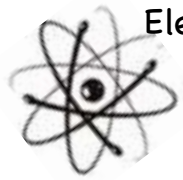


Electrical Pursuit- Section 6

Electrical Pursuit - Circuit Board

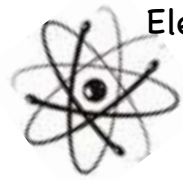


Electron Energy card - print off two sets for the game



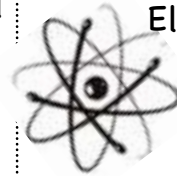
Electron Energy card

Have another turn.



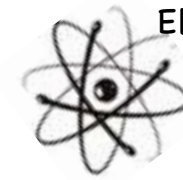
Electron Energy card

Free throw - keep this card until you need it.



Electron Energy card

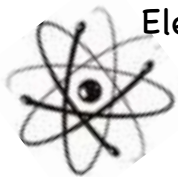
Diode card - keep and use this card to pass a diode in the opposite direction.



Electron Energy card



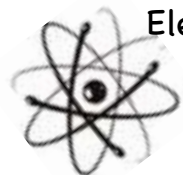
This is a variable resistor. Keep the card, and if you land on speed control you can have an extra turn.



Electron Energy card

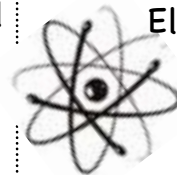


This is a variable resistor. Keep the card, and if you land on speed control you can have an extra two turns.



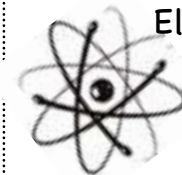
Electron Energy card

Free throw - keep this card until you need it.



Electron Energy card

This is a variable resistor. Keep the card, and if you land on speed control you can have an extra turn.



Electron Energy card

Keep this card. You can ignore the next shock card.



Danger
Electric
Shock Risk

You have overheated your resistor. If there is a resistor on your circuit board you must remove it.



Danger
Electric
Shock Risk

Remove the last component you placed on your circuit board.



Danger
Electric
Shock Risk

Your fuse has blown. Go to the fuse. Throw a six to move again or give up your fuse card if you have one.



Danger
Electric
Shock Risk

Go to the nearest short circuit.



Danger
Electric
Shock Risk

Go back five spaces.



Danger
Electric
Shock Risk

Go back four spaces.



Danger
Electric
Shock Risk

Miss a turn.



Danger
Electric
Shock Risk

You get an electric shock. Return any electron energy cards you have to the bottom of the pack



Danger
Electric
Shock Risk

Go back one space.



Danger
Electric
Shock Risk

You have a poor connection in your circuit. Throw a four to fix it before you move again.



Danger
Electric
Shock Risk

Your wires are frayed. Take a short circuit card.



Danger
Electric
Shock Risk

Your battery is connected the wrong way round. Go directly to the battery and answer a question.



Danger
Electric
Shock Risk

You get an electric shock. Return any electron energy cards you have to the bottom of the pack.



Danger
Electric
Shock Risk

Go back four spaces.



Danger
Electric
Shock Risk

Miss a turn.



Danger
Electric
Shock Risk

You have a poor connection in your circuit. Throw a three to fix it before you move again.



Short circuit
card

Go directly to the
ammeter.



Short circuit
card

Go directly to the
voltmeter



Short circuit
card

Go to the nearest
question square. If
you answer
correctly have
another go.



Short circuit
card

Go to nearest dice
square and throw
again.



Short circuit
card

Go to the nearest
component.



Short circuit
card

Go directly to the
fuse.



Short circuit
card

Move forward three
squares.



Short circuit
card

Move to the square
of your choice.



Short circuit
card

Go directly to speed
control.



Short circuit
card

Go directly to the
bulb.



Short circuit
card

Go directly to speed
control.



Short circuit
card

Go directly to the
diode.



Short circuit
card

Go to the near-
est electron energy
square.



Short circuit
card

Go to the near-
est electric shock
square.



Short circuit
card

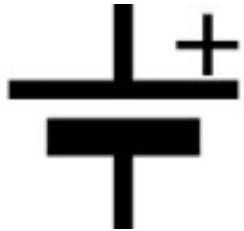
Move forward two
spaces.



Short circuit
card

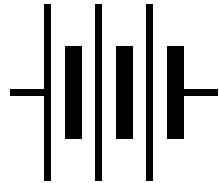
Go to the nearest
question square.

Question card



Identify the symbol.

Question card



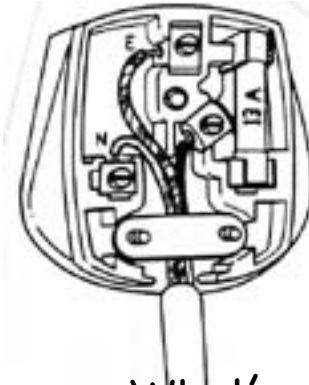
Identify the symbol.

Question card



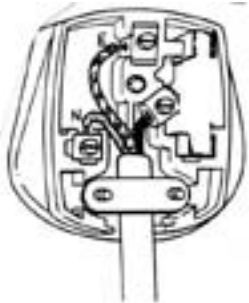
Identify the symbol.

Question card



What's wrong?

Question card



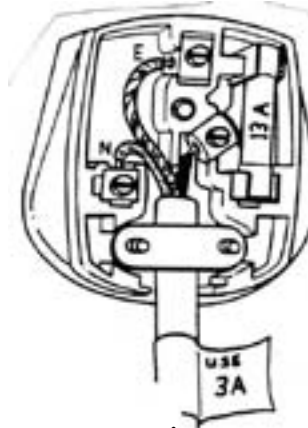
What's wrong?

Question card



What's wrong?

Question card



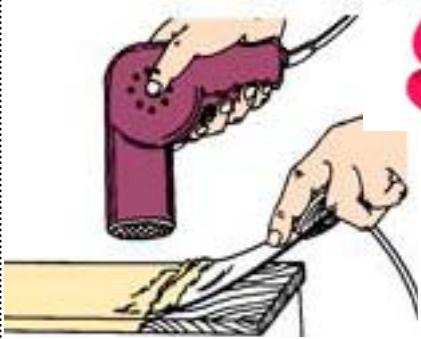
What's wrong?

Question card



What's the main component? Motor? Resistor? or both?

Question card



What's the main component? Motor? Resistor? or both?

Question card



Which uses the most energy in an hour?

Question card



What are the ends of a bar magnet called?

Question card



What value is the voltage in a neutral wire?

Question card



What's the main component? Motor? Resistor? or both?

Question card



How many watts are there in one kilowatt?

Question card



Why are the pins on an electric plug made of brass?

Question card



What happens to the voltage produced by a magnetic field when the wire coil is rotated faster.

Question card



Question card



Question card



Question card



Question card



Question card



Question card



Question card

