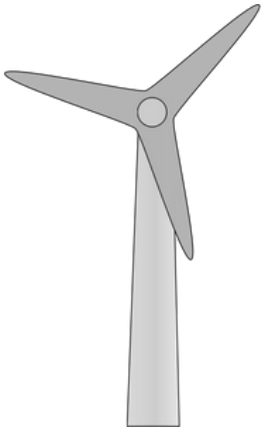
YSLP Week 2022 Activity

Future of Energy: Make a Pinwheel

Introduction: Future of Energy



Energy and how we create it affects many things in our everyday lives, like keeping the lights on above our heads and heating our homes, to how we power our cars.

How we make our energy in the future will be really important to meeting our targets and tackling the climate emergency.

Renewable or not?

Below are a series of cards that picture either a renewable or finite source of energy.

A **renewable** source of energy is one that doesn't get used up when the energy is made, like the sun with solar energy, waves with tidal energy or wind with wind energy.

A **finite** source of energy is one that is used up when the energy is created such as coal or petrol.

Cut out the cards on the following sheet and help your participants to sort out which of the sources of energy are renewable and which are not.

Going further

Discuss with your participants why we might want to transition from making energy from finite sources to renewable sources.

Answer: Finite sources of energy release carbon dioxide when they are burned to create energy. Carbon dioxide is a greenhouse gas which contributes to the climate crisis. To reach net zero targets, we must transition to gaining our energy from renewable sources which do not release carbon into our atmosphere.

YSLP Week 2022 Activity

Future of Energy: Make a Pinwheel






Answers

From top left to right

- Wind energy = renewable
- Coal power station = not renewable - the coal will be used up and emit carbon dioxide once burned for energy
- Hydropower = renewable - a river flowing through a dam can provide renewable energy. You have to be very careful where you put the dam so as not to disturb the river wildlife as little as possible.
- Petrol = not renewable
- Solar panels = renewable
- Tidal power = renewable

YSLP Week 2022 Activity

Future of Energy: Make a Pinwheel

Make a Pinwheel

Wind turbines are an excellent way to create renewable energy. Help your participants to make their own and see how fast they can spin.

Activity Set Up

What you will need:

- Square piece of paper
- Scissors
- Ruler
- Colouring pens or pencils
- Straw or pencil with rubber on end
- Pins

Keeping Safe

Before you create and lead your activity, complete the *Staying Safe* section of the Create badge, or the Risk Assessment template, in your Log.

Risks to consider:

- Cuts from scissors
- Paper cuts from cards
- Pin pricks. You may wish to use blue tack on the other side of the paper when using a pin.

Leading the Activity - Instructions for participants

1. Choose a colour of square and decorate it differently on each side of the paper.
2. Fold the paper in half along each of the diagonals and mark the centre point with a dot, splitting the paper into four diagonals.
3. Using your ruler, mark a small dot halfway along each of the diagonal lines, between the corner of the paper and the centre point.
4. Cut down the diagonal line from the corner to the first dot on each of the four diagonals.
5. Fold every other point into the centre point and keep them all together using a pin through all of them at once, and then on to a pencil rubber or craft straw.

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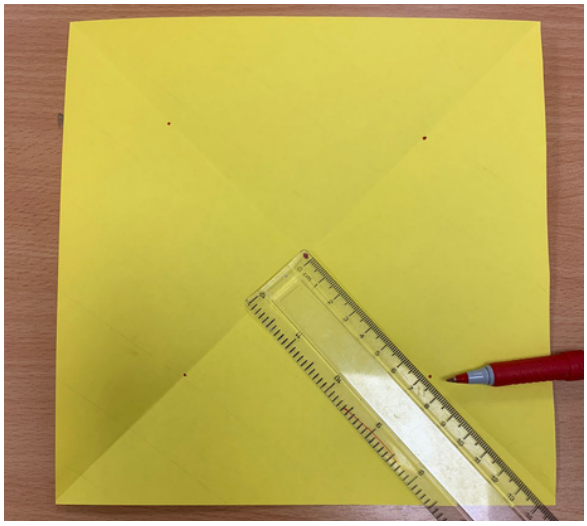
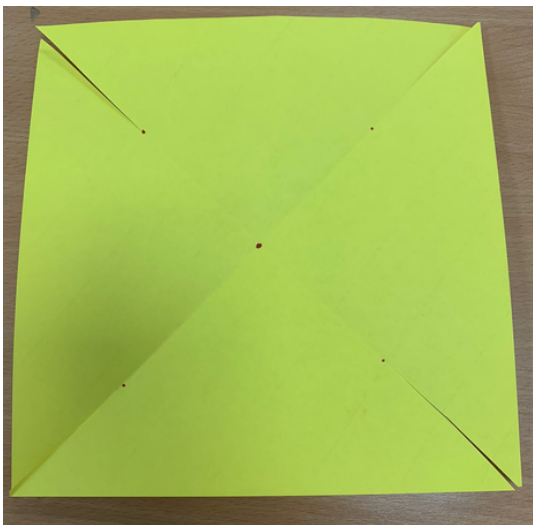
2. Fold the paper in half along each of the diagonals and mark the centre point with a dot, splitting the paper into four diagonals
3. Using your ruler, mark a small dot half way along each of the diagonal lines, between the corner of the paper and the centre point.



4. Cut down each diagonal line from the corner to your first dot.



YSLP Week 2022 Activity

Future of Energy: Make a Pinwheel

Lading the Activity - Instructions for participants

5. Fold down every other section and use a pin to secure these four flaps over the centre dot. You may wish to put a big piece of blue tack behind the paper to avoid pricking fingers with the pins. If you like, you can attach your pinwheel to a pencil with a rubber or straw.

Twitter Challenge

How fast can your pinwheel spin?

Tag us in your photos and videos of your remarkable renewables @YoungSTEMLeader #YoungSTEMLeaderWeek

Enter by 8pm for the chance to win a prize for your centre!